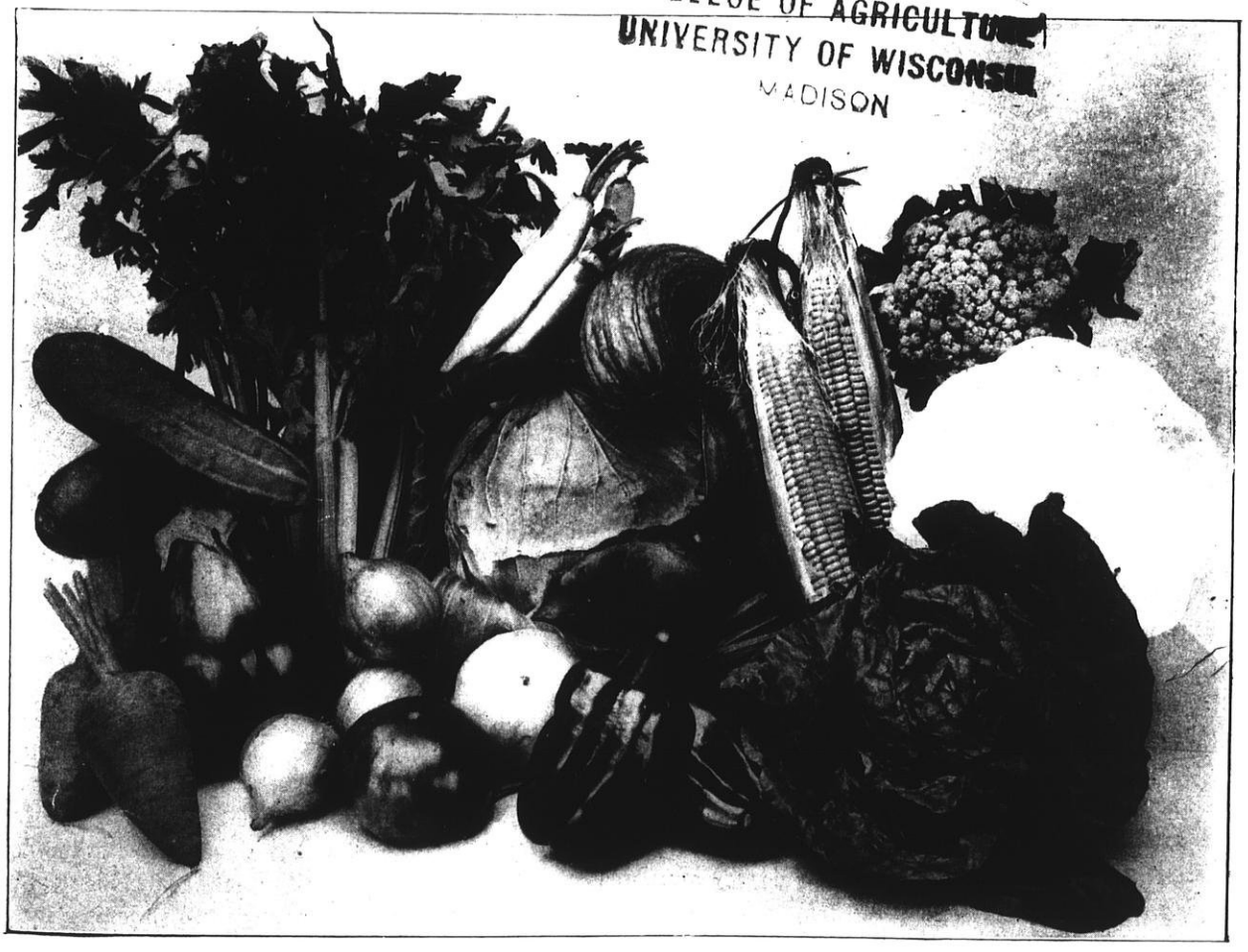
Wisconsin horticulture. Vol. XI September 1920/August 1921

Madison, Wisconsin: Wisconsin State Horticultural Society, September 1920/August 1921

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

Volume XI | Madison, Wisconsin, September, 1920 | Number 1



Successful Marketing

Successful marketing begins with production. The product must be of good quality and something for which there is a demand. When these conditions are fulfilled the marketing question is more than half solved.

The small producer, however, has a special problem. He cannot compete in the wholesale market with those who sell in large quantities. The solution of his problem lies in offering an unusual product or one of such good quality that he builds up a select private trade among those who are willing to order in advance so as to secure better goods than can be purchased in the open market. Due to persistence and originality women often succeed where men fail. It is for the benefit of women who have something to sell but do not know how to find a market that the following suggestions are made.

First, what have you to sell? Think about this carefully. Butter, eggs, poultry, fruit and vegetables both fresh and canned, maple sugar, candy, cake, jellies, marmalades, and handiwork of many kinds—all these are salable. First-class food is always in demand, and handiwork also, but the public demands that even necessities be of this year's model. Leftovers can be bought at the bargain counter.

Second, quality is a large factor in successful marketing. Do not be satisfied with making a product as good as your neighbors. Make it better so that the customer who has once tried it will continue to support your efforts by mail orders. For example, the better class of buyers prefer a good cake once a week to a cheaper one made of substitutes every day.

Third, label and pack neatly. Original labels attract attention to the product itself. The package or container should have an individuality of its own. It should speak to the eye of the shopper so that he turns away from similar articles of a different make. A catch trade mark is an asset to anyone's business Take the word "kodak," for instance, it is now used as an accepted word for a small camera, whereas it was originally a made-up word used by the Eastman Company as a trade mark. While the outside appearance makes the first sale, quality secures permanent customers.

Now the product is ready for market. Sometimes there is a good market in a nearby village or city. One's own doorstep, if located on an automobile road, is a good salesroom. Fresh fruit, cold drinks, sandwiches, etc. can be sold to tourists conveniently by placing a booth or even a table near the road. An unusual sign will arrest their attention and bring them to your door. A tearoom or gift shop may become a lucrative business. Supply the needs and desires of the passers-by and they will buy.

A market is not always to be found easily. The woman who has not time to go far afield in search of customers must depend upon some intermediate agency. Suppose she sends needlework to a woman's exchange. She may wait a long time and finally have the work returned unsold. This is discouraging unless the Exchange takes the time to tell her why her consignment did not sell and suggests what she might make that would sell, whereas a mail order clientele from a small beginning may develop into a large business.

The Woman's National Farm and Garden Association with headquarters at 414 Madison Avenue, New York City, sells members' products on commission at its Christmas Sale and helps members build up a mail order business through the medium of a quarterly folder which is given wide distribution.

The Association began to hold Christmas Sales soon after it was organized in 1914. City women came to depend upon these sales, visiting the Association rooms before going to other shops in search of Christmas gifts. They found a collection of unusual articles which could not be secured in any one shop elsewhere. These sales were of benefit to the seller as well as to the buyer for through them products are introduced to the public in a more intimate way than would be possible in a regular shop where the saleswomen do not take a personal interest in the consignors. The New England Branch of the Association at its Christmas Sale held in Boston last year sold twenty-four hundred dollars' worth of members' products in two days, although some of the members had sold all their surplus previous to the sale through advertisements in the Branch Bulletin.

The National Association has issued the first number of a folder listing its producing members. This folder is to be printed four times a year and will be mailed to five thousand possible

buyers. Its object is to bring the producer and the consumer together, eliminating the services of middlemen as far as possible. Only members of the Association can advertise in the folder and they pay three dollars a year for a four-line insertion. The consumer who wishes to receive the folder regularly pays a two-dollar membership fee, which also includes a subscription to the monthly Bulletin.

A high standard article is the aim of the Association. Whenever possible, samples of goods must be submitted to the Sales Committee before they can be advertised. The Association, while assuming no responsibility, endeavors to protect both producer and consumer. It cannot guarantee the financial standing of the buyers nor uniformity in the quality of goods, but it takes every precaution in making up its list of advertisers and possible purchasers. Consumers are asked to report if the goods bought are unsatisfactory in any way, and producers if customers prove unreliable.

The Sales Committee is preparing a traveling exhibit which will include lace fllet, guest towels, bureau scarfs, underwear, aprons, children's dresses, and jelly glasses packed in an attractive box or basket. This has been planned for the benefit of women who do not have an opportunity to visit city shops and see for themselves what is demanded by the public. It will bring to the remote homes of the many women who spend their winter months in doing fancy work, samples of articles that are salable, artistic in coloring and design, of good material and beautifully made.

The marketing problem is most serious at present. Production is not keeping pace with demand. We know that the man power of Europe has been greatly reduced but do not realize that in our own country approximately six million men have been lost to labor by death, emigration and decreased immigration. Waste must be eliminated if the world is to be fed and clothed. Much food is wasted or lost because of the excessive cost of distribution. Look at the food wasted in the country because there are not enough laborers to gather it, or because the cost of harvesting and transportation takes away even a reasonable profit. Look at the food brought to our cities which is allowed to spoil at the wharves or the railroad terminals. Even with decreased production there would be enough for all if the unnecessary waste were eliminated and if available supplies were sent where needed.

A word should be said in regard to prices as compared with the quoted city prices. The small producer has no overhead charges, such as rent for shop, many deliveries to the same family daily, telephone orders that take valuable time to put up and deliver, and the immediate making good of damaged or unsatisfactory articles. In consequence the small producer must sell her goods below the current market price as she is saved the expenses mentioned above and the commission charge of two or more middlemen which must be paid by the city shops. This is not belittling her output but giving the consumer the advantage she should have for ordering by mail in advance from the producer rather than ordering by telephone from a nearby retail shop.

Boards or paper are good materials for bleaching celery at this time of year. Dirt is apt to cause decay of the stems.

Rosa rubrifolia is one of the best of lawn shrubs throughout the summer. Its purplish leaves give a needed color to the lawn in late summer.

It is time to order tulips, hyacinths and daffodils for Autumn planting. Get a good supply of these this year for the garden and window.

Why try to put all of the flowers in the garden in one vase. Use discretion and do not crowd. Often one rose or one flower is more effective than a dozen. Give each individual plenty of room to show off and do not mix colors.

Why not take pains to pick up the papers and trash after that pleasant picnic lunch along the highway or on a lake front? Be thoughtful of others and you will have a better time.

Cut out the old currant canes and all old raspberry canes as soon as the plants are through fruiting. Burn this trash at once. It is a splendid nesting place for insects and disease.

My Neighbor's Garden

Going home on the street car with my neighbor the other afternoon I noticed that he had a lot of flower catalogues in his pocket and that he was studying another with his usual intentness. I interrupted him by asking him what he was so much interested in. He replied "Bulbs. Dutch bulbs."

To draw him out I asked him in what way bulbs from Amsterdam or Rotterdam were better than those from any other dam. He looked at me as if he thought I hadn't gotten the old joke just right, and added by explanation, "Tulips, crocuses and hyacinths."

I didn't tell him I hardly knew one of these from another, and asked him if I couldn't come over in the evening and get him to help me in making up an order. I knew nothing would please him better, and so when he invited me to come over early I went.

I told him I didn't know anything about bulbs and wanted to know what to buy and why. This was enough to start him off. I can't remember all he told me, but I was greatly surprised when I learned that the government had recently made regulations which prevent the importation of scores of kinds of bulbs and roots grown in Holland, permitting only tulips, crocuses, narcissus, hyacinths and lillies. Why these could come in and freesias, snow drops, frittillarias, gladiolus and dozens of other bulbs, as well as peonies and irises were excluded was a mystery which he couldn't explain. He rather more than hinted at bureaucratic imbecility in connection with the ruling.

The best known and cheapest Dutch bulbs are tulips. These are of many kinds, from the short stemmed early ones blooming in April to the tall and larger ones blooming in May. They come in all colors from green to almost jet black. The finest of all are the Darwin tulips which come in almost all colors. The flowers are the size of a teacup on stems 18 inches to 2 feet in height. For massing in beds where a formal effect is desired the smaller ones are better as they can be planted closer and will be almost all the same height. For a border or small clump the Darwins are better. Breeder tulips are like the Darwins in habit of growth but the colors are of the so-called art shades, dull purples, olive greens, reds and browns. The Rembrandt's are of the same style of growth but are curiously marked with vari-colored stripes and zigzags. By way of variety some of these latter kinds may even be included with an order of Darwins. Parrot tulips are late bloomers and have the edges of the petals notched and fringed and are of gorgeous colors mostly shades of red and yellow, but the stems are rather weak and they do not compare in effect with the Darwins. Double tulips are not as pleasing as the single ones.

Crocuses are small and rather cheap bulbs which come out earlier than tulips. They are very effective in a narrow border, or in beds of other and later flowering bulbs, where they can come up and make their show before the others come on. They are very interesting when planted in the lawn. They will flower in the spring before mowing is necessary, but will only bloom once as the continual mowing of the grass cuts off the leaves and the bulbs die out.

Hyacinths are best planted in rows in the edge of the border or in masses in beds. They are more expensive than tulips but are much more interesting because of their delightful fragrance although the range of colors is not nearly as great. In selecting them for bedding care should be used to select those blooming about the same time.

The most varied and interesting group of Dutch bulbs are the narcissi. These are limited in color to white and yellow with or without slight edgings of red or deep orange, but are very varied in form and habit of growth. They have a widely opened perianth composed of pointed or rounded segments inside of which is a corolla which may be a trumpet longer than the spread of the perianth or it may be a mere shallow cup. Frequently the perianth and corolla are of different colors and if it is cup formed the corolla is frequently edged with a red or orange. The flowers may be double and may be on a stalk, or in the polyanthus varieties as many as ten. Most of them are fragrant, especially the jonquils and poets narcissus.

The sooner bulbs are planted after being received the better. They may be planted as late as December but are better planted in October. The earlier they are planted the better root growth will they make and the earlier will they flower.

All the Dutch bulbs above described are hardy except some of the polyanthus narcissi and all

require about the same treatment when planted out of doors. If the soil is heavy it should be deeply spaded and lightened by the addition of sand. It should be rich, but no fresh manure should be used, and even well rotted manure should not come in contact with the bulbs. The soil should be well drained and if not it is a good plan to bed the bulbs in sand half an inch or more around each bulb, and then fix the bed so that there shall be no surface water standing over them in winter. Rather than plant the bulbs in holes, it is better, if they are in beds or rows, to remove the top soil to depth at which the bulbs are to be planted, then to prepare and manure the subsoil, then to place the bulbs in position pressing lightly into the soil, base down, and then replace the top soil over them carefully so as not to displace them.

Crocuses are best planted two to two and a half inches deep; early tulips two and a half to three inches deep; Darwin tulips six to eight inches deep; hyacinths from four to six inches deep depending on the size of the bulb. The depth given is from the bottom of the bulb.

In buying bulbs get named varieties. They cost more but are better in every way. Get first sized bulbs as they give longer blossoms. In making your selection remember that it is not always the most expensive bulbs that give the best results. The old reliable sorts are generally the cheapest and are easiest to cultivate. They are proven to be satisfactory or they would not be still on the market.

While all these are hardy it is well to give them slight winter protection. Straw is best but corn stalks, leaves or almost any sort of dry rubbish will do, especially anything which will hold the snow. Whatever is used should be removed in the spring as soon as the leaves begin to come through the ground.

Although all these bulbs can be forced, i. e., made to blossom in the house, hyacinths and narcissus do best. The material for forming the flower is stored in the bulb and requires little or nothing except what the plant will derive from air, water and light. It must have a good root growth, however, and the principal conditions of successful forcing is a good root growth. Any sort of soil if it is not too compact will be sufficient, or, in case of hyacinths even clear sand, pebbles or water. But in all cases the bulbs must be kept cool and in the dark till there is a good root growth, when they may be brought into a light room. If in pots they should not be brought into the light until the roots begin to show through the hole in the bottom of the pot. When this stage is reached the flower stalk or the leaves will have begun to show above the soil. They should not at first be exposed to direct sunlight, but should be brought into it gradually.

Tulips and crocuses should be planted in pots, the tips half an inch below the top of the soil. Hyacinths and narcissus should be just covered. As many can be put in a pot as it will hold and not have the bulbs touch each other. The top soil should be packed firmly as the roots may otherwise force the bulb up into the air. Hyacinths may be grown in special hyacinth glasses. The paper-white (polyanthus) narcissus is best grown in a shallow bowl in water with sand and pebbles to keep it in place.

The bulbs can be placed in a cool cellar or closet to make their root growth, but it must be dark. It does not matter that it is cool and it may even freeze without injury to the bulb. They should be kept damp all the time. Perhaps the best results are obtained by leaving them out of doors in a cold frame covered with four to six inches of wet cinders. If potted early and protected from frost they may be brought in by New Years and will blossom in February. They can be kept in the dark in a cool cellar and brought up to the light in succession. Don't forget that they must have a cool dark place in which to make their root growth if you are to be successful.

Florists sell a prepared fiber in which bulbs may be grown, but it is just as messy as dirt and no better. It is mostly for flat-dwellers who can't easily get garden soil.

Tobacco preparations applied to house plants tend to discourage aphis and other insects.

Careful packing of fruit or vegetables always pays in better prices paid for the product.

Mulch autumn bearing strawberries with straw or lawn clippings to keep the fruit clean.

A bright, clean, attractive package helps the sale of fruit and vegetables. Anything that appeals to the eye helps the sale.

Thoughts on Racine Convention

The Summer meeting held at Racine is a thing of the past, but it will be present in the memory of one who attended for many a day. I really wondered why Racine was chosen. What was there to see in onion and cabbage fields? Well I found out—am a wiser and humbler person,—What I didn't know about onions and cabbage would fill a book. We met in the Assembly Hall of the Commercial Club, were warmly welcomed tho we were tardy, by a committee of Racine ladies. Do you know I think in the language of flowers Racine will be Pansies. The Door is open. The Hostess greets you, beautiful flowers, smiling faces, why I began to feel at home immediately. Luckily we only missed a little of the splendid talk on roses by H. F. Koch of Wauwatosa. He is surely a genuine lover of roses, and is very tolerant of other gardeners' opinions for he kindly listened to some of our stories, answered our questions, generally helped us all. You see he has really grown and loved his garden. The Peony and Iris speaker, Mr. Kenning, was the same. Their gardens—the flowers they loved—that's the secret they gave to us. "If you have a garden, love it." We want you to have a garden; we'll tell you about ours." After the meeting closes the groups of interested people gather about the speakers. The flower lovers instinctively gather together telling their troubles and successes. So do the fruit and vegetable growers, and, while to my notion if they would talk right out in meeting we would all get more out of it, yet we sure can enjoy this thot, each of us took home with us the best, our particular need was satisfied. The afternoon session was good also. Mr. Hauser of Bayfield who displayed a most beautiful collection of Perrennial and Annual Garden flowers, kindly introduced them to us by their proper names; we surely enjoyed this. Mr. Hauser deserved the vote of thanks given by the Society for doing his best to make these meetings beautiful.

The Discussion on berries and cherries was led by Mr. Rasmussen and punctuated by Mr. Birmingham whose cherries tasted as good as they looked. The leader of this part of the session said he wanted to stir up some opposition. From stray bits of conversation heard afterward, guess he succeeded. Thot again we'd be there a week instead of two days if we talked things over in the meetings as we do afterwards. I should just liked to have asked one question that afternoon, or rather, I should like to be shown, a batch or breed of chickens that you could let run in a garden and not have all your pet plants scratched out. Mr. Kern gave us some "facts" about Sparta. I guess he's right, they aren't coming back, they are speeding past, altogether too many car loads of fruit for me to grasp so quickly, and besides when you can raise a paying crop of strawberries, fill your barn with hay, corn crib full of corn and then fill a silo from a single tract of land all in one year—well, we sure won't forget that Sparta is on the map while Mr. Kern is living there. Dr. Fracker talked on insects. When Dr. Fracker talks we listen. Got to. Bugs our pet abomination. I have several bugs I'm going to present to him; heard him say he didn't know the name of one by the description given; am not so particular about the name but hope he will know what to give them so as to exterminate the family, root and branch, for, while not numerous in my garden, they do about as much damage as a gossip in a neighborhood. Mr. Monteith spoke on the control of onion and cabbage diseases. He is certainly a good speaker and doesn't waste words but I'll be honest for once, I thot it rather—well—dry, but I sat up and took notice next day when shown a field of cabbage where the disease had been conquered by sowing a disease resistant strain of seed. Hats off to our University men, I don't believe these Professors are the kind we heard about. When you don't know what else to do with a boy, make a professor out of him. In the evening we went to Washington park. The Masque given by Friends of our native Landscape made us all, I think, go back to our happiest days for we also dreamed dreams and saw visions. We were in a mood to appreciate the practical, sensible remarks given by the speakers afterwards. Come to think of it, they were principally remarks on our duty, yours, mine, not the other fellow's. What can you and I do to help along? The Ghosts that came to me were the companions of my childhood. The Spirit that went with me was the Spirit of Understanding. Regrets, surely—we fail sometimes—but up we look and when we all lift together, the others' burdens are lighter—and we are all happier.

It is not I can give you a resume of the speakers' remarks.

You should have been there. Every time you miss a convention, you miss something worth while.

Thursday we went to visit the onion and cabbage farms. We drove miles and miles through Racine's and Kenosha's famous fields. We saw onions and cabbages, store houses, garden tractors that seemed almost human in the work they could do, more onions and still more onions. I still see them. I discovered many things I didn't know about onions and cabbages—also I discovered other things. When we rested for a brief period for lunch, as friends sat and talked together, I heard one man, practical, common-sense, businesslike, admit he was addicted to day dreams, builds air castles. He climbs the hill to success and success means what? Satisfaction. I have done what I set out to do, I have given the best that is in me, my soul is satisfied. Did he say all this in answer to the question, what is success? There is no secret he declares. Success is Satisfaction. How can I interpret?—because I, too, am a dreamer of dreams, and my soul is not satisfied, so I have not reached success.

When I walked and talked with the workers in the onion fields, I discovered another thing. Two little boys from Chicago who were clipping the onion tops interested me. "Isn't that hard work?" I asked. "Uh huh," one of them answered, but, taking up a hand full of dirt, he let it run slowly through his fingers, "it's more fun to work in this dirt than to live in Chicago." We were friends instantly. I could understand. To me the dirt was clean and good fun too. Sure the work was hard, but if you love it, it's fun. Please God they may take this feeling through life towards their work. If the "look up" not down, can be kept before them their reward will surely be satisfaction. When I read of Racine and Kenosha producing so many car loads of onions and cabbages I will understand as I never have before. There the fields lie before us; there the men, women and children worked. In God's great out doors they were. I didn't see one sullen discontented face. What a memory to take with you. Tired and yet they are happy. So was I. The convention is over and I am glad I went. Are you? E.

Dandelions May Be Eradicated

Experiments conducted at the Geneva, New York, Experiment Station during the past eight years show that dandelions may be eradicated from lawns by spraying with iron sulfate solutions at relatively slight expense and without material injury to the grass.

Ordinarily, four or five sprayings are required, the first being made in May just before the first blooming period; one or two more sprayings at intervals of three or four weeks; and, finally, one or two in the late summer or fall. During the hot, dry weather of mid-summer it may be advisable to discontinue spraying because of danger to the grass. A blackening of the lawn following each application soon disappears if the grass is growing vigorously. Spraying should be supplemented by the application of fertilizers and by the seeding of grass in the spring and fall of each year. With proper management, it is necessary to spray only about every third year in order to keep the lawn practically free from dandelions. Some of the common lawn weeds are also killed, while others are only slightly injured by the spraying. Unfortunately, white clover is killed.

To prepare the spray solution, dissolve from 1.5 to 2 pounds of iron sulfate (also called copperas and green vitrol) in one gallon of water, using a wooden or earthenware vessel. A gallon of the solution will cover about 375 square feet of lawn. The best results are secured when the solution is applied as a fine, mist-like spray well driven down among the foliage. For small lawns a compressed-air sprayer, knapsack sprayer, or bucket pump with brass cylinder and equipped with a fine nozzle will be found satisfactory. Fairly satisfactory results may be secured with the use of a sprinkling can. The spray solution should be prevented from coming in contact with walks, building foundations, and one's clothing since it leaves a more or less permanent brown, rusty stain.

Those contemplating the use of the spray or those interested in the experiments should write to the Station, Geneva, New York, for Bulletin No. 466, which may be had free of charge.

Save a few choice apples for the Winter Meeting. If you can't bring a barrel bring a peck. Have you a pet seedling? Bring it so all can see it.

Wisconsin Horticulture

Published Monthly by the
Wisconsin State Horticultural Society
12 N. Carroll St.
Official organ of the Society.

FREDERIC CRANEFIELD, Editor.
Secretary W. S. H. S., Madison, Wis.

Entered as second-class matter May 13, 1912, at the postoffice at Madison, Wisconsin, under the Act of March 3, 1879.
Advertising rates made known on application.

Wisconsin State Horticultural Society

Annual membership fee, one dollar, which includes fifty cents, subscription price to Wisconsin Horticulture. Send one dollar to Frederic Cranefield, Editor, Madison, Wis.
Remit by Postal or Express Money Order. A dollar bill may be sent safely if wrapped or attached to a card. Personal checks accepted.

Postage stamps not accepted.

The Summer Meeting

The next important event is the winter meeting which will be held in January 1921. Extraordinary efforts will be made to stage the best fruit show ever staged in Wisconsin not excepting state fair or world exposition shows. We have the goods this year and we will show them. Premiums may be doubled or trebled over those of last year.

The summer meeting was a success from every viewpoint, those who attended know this to be true, enjoyed every bit of it and profited greatly. Those who stayed at home will get an outline of the proceedings in the 1921 annual report which will be available about September of that year. Everybody who attended felt sorry for the stay-at-homes, the ones who could just as well have come but didn't come, at least most everybody.

A member who did attend and felt it worth while tells about it on this page.

Fire Blight on Apples and Pears

It appears in June, July and August; kills the young shoots causing the leaves to turn brown as if scorched by fire. On pear trees the leaves usually turn black. Quite frequently it kills young pear trees and infrequently kills young apple trees. On older, bearing apple trees it usually causes no serious or permanent injury.

It has been studied by scientists for half a century and none has discovered either prevention or cure. Spraying does not help. If your trees blight, let them blight, you can't help yourself anyway, and when the blight gets thru it will quit. Cutting out the blighted twigs during the growing season is worse than useless, it spreads the disease. Cutting tools may be disinfected with formalin or corrosive sublimate after each cut which is also useless. Surgeons and dentists have learned that such slipshod make-believe "disinfection" does not render instruments sterile, only boiling serves.

These rambling notes on blight embody the best thought and practice of very many practical Wisconsin fruit growers: If they do not agree with the teachings of plant pathologists so much the worse for the pathologists.

Premiums Awarded at the Summer Meeting, Racine, Aug. 19–20th, 1920

Class I—Flowers

Display Dahlias, 1st, Mrs. S. H. Hansche; display pansies, 1st, H. C. Christensen; perennial Phlox, 1st, Mrs. C. E. Strong; Gladioli, 1st, J. F. Hauser, 2nd, Mrs. S. H. Hansche, 3rd, Dorothy Hansche; Annual garden flowers, 1st, J. F. Hauser, 2nd, Mrs. Walter R. Brunker; Herbaceous perennials, 1st, J. F. Hauser. Also special premium of $20.00 awarded this exhibit.

Class II—Vegetables

Snap beans, 1st, N. A. Rasmussen; Lima beans, 1st, Walter R. Brunka, 2nd, Rasmussen; Cranberry beans, 1st, Rasmussen; Two cabbages, 1st, Rasmussen, 2nd, Brunka; Six onions, 1st, Rasmussen, 2nd, H. C. Christensen, 3d, Brunka, 2nd, Rasmussen; Three Cucumbers, 1st, Rasmussen; Three muskmelons, 1st, Rasmussen; Six tomatoes, 1st Brunka, 2nd, Rasmussen; Six beets, 1st, Brunka, 2nd, Rasmussen; Six carrots, 1st, Christensen, 2nd, Rasmussen, 3d, Brunka; Two egg plant, 1st, Brunka.

Class III—Garden Exhibits

Display by boy or girl under 16 years of age, 1st, Norman Hansche.

The Apple Crop

Doctors disagree and it is not therefore unreasonable to expect that crop reporters will also disagree.

The Crop Reporting Service of the State Department of Agricul-

ture, the State Division of Markets and the U. S. Bureau of Markets have all been guessing at the Wisconsin apple crop for several weeks.

Here are two forecasts. Wisconsin Co-operative crop reporting services.

Madison, Wis., August 17, 1920 COMMERCIAL APPLES:—The Wisconsin commercial apple crop prospect declined 25,000 barrels during July, states Joseph A. Becker of the Wisconsin Cooperative Crop Reporting Service (U. S. Bureau of Crop Estimates and Wisconsin State Department of Agriculture) in his August apple estimate. Dry weather during July checked growth of the fruit and caused an unusually high dropping of windfalls.

The production is now forecasted at 157,000 barrels, compared to 182,000 forecasted a month ago, 126,000 barrels produced in 1919 and 114,000 in 1918. Condition of the crop declined from 65 per cent of a full crop on July 1 to 56 percent on August 1. Condition in Door county is given at 74 percent; Bayfield, 87; Crawford and Vernon, 67; Sauk, 40; and Richland, 40.

Shipments from apple centers will be 10 percent greater than last year, according to reports of apple correspondents of the Service.

The Division of Markets says:

APPLES:—The production of apples is forecasted at 3,676,000 bushels, compared to 2,700,000 produced in 1919 and 2,811,000 in 1918. Condition was 76 percent, compared to 65 a year ago and a 10-year average of 60.

United States: Apple production in the United States is forecasted at 213,187,000 bushels, compared to 147,457,000 produced in 1919 and 169,911,000 in 1918. Condition on August 1 was 70.4, compared to 52.2 a year ago and a 10-year average of 55.4.

From these reports it is reasonable to conclude that the crop is larger than that of 1919. Will prices be lower? Perhaps. Maybe. As Sing Tong Lee might say "no can tell."

Strawberries at Sparta

Sparta for a number of years has been known as a great berry section, but not so many know or realize to what extent are berries grown on one of our farms. This farm is the Leverich Fruit Farm at Angelo, where, on Tuesday of this week alone, 564 crates of strawberries were picked and marketed. This is probably the largest number of cases ever picked by one grower in this district, if not in the state of Wisconsin, in a single day.

Some of the pickers are earning on this farm at the rate of about six dollars per day. There were all told about 125 pickers in the field from children seven years of age to grownups who earned more than $275. The payroll on this farm Tuesday amounted to considerable more than $300.

One of the largest day's sales of strawberries in this section was recorded Tuesday when the Sparta Fruit Growers' Exchange shipped five carloads. Five cars were shipped one day last week, but at a time when the total sales were slightly lower than those of Tuesday.—Monroe County Democrat, June 24th, 1920.

Apples in England

The following quotations are from an article on fruit growing in England in a recent issue of the Christian Science Monitor.

WHERE GROWN

Apples can be grown successfully all over England and many parts of Scotland, those districts which overlie the coal measures and those which have become great centres of industry are not so well suited as the counties which are purely agricultural and possess large rural areas of medium loams. The great apple county of the country is Kent, and especially that district of the county known as the Weald. The soil is of a stiff calcareous nature, in some places shallow and close to the chalk. This latter class of soil gives excellent results in a moist season, but is apt to get very hot in a dry one. Then Hereford, Somerset and Devon are counties possessing an ideal soil for apples, and the color of the fruit from these is brilliant, due to the red sandstone formations on which the soil lies and of which it is partly composed. At present, in these three counties, the bulk of the apples grown are old-fashioned cider varieties, for every farm makes its own cider, and the culinary varieties are termed "pot fruit," signifying that the fruit is used for cooking or dessert purposes and not for cider. They are gradually being exploited, Hereford leading the way, and the results which are being obtained with the modern culinary and dessert varieties are beyond the most sanguine expectations of the pioneers.

Continued on page 14

AMONG WISCONSIN BEEKEEPERS

Devoted to The Interests of The Wisconsin State Beekeepers' Association
H. F. Wilson, Editor

Beekeepers' Chautauqua

The second Beekeepers' Chautauqua was held at Madison August 16–20 on the university camping ground. The fact that interest in beekeeping is growing was clearly shown by the large attendance and the interest of those present. The result cannot be other than better beekeeping in Wisconsin.

Dr. Phillips and Mr. Demuth of the U. S. Dept. of Entomology were the principal speakers. The former spoke on bee behavior and the latter on the resulting beekeeping practice. Dr. Phillips in his general introduction said that all beekeeping practice must be based on bee activity, the response of the bee to the various factors in its environment. Beekeepers of today use "rule of thumb" systems which may or may not be good, but which fail when new factors appear in the environment. So it is necessary for the successful beekeeper to understand bee behavior.

The discussion of bee behavior and the resulting yearly management were taken up in chronological order. The beekeeping year was divided into Part I, Producing Energy and Part II, Expanding Energy. Part I has three periods, Fall, Winter, and Spring. During all of Part I three things are necessary, food, room, and protection. Food in the fall must be adequate, in the winter of choice quality, and in the spring, abundant. Nowhere do do beekeepers fail as much as in providing sufficient spring stores. There are four basic factors in honey production; (1) flowes in bloom and secreting nectar, (2) honey-gathering weather, (3) colonies five times their normal strength, and (4) colony morale, or dominance of the storing instinct. Although man may somewhat establish new honey plants, yet the first two factors are chiefly controlled by nature with which he must go 50-50 in taking care of the last two to produce a crop of honey. Plants plus weather plus excessive population plus colony morale equals honey crop. This is the beekeepers crop formula. If any factor is zero, the result is zero. The purposes of the seasons briefly are these. In the fall a large force of young bees must be reared, in the winter their vitality must be conserved, in the spring brood rearing must be raised to its peak as the honey flow starts and in the summer the colony must be so managed that the storing instinct is kept dominant.

Dr. Phillips discussed bee diseases giving the causes, symtoms, and treatments. He also explained the relationship between European foul brood and honey flows and made it clear that the beekeeper who kept good Italian bees and practiced good beekeeping as explained in the lectures had no need to fear European foul brood.

Mr. Demuth told how the honey producer could raise his own queens by the method of Dr. Miller or by using a swarm box. No one has a better opportunity than the honey producer to select good breeding stock. He who does not rear queens misses the poetry of beekeeping.

In discussing the factors influencing nectar secretion, Dr. Phillips brought out the importance of a beekeeper's knowing something about the conditions of soil, temperature, and moisture under which different honey plants secrete nectar. This knowledge is invaluable in locating an apiary, and by it the yield of an established apiary may be increased.

Besides the speakers mentioned there were several others. Both Mr. E. R. Root and Mr. Kennith Hawkins mentioned the difficulties experienced this spring in sending package bees from the south. They believe the difficulty had been solved experimentally by shading the bees and using a new chemical sugar without dextrine in the mailing cases. Mr. Root further remarked that their bees would be built up for the honey flow on honey alone, because he believed that sugar fed bees did not have as much vitality.

What the state fair has done in the past year for Wisconsin beekeeping was explained by Mr. Gus Dittmer. The prize money has been increased about $900 so this year it is over $1200, and if the beekeepers would only do their best to make a big display, the beekeeping department might have a separate building in the future. Besides nowhere else is there given such a good oppor-

tunity for advertising Wisconsin honey.

Dr. S. B. Fracker exhibited 3 maps showing the foul brood distributions in Wisconsin, the extent of the clean-up work, and the counties wanting and having had inspection work. Prof. H. F. Wilson spoke on "The Future Education of the Beekeepers." The writer told of building up the Sheboygan Co. Honey Producers' Association.

Ivan Whiting,
Plymouth, Wisconsin.

The September Problem

Few beekeepers fully realize the importance of conditions during the months of August and September which effect the wintering of a colony of bees. To a large extent the condition of the colony during August and September determines whether the bees winter well or not in Wisconsin. Beekeepers often make the mistake of counting the hives which contain bees in the fall, then again in the spring and compute the difference as the winter loss. It is entirely unfair to charge up to winter loss any loss of colonies of bees which were not normal colonies in the fall. We cannot lose that which we do not have and of course should not charge to winter the loss of colonies which were not normal in the fall. No one would think of blaming the winter for the loss of colonies that have been queenless since the first of August and which have only a few old bees left in the fall. Neither would any one think of blaming the winter for the loss of small nuclei. Yet many beekeepers blame the winter for the loss of colonies which are abnormal both as to age and number of bees in the fall. Too many beekeepers expect the winter packing case or the bee cellar to winter their bees for them in spite of the conditions of the colonies in the fall and when failure results, the particular method of winter protection is blamed for the loss. During another year if the colonies are in a better condition in the fall and some other method of winter protection is used, the credit for the better wintering is usually given to the particular type of winter protection then used instead of being given to the better condition of the colony in the fall where the credit belongs. It is well for the beekeeper to remember that the condition of his colonies on the first of October may be of greater importance than the particular type or winter case or the particular type of cellar that he uses and that to be able to judge as to the merits of the various methods of winter protection, it is necessary to take into consideration the condition of the colonies on October first. The amount of brood that is reared after the middle of August determines the size of the winter colony or at least determines the number of bees which can live until spring since the bees reared previous to this time are too old to be expected to live through the winter.

NECESSITY OF UNINTERRUPTED BROOD REARING

In some portions of Wisconsin there is no fall honey flow and unless the conditions of the colony are unusually favorable but little brood is reared during this time which of course is only another way of saying that unless conditions are unusually favorable most of the bees of the colony are too old to live through the winter and replace themselves with young bees the next spring. When there is no fall flow, therefore, only those colonies which happen to have the most favorable conditions during August and September are able to have a sufficient number of young bees to go through the winter safely. It is therefore extremely important to see in those locations where there is no fall flow that the colonies have conditions favorable for the continuation of brood rearing in sufficient amount to insure a good winter cluster of young bees. Colonies having old queens usually reduce brood rearing during August and September too much for safe wintering and colonies that do not have an abundance of honey in the hive during this time usually fail to raise a sufficient number of young bees for good wintering if there is no fall flow. In no case should there be any interruption of brood rearing from queenlessness after the middle of August for every day that a colony is queenless means just that much loss in the rearing of the bees which should form the winter cluster. Colonies that are to be requeened should be requeened early enough that the new queen will begin to lay not later than about the middle of August and if requeening is necessary during this time a laying queen instead of a virgin queen should be introduced in order to reduce the period of no egg laying.

Requeening may be done without interfering with fall brood rearing if it is done after brood rearing ceases. If the queens are young and if sufficient honey is left in the hive during August and September, the colonies usually rear enough bees for winter even during a dearth of nectar. A beekeeper whose location does not furnish a fall honey flow should therefore be sure that his queens are young and that an abundance of honey is left in the hive to induce brood rearing sufficient for safe wintering. When the honey is extracted at the close of the clover honey flow, leaving for the colony only the little honey that is in the brood chamber, strong colonies of bees frequently almost cease brood rearing entirely just at the time when the bees for winter should be reared.

Beekeepers of Wisconsin have been losing thousands of dollars by extracting too closely thinking that the bees have a sufficient amount of stores to tide them over until a hope for fall flow or until time for winter feeding. In localities where there is a good fall flow, however, the bees usually rear an abundance of young bees for winter without any especial attention on the part of the beekeeper except to see that every colony has a queen. A little attention at this time to provide favorable conditions for brood rearing in every colony goes a long way toward uniformly strong colonies the next spring. **Be sure that none of your colonies are compelled to reduce brood rearing below the danger point from now until brood rearing ceases the latter part of this month.**

G. S. Demuth.

Price Cutting

Of all the ills the beekeeping industry suffers from, there is, according to the views of the writer, none more detrimental than the one known as price cutting.

It seems that honey, at one time pronounced a fit food for the gods, fate has now decreed to go through the land a beggar, striving in vain to gain the attention and popularity it deserves and once enjoyed in older days. But the most discouraging feature of the deplorable situation is that so many honey producers are satisfied to work for little or nothing, just as long as they can get rid of what they produce. And after they have sold their crop they declare they could have sold a whole lot more if they had had it, when in reality it means that they could have given away a whole lot more.

A careful account kept for the last twenty-three years shows the average crop surplus per colony is 40 lbs.

and the last ten year period ending in 1917 and including that season, shows that it costs 30c per lb. to produce honey in this section of the country. But the price of labor and commodities, excepting honey, have increased some where around from 25 to 50 per cent since 1917, which makes the cost of honey production considerably higher than above stated.

It is true, the methods of honey production are also improving, but never-the-less the cost of production is far above the selling price. Why, it is ridiculous to pay a hired man $5.00 per day for an eight hour day, and the beekeeper work sixteen hour days at $2.50 per day, and in addition furnish a $5,000 equipment!

The Chippewa Valley Beekeepers Association at a meeting held at Chippewa Falls, Wis., on the 22nd day of June decided to try and improve conditions locally at least, by conducting a honey advertising campaign, and agreed to institute a honey cooking, baking and candy making contest awarding premiums as follows: $3.00 each for the first prize on the best article cake (any kind) cookies, pie, beverage and candy. $2.00 for the second prize, $1.00 for the third and 50c for the fourth.

The money to carry on this campaign is obtained by the beekeepers of this association by a 2c per colony assessment on fall count of colonies. The contests are to be held in different parts of Chippewa county, Wisconsin.

A. C. F. Bartz.

Monthly News Reports From Local Associations

Aug. 4—Average honey crop. Beekeepers are asking 25c wholesale and 30c retail for extracted honey. We have no comb honey on sale. There are 2 tons of extracted and 500 pounds of comb honey in this county. Reporter, J. E. Cooke—Baraboo Valley Bee. Assn.

Aug. 7—The bees are not doing much at present. Our beekeepers are asking 25c per pound for extracted honey. Reporter, J. S. Sloniker—Clark County Bee. Assn.

Aug. 11—Condition of honey crop in this county is fair. Average yield of white honey in this locality is 33 pounds per colony. The country is drying up and the growth of vegetation is at a standstill at present. Unless heavy rains come at once there can be no fall flow. Beekeepers are asking $3.00 for 10 pound cans, $1.60 for 5 pound cans, 54c per pint; and 35c for comb honey wholesale. Price to consumer is $3.50 for 10 pound cans, $1.80 for 5 pound cans, 65c per pint; and 40c for comb honey. 60 pound cans are selling for $16.50 with not less than 6 cans at 25c. Reporter, Emma L. Bartz—Chippewa Valley Bee. Assn.

Aug. 10—Condition of honey crop about normal but some colonies below normal. Extracting nearly finished. Fine, clear, heavy ripe honey being marketed, protecting the consumer as well as the beekeeper. Beekeepers are asking 40c to 45c for comb honey in case lots; extracted, 30c to 40c, depending upon the quality and size of container. The joint county and local field meet held at G. M. Ranum's apiary was one of the most enthusiastic gatherings of the season. There were 54 present each one giving and taking with the best beekeeping spirit. Prof. Wilson and J. Hambleton gave very interesting talks. The next meeting will be held at the apiary of C. Felton, early in September. Reporter, Robert L. Siebecker—Dane County Bee. Assn.

Aug. 7—Average crop about 100 pounds per colony in this county. Beekeepers are asking 40c for comb honey No. 1, and 35c for comb honey No. 2. Extracted honey is 30c retail and extra charge for container. Reporter, Edward Hassinger—Fox River Valley Bee. Assn.

Aug. 6—Condition of honey crop very good in amount and quality. Beekeepers are asking 25c for extracted and 35c for comb honey. There are 100,000 pounds of extracted and 2,000 pounds of comb honey in this county. We had a good attendance and unusual interest shown at a county picnic held July 28. Many plan to attend the Beekeepers Conference at Madison. We are making plans for a county exhibit at the State Fair. Reporter, Geo. W. Davies—Grant County Bee. Assn.

Aug. 7—Condition of honey crop fair in quantity and good in quality. Won't average over 50 pounds per colony and probably much less as most beekeepers do not know how to control swarming. Beekeepers are asking 30c to 35c for extracted and 35c to 40c for comb honey. Reporter, W. R. Abbott—Jefferson County Bee. Assn.

Aug. 12—We have had the best honey flow during July this year previous to 1913. Bees are still working on sweet clover which is the best we ever had. At the summer meeting held at the apiary of J. E. Brown on July 24, Dr. S. B. Fracker explained the new marketing law. Beekeepers reported a good honey flow and a good demand for honey. C. D. Adams was elected president and H. V. Wilson, South Milwaukee, secretary and treasurer for the ensuing year. Reporter, C. D. Adams—Milwaukee County Bee. Assn.

Aug. 11—Condition of honey crop very good. 50 colonies stored as much as 100 in 1919. Honey flow in this locality closed last few days of July. There will be no fall flow. Beekeepers are asking 35c retail and 40c wholesale for comb honey. Reporter, Martin Krueger—North East Wis. B. K. A.

Aug. 6—Condition of honey crop fair to good. Basswood yielded practically nothing. Crop would have been much better if we had received more rain. Beekeepers are asking 35c for extracted and 40c to 45c for comb honey retail. There is a carload of extracted but little comb honey in this locality. We had a nice meeting at Merton. Reporter, C. W. Aeppler—Waukesha County Bee. Assn.

Aug. 10—The honey crop is good here this year. Beekeepers are asking from 20c to 30c for honey. We have from 8,000 to 12,000 pounds of extracted honey here but little comb honey. Reporter, L. E. Cass—Vernon County Bee. Assn.

Aug. 12—White and alsike clover were not so abundant as usual but gave a very good yield. Only a few of the basswoods bloomed this year and no surplus has been reported in this vicinity. Beekeepers report an average crop. Extracted honey is retailing at 30c per pound. We have no comb honey for sale. It is impossible to estimate the amount of honey on hand. A large part of the year's crop has been sold. Reporter, A. H. Seefeldt—Washington County Bee. Assn.

Aug. 6—Condition of honey crop about the same as last year. Honey is sold at 30c retail and 25c wholesale for extracted. Comb honey is 35c wholesale and 40c retail. The clover flow has been getting greatly reduced by lack of rain and hot, dry weather. Reporter, W. A. Sprise—Wood County Bee. Assn.

August 23—The main honey flow closed about August 1. There is little prospect of fall flow due to lack of rain. The quality of the crop is excellent. Honey in this county is selling for 25c wholesale and 30c retail. Our annual meeting at Lewis Francisco's home was a big success. The officers for next year are President, Ralph Gunzel; Vice Preident, Lewis Francisco; Secretary and Treasurer, I. C. Painter. Peter Vanish is on the Executive Committee. We are preparing for an exhibit at the County and State Fairs. Reporter, I. C. Painter — Marathon County Bee. Assn.

The following members have not been receiving Wisconsin Horticul-

ture. Will you please check them on your mailing list.

1. J. H. Gentz, Bowler, Wisconsin.
2. E. A. Barlement, Green Bay, Wisconsin, R. F. D. 9.
3. J. Dietz, Twin Lakes, Wisconsin.
4. W. Hansen, 1546 S. 11th St., Sheboygan, Wisconsin.

County Associations Having 20 or More Members

A few new members in several more counties will place them in the honor division.

1. Dane Co. ..... 62 members
2. Fond du Lac Co. .. 48 members
3. Milwaukee Co. .... 46 members
4. Sheboygan Co. .... 44 members
5. Waukesha Co. .... 42 members
6. Marathon Co. ..... 35 members
7. Winnebago Co. .... 34 members
8. Grant Co. ..... 32 members
9. Chippewa Co. ..... 31 members
10. Richland Co. ..... 30 members
11. Langlade Co. ..... 28 members
12. Brown Co. ..... 26 members
13. Shawano Co. ..... 25 members
14. Manitowoc Co. .... 23 members
15. Jefferson Co. ..... 21 members
16. Price Co. ..... 20 members
17. Sauk Co. ..... 21 members
18. Wood Co. ..... 20 members

WISCONSIN STATE BEEKEEPERS' CONVENTION, DECEMBER 1, 2, AND 3, 1920.

Wisconsin Beekeepers' Conference

The Wisconsin Beekeepers' Conference and Chautauqua was held at the University Camping ground August 16 to 21. The meetings were well attended, there being more than a hundred at some sessions. In all 187 people registered, representing 32 counties and six other states as follows:

County	No. of Beekeepers	Total No. Colonies represented
1. Dane	73	1550
2. Sauk	9	668
3. Richland	7	545
4. Grant	6	687
5. Milwaukee	6	179
6. Fond du Lac	6	53
7. Jefferson	6	95
8. Winnebago	6	165
9. Columbia	5	137
10. Walworth	5	115
11. Green	4	410
12. Sheboygan	4	152
13. Crawford	3	184
14. Vernon	3	148
15. Monroe	3	31
16. Marquette	3	30
17. Iowa	3	155
18. Waukesha	2	322
19. Waushara	2	158

20. Brown	2	18
21. La Crosse	2	11
22. Washburn	1	110
23. Washington	1	106
24. Green Lake	1	100
25. Clark	1	90
26. La Fayette	1	60
27. Barron	1	40
28. Eau Claire	1	89
29. Rock	1	30
30. Dodge	1	26
31. Outagamie	1	25
32. Marathon	1	12

Total number of Beekeepers.... 171
Total number of Colonies 6501

Beekeepers From Other States

District of Columbia	2
Texas	1
Ohio	1
New York	1
South Dakota	1
Illinois	10
Total from other states	16

New State Association Members

23. Arthur Rosenow, Rt. 2, Oconomowoc
24. George Karow, Cable
25. Albert Butters, Rt. 1, Waldo
26. Wm. Holbrook, Rt. 1, Waldo
27. Arthur B. Hanson, North Lake
28. F. J. Coyier, Platteville
29. Ora Govier, Lancaster
30. Dan Hoffman, Lancaster
31. W. A. Johnson, Lancaster
32. Anthony Schmidt, Lancaster
33. John Schilling, Jr., Rt. 5, West Allis
34. G. Kappel, Menomonie
35. Claude Moll, Rt. 2, Ashland
36. H. G. Schmid, Potter
37. Chas. Denton, 411 S. Main St., Oconomowoc
38. John Schauf, Twin Bluffs
39. Rev. Hicks, Box 305, Madison
40. E. H. Randolph, Walworth
41. A. F. Ackerman, Plymouth
42. Chas. Wilson, Montello
43. Aug. Heuer, Fairwater
44. G. M. Lunde, Madison
45. Dr. E. H. Weber, Lake Mills
46. Sy Bros., Rt. 1, Kiel
47. James Voskiul, Oostburg
48. Mrs. C. C. Conger, Greenbush
49. L. H. Bishop, Camp 5, c o Stone & Webster, Belden, California
50. E. M. Starks, Deerfield
51. M. Weyer, Cross Plains
52. M. P. Woodworth, Oshkosh
53. C. A. Walker, Plainville
54. John McHone, Sylvan
55. Will J. Platten, Green Bay
56. Dr. T. H. Ragatz, Prairie du Sac
57. J. I. Groves, Viroqua
58. H. A. Stevens, Valley Jct.
59. Mrs. Peter L. Jacobson, 346 Scott St., Milwaukee
60. Miss O. Leavitt, 1413 Mound St., Madison
61. Mrs. E. Ray Stevens, 1908 Arlington Place, Madison

Apples in England

Continued from page 9

TOO MANY VARIETIES

In the past the British apple grower has suffered from an overabundance of varieties and the state has done nothing for him in the way of testing, so as to eliminate the doubtful and useless ones. No large experimental stations exist in Britain to compare with those in Canada and the United States of America, and all the information possessed by the Board of Agriculture has been culled from outside sources.

Taking culinary apples first, probably the best six varieties are as follows: Early Victoria syn Emneth Early, Grenadier, Lord Derby, Lane's Prince Albert, Bramley Seedling, Newton Wonder.

Coming now to dessert varieties, which are legion, the best six Cox's Orange Pippin, Worcester Pearmain, Allington Pippin, King of the Pippins, Gladstone Blenheim Orange.

DWARFS AND STANDARD

Planters may be divided into two great classes: (1) The large grower, who has many years of experience behind him, and (2) the small man who is just starting. The former type of grower has capital to spare and he usually goes in for extending his plantations with fruit alone. He plants as a rule bush trees closely, i. e., 12 ft. to 15 ft. apart, and interplants with bush fruits for a few years until the bush fruits begin to fail and the trees require more room. The bush fruits are then cleared out and the trees allowed the whole of the ground space.

Trees on the paradise stock are usually put in at the distances already indicated. They are shallow rooters and begin cropping at an early age, often the second year after planting, if good trees (three years old) have been purchased. Apples are also planted as half standards on the crabstock at 24 ft. to 30 ft. apart and interplanted with bush trees on the paradise at 12 ft. or 15 ft. apart. The trees in the paradise after 20–25 years' growth and often earlier, are cut, and the whole space given to the standards which will then be in full bearing.

The second class of grower who is only beginning to grow fruit and who, having little capital, cannot afford to lie out of a crop for even the first year, must adopt a different system. He must plant so as to be able to combine vegetable culture with his fruit growing. Vegetables yield a direct return the first year and enable the starter to pay rent and keep his household going, later he may decide to abandon the vegetables to some extent, in favor of small fruit, if the land is specially adapted for such crops as strawberries, raspberries, gooseberries, currants, etc. He cannot afford a heavy labor bill and must continue to do the bulk of his cultivation by horses, or he may invest in a small motor plow. It is therefore necessary that he plant his fruit trees in lines at a considerable distance apart and utilize the space between the rows for market garden crops, other than fruit.

IS CULTIVATION BEST?

It is now generally accepted that apples do much better on cultivated land than on grass, although in the red soil counties of

Hereford, Somerset and Devon all the existing orchards of any age are on grass, and only those recently laid down by experienced commercial fruit growers are kept black and then only by some growers. In the old days the farm orchards contained standard trees, so that cattle could be grazed under them, and an old custom in the farming community takes a long time to break down. It is mostly in Kent, Worcester, Cambridge, Norfolk and the home counties, that trees of a dwarf type have been planted and the soil in the interspaces kept stirred during the season.

PLANTING SEASON

In Britain the planting season is long, extending from October to April, but the best results in the season, where the planting takes of December. It seldom occurs that the climatic conditions in this country are very severe before Christmas, it is usually in January, February and March that the worst weather is experienced.

GRADING

The operation of grading has been very much neglected in the past, now all enterprising growers grade into three qualities. The first and second qualities are placed on the open market, and the third is disposed of to the jam makers for conversion into jelly or pulp; the latter is then used as a base for many classes of jam. Several firms manufacture apple grading machines, which do their work very satisfactorily and deal with a considerably larger amount of fruit per day than could be dealt with by hand, but many of the best growers who specialize in packing in boxes believe that, given intelligent workers, the old system of hand grading is still the best and does less harm to the fruit, and in any case the apples have to be eventually packed by hand from the machine.

Twenty Years of Fertilizer in an Apple Orchard

Review of Bulletin No. 460, New York Agr. Exp. Station.

This Bulletin contains additional records of an experiment begun in 1896 on the Station grounds, and first reported in Bulletin 339 in 1911. The experiment was undertaken for the purpose of showing the effects of fertilizers on an apple orchard. The trees are Ben Davis topbudded to Rome. The results reported in Bulletin 339 are negative, i. e., the effect of the fertilizers was neither good nor bad.

Since then, there have been eight additional harvests to judge from, and the results are not materially different. The three points factoring in the determination of the effects of the fertilizers are, yield of fruit, size of apples, and tree growth. The combination of phosphoric acid and potash and the complete fertilizer treatment have caused small increases in yield and probably somewhat more vigorous growth. Manure did not cause an appreciable increase in yield or growth, nor was the addition of nitrogen in the complete fertilizer of measurable value in growth. Phosphoric acid used alone has been of no value.

If the results continue in the present direction for another ten years, the increased yields may justify the recommendation of one or two of these treatments, but at present they are too irregular and the increases too small to show any certain financial benefit.

Save Fruit For Winter Meeting

Now is the time to save fruit for the winter-meeting. The premiums will be worth while. A straight 25 per cent increase for all tray and "collection" exhibits over last year.

In applying these conclusions in practical orcharding, it should be borne in mind that they are the result of work in a cultivated orchard on soil naturally well supplied with the plant food elements. On thin, infertile soils, or in sod orchards, the results might be quite different.

The detailed results of the experiments may be had by sending to the Geneva Station for the complete bulletin.

Underground Storage Buildings

Caves, cellars, or non-refrigerated buildings built partly or wholly underground come under the head of common storage. In underground buildings the temperature is likely to be fairly uniform and approximately equal to that of the surrounding earth, which, at a depth of 6 or 8 feet, remains constant at about 53 degrees throughout the year. Evaporation of moisture from the earth floors and earth-surrounded masonry walls also tends to keep the temperature lower and the humidity higher than in a building built above ground. The temperature in underground buildings seems very cool in comparison with outdoor temperatures in warm weather, but is not as low as is desirable for fruit storage. If a lower temperature, better suited for fruit storage is to be maintained, underground buildings must be at least as well, if not better, insulated than those built above ground. Earth, even if dry, is not a good insulator, and if damp it may be quite a good conductor of heat, so that fully as much insulation is required for underground walls and floors as for those above ground. Somewhat more care is necessary to protect underground insulation from moisture, than is required on walls not in contact with the earth. All insulating material requires to be kept perfectly dry, as it loses much or all of its value if allowed to become damp. The cost of excavation must be added to that of construction. Ventilation of underground buildings is liable to be inadequate.

Generally speaking, underground buildings are to be regarded as more or less primitive makeshifts, which, while they have the merit of being inexpensive and serviceable under pioneer conditions are not considered well adapted to orcharding on an extensive scale.

A flower border should have a good background of shrubs or tall flowers. This green background shows up the flowers to better advantage.

THE INSECT PAGE

Conducted by the Department of Economic Entomology College of Agriculture

Fall Webworn Makes Unsightly Nests on Fruit and Shade Trees

About the first of August the nests of the fall webworn become conspicuous in the outer and higher branches of apple, pear, and many shade trees; the box-elder is especially attacked.

This pest spends its winter in the pupae or resting stage. The pupae are reddish-brown, about one-half inch in length, and are found inside of flimsy cocoons which are usually placed in crevices of the bark, under trash, or even below the surface of the ground.

The adults are moths which expand one and one-fourth inches and are satiny white to white, heavily spotted with black or brownish spots. They appear in June and July and lay their pale green eggs in clusters on the upper or under sides of the leaves. The egg clusters contain 300 or 400 eggs and they are covered with the white hairs of the female moth.

Each individual egg is quite small being only about one-fiftieth of an inch wide, and under the microscope presents a beautiful thimble-like ornamentation. They hatch in a week or ten days into extremely hairy caterpillars which feed on the leaves, usually at the end of a branch, wnich they enclose in a silken web.

They feed only under cover of their web which is enlarged as fresh food is needed. They go from one branch to another spinning their webs wherever they go. As they become older they usually leave the nest at night, feeding in the open, and then return during the day. When disturbed they quickly wriggle out of the web and drop to the ground. When one branch or tree is defoliated (and this often happens in severe cases) they go to new branches or even other trees.

When full grown the caterpillars measure about one and one-fourth inches in length, with a broad dusky stripe along the back and usually with yellowish sides thickly spotted with blackish dots. In Northern Wisconsin there is only one generation a year but probably a second occurs in the southern part of the state.

HOW TO GET RID OF THE PESTS

In orchards which are regularly sprayed there should be no trouble from this pest. If the insect is generally distributed in unsprayed orchards they should be sprayed with lead arsenate, 2 pounds to 50 gallons of water. If only a few webs occur they should be cut out or burned out with a torch as soon as seen. The best time is during the day as the caterpillars are then in their nests.

Chas. L. Fluke.

White Marked Tussock-Moth

This insect by feeding upon the leaves frequently injures orchards or shade trees, and our common shrubs such as the dogwood are also often attacked.

The larvae or caterpillars of the white-marked tussock-moth with their many hairs arranged in striking pencils, tufts, or brushes present a very characteristic and handsome appearance.

They are about one and one-half inches long when full grown and of a general dark gray color with a broad velvety black band bordered by yellow stripes on the back and a similar yellow stripe along each side below the spiracles. Their striking characteristics are dense, brush-like, cream-colored tufts or tussocks of hairs on the back of each of the first four abdominal segments, and pencils of long plume-tipped black hairs projecting from each side near the head and from the back toward the last segment of the body.

There is but a single generation a year in Wisconsin, the insect wintering in the egg stage. The eggs are white and covered with a frothy substance, usually laid on the bark of the trunks but may be found in almost any place among the trees and shrubs. The adults are moths but the female has only stubs of wings so does not move far from her cocoon.

The eggs which are quite conspicuous may be collected in autumn or winter and burned. Where practicable spraying gives good results, arsenate of lead is one of the best poisons and should be used at the rate of 2 or 3 pounds to the 50 gallons of water. This should be applied while the caterpillars are young as it is almost impossible to kill them when they are older.

Chas. L. Fluke.

Locals

The Sauk County local will hold an all day meeting and outing Sept. 6th at Pine Creek canon, near Baraboo. There will be talks on native trees, native ferns and native flowers.

The West Allis Horticultural Society will exhibit at the W. A. public library Sept. 10th and 11th. Cash prizes are offered of all manner of things that grow in the ground or underground. In length and variety the list rivals the State Fair list and we have no doubt the exhibit will run a close second to the Fair.

If other locals will kindly advise us of their doings we will gladly publish them. It's of interest to all.

Premium List

The following cash premiums are offered for exhibits at the next annual convention:

*Best collection of apples, not less than 15 varieties, 1st, $10.00; 2nd, $6.00, 3rd, $4.00; 4th, $2.00.

*Best 5 plates (5 varieties) commercial apples for Wisconsin, 1st, $5.00; 2nd, $3.00; 3rd, $2.00; 4th, $1.00.

For best plate each of the following varieties, 1st, $1.00; 2nd, 75c; 3rd, 50c; 4th, 25c:

Ben Davis, Dudley, Fameuse, Gano, Gem, Gideon, Golden Russett, Grimes Golden, Jonathan, King, Maiden Blush, Malinda, McIntosh, McMahan, Newell, Northern Spy, Northwestern Greening, Patten, Pewaukee, Plumb Cider, Salome, Seek-no-further, Scott Winter, Tolman, Twenty Ounce, Utter, Wagener, Wealthy, Windsor, Wolf River, York Imperial.

*Best tray of each of the above named varieties, 1st, $3.00; 2nd, $2.00; 3d, $1.00; 4th, 75c.

*Best 5 trays of any of the following varieties: McIntosh, Northwestern, Wealthy, Tolman, Wolf River, Fameuse, Gano, Salome, McMahan, Seek-no-further, Windsor, 1st, $10.00; 2nd, $6.00; 3rd, $4.00; 4th, $2.00.

Separate samples must be furnished for each entry.

Best exhibit Pears, 1st, $1.00; 2nd, 75c; 3d, 50c.

Best exhibit Crabs, 1st, $1.00; 2nd, 75c; 3d, 50c.

Vegetables

Best collection, not less than 10 entries, 1st, $5.00; 2nd, $3.00; 3d, $2.00.

For each of the following, 1st, $1.00; 2nd, 75c; 3d, 50c:

6 Blood Turnip Beets, 3 White Turnips, 3 Yellow Turnips, 3 Rutabagas, 6 Chantenay Carrots, 6 Short-Horn Carrots, 3 Winter Cabbage, 3 Red Cabbage, 6 Chicory, 6 Ears Pop Corn, 6 Red Onions, 6 Yellow Danvers Onions, 6 White Onions, 6 Onions, Large Type, 6 Winter Radishes, 6 Parsnips, 6 Peppers, Hubbard Squash, 6 Heads Celery, 3 Chinese Cabbage.

Sweepstakes awarded pro rata, $20.00.

Cranberries

Premiums will be awarded for exhibits of Cranberries as follows: Premium list by the Cranberry Growers' Association. First premium, $1.00, 2nd, 75c; 3d, 50c:

Bennett Jumbo, Searls Jumbo, Bell and Bugle, McFarlin, Metallic Bell, Bell and Cherry, Prolific.

One pint is sufficient for an entry. Add 10 tray premium same varieties as 5 tray $20–$15–$10–$5.

* Add 25 per cent.

Begonias—Their Origin, Classes and Culture

By M. Downing, in The Flower Grower.

Named for M. Begon, Governor of St. Domingo, more than two hundred years ago, the Begonia was first introduced into this country from Jamaica in 1777.

Like many an aristocrat of our day, it commenced life an ambitious little plebeian with no particular merit on which to build a status. So much the more credit for the kingdom it has conquered, for the throne it now holds in the worldom of plantlife, for its aristocratic pedigree established through a long line of hybridizing and hand-pollenizing.

Native of Asia, tropical and semi-tropical America, these beautiful plants are found in the Islands of the Pacific and on the Greater and Lesser Antilles. Divided into three distinct classes, viz: fibrous or shrubby, rex, and tuberous, they form a most interesting study; but, coming to us as they have from warm, dampish homes, an erroneous idea as to necessarily protected surroundings for their successful growth, has imbued the minds of many flower-growers so, they fear to attempt their cultivation outside of greenhouses.

There never was a bigger mistake. We speak from our own experience. Few exotics have greater powers of resisting heat and cold, or, yield more readily to fresh-air methods. Some specimens require partial protection; hence, should be planted in sheltered angles on the east side of a house; or in half sunny locations under trees and shrubbery. Others will grow, bloom and flourish in the full sunshine.

Ordorata alba, for instance, one of the hardier sorts, can stand drouth, heat and cold to an extra degree. It is a semper-floren (always blooming) and invaluable for cut flowers.

Of course, Begonias raised in a greenhouse must be hardened by degrees to the lower temperatures found in open house or out-door cultivation. Sudden exposure to the life of free-growing, fresh-air plants, would have the same injurious effect upon them that sudden, drastic draughts of heat and cold have upon an "incubator baby."

Another distinctive feature found in the study and cultivation of Begonias' is, unlike most bloomers, the reproductive organs are found in separate flowers. For this reason, to secure seeds from most varieties—semperflorens always excepted—hand-pollenizing is necessary. However, to know how to pollenize, one must understand the construction of flowers.

FIBROS OR SHRUBBY BEGONIAS.

These are divided into several sections. The Semper-floren section is plainly marked by its upright growth hardihood, similarity of foliage in all species. The staminate flowers are more attractive than in other divisions, owing to a greater number of larger stamens to which there is a perpetual quivering. This section pollenizes its own flowers. The two sorts of flowers are grouped by nature so near each other that the constant motion of the stamens throws off the pollen which is easily caught by the pistillate flowers.

The most beautiful specimen of fibrous Begonia we ever saw belonging to this special section, was a hybrid, Semperfloren Gigantea rosea. Immensely vigorous, the leaves as big as small saucers, and the great panicles of magnificent shell-pink blossoms from an inch to an inch and a half long, made us catch our breath at the thought of nothing more charming. To this same section belong *Vulcan*, a dazzling red, and *Vernon*, a fine crimson. In contrast, comes *Bijou*, the dwarf, followed by reds and pinks and whites, all similar and all good for garden-borders.

Big tropical leaves, all round and shining, lying close to the soil, out of which spring long stems topped by immense panicles of feathery flowers mark another section. *Ricinafolia* and *Rubella* are among the best varieties.

To a fourth section of the fibrous belong species which send up from that base of the plant where the taproot distributes its rootlets, canes so vigorous, so straight, so stately, that one is reminded of bamboo. These shoots, if never let dry out, grow with the rapidity of Jack's fabled bean stalk. The thick leathery leaves and brilliant showers of bloom, the rapid growth under one's eyes as one stands and watches, make these varieties very gods whose shrines of beauty one is loath to quit.

A ten by twelve inch pot will hold food and drink enough for one of these plants three to four feet tall bearing thirty to forty panicles of flowers at one time. The *Rubra*, an old-time favorite is still holding its own by the side of *Otto Heckor* and *President Carnot*.

The Giant Tree Begonias, creations of Mrs. Theo. B. Shepherd, the pioneer seed grower of the Pacific coast, are hybrids from crossing the *Rubra* with *Glorie de Jouy* of Rex ancestry. The successful experiment was the result of many years of hunting-for, and mating-with, the right affinities, for, do you know flowers have affinities as well as man, and without these affinities, no hybrid can be produced. Patience, study, research, toil and care, rounding up with absolute failure, marked a road full of disappointments for years before that experiment in

twenty-four tests (in the dropping of the petals,) told the marvelous story of success to the female wizard, whose hand had found at last and united the "soulmates" which were to give out a new line of wonderful creations.

The result of this crossing gave many fine specimens, possessing the cane habits of the *Rubra*, its long stemmed flowers in huge panicles; but an extra beauty was added to the flowers in an inheritance from the *Gloire de Jouy;* the petals and pistils were much larger. Then, too, this Rex ancestry took on the coloring of the leaves. Lustrous and shimmering like silk, some lined with wine tints, some lighter reds, and some bearing a flush like the bloom on a young girl's cheek—oh, but they are beauties! Six years passed from the first planting of the first broken strains to the final crossing before Mrs. Shepherd had any stock for market. Of these hybrids, *Fair Rosamond* and *Majeska* are among the finest. Another successful crossing of the *Rubra* with a trailing sort, the *Glaucaphylla-scandens*, by Mrs. Shepherd, gave us *Marjorie Daw*. Mrs. Shepherd considered this a marvel for blooming and for rapid growth.

REX BEGONIAS.

Are cultivated exclusively for the wondrous beauty of their leaves. Anyone can grow them who cares to by giving them the right treatment, remembering always, the main point of this right treatment, unlike either fibrous or tuberous, viz: is never to water the leaves. Watering the leaves will gradually kill the plant. They grow readily in ordinary pot soil, requiring water about once every ten days. The hybrids are hardier, growing more readily. We have never tried cultivation beyond the hall and open porch.

Unlike the fibrous class, florists usually propagate Rex Begonias from leaves instead of cuttings. Any time between May and October is favorable. Fully grown leaves are selected and cut from the plants, leaving about an inch of the stem attached. With a pair of sharp scissors the leaf is all cut away to within an inch of the stem. This leaves only the "heart" of the leaf. Proceed now to slit the ribs apart being careful not to separate them from the center and stem. Plant the stem, pressing the leaf-remnant close to the earth so that the little plants to spring from the ribs may be able to catch their rootlets in the ground. Keep the ground moist and semi-shaded and in a short time the "baby plants" will peep their little faces at you.

TUBEROUS BEGONIAS.

As Rex Begonias are grown exclusively for their resplendent foliage, tuberous Begonias receive the same attention for their large and brilliantly colored and delicately shaded flowers.

Not until 1864 have we any definite knowledge of this special class. Then a specimen came to us from Bolivia under the ponderous name of "Boliviaensia," which name completely overshadowed its plebeian personality. The next year, Bolivia sent us a better representative in yellow instead of red flowers larger foliage and bearing the name of B. *piercii*. Closely following came B. *veitchii* from Peru. With large round flowers of vermilion cinnabar-red, it made a splendid record for itself being pronounced a popular favorite at once. Seven years later, B. *froebilli*, a very beautiful variety with velvety-red foliage and large intensely scarlet flowers, was introduced from Ecuador.

From these five species all our wondrous tuberous kinds of today have originated. English and French experts have been foremost in the transformation.

LENGTH OF BLOOMING TIME.

For a period of six months tuberous Begonias if properly watered and fed are profuse bloomers, then the tubers begin to get busy for another season and the top dies. In England, tuberous Begonias are considered, with the exception of zonale Geraniums, the best all round exotics for massing in beds and growing in borders. They can be grown ordinarily, in and out of doors. For pots, boxes, or baskets, nothing is better. Single varieties hold their blooms longest. They come readily from seeds, but two-year-old tubers are more satisfactory, from the fact that they bloom so much quicker.

SOIL FOR POTS.

A strictly light soil is usually recommended for all Begonias, whereas, we use a heavy one with splendid success.

The formula for heavy soil is ⅔ds adobe with ⅓d sharp sand and leaf-mold in equal proportions. Leaf mold is the same as loam. Sharp sand is the sand that plasterers use.

Light soil is made of ½ leaf mold, the other half, sharp sand and barn manure used sparingly. Adobe not obtainable, any loose soil can be used with the addition of bone meal or other commercial fertilizer. The dust under an old house, especially one built close to the ground, is heavily charged with a wonderful life giving power. Apply a good dressing of this to your plants and in a short time you will be astonished to see how they grow.

Liquid fertilizers applied understandingly are valuable and tone up a plant like tonics do the human family.

Common Storage Buildings

Common storage buildings are those not provided with any special means of refrigeration. The term "common" storage is apparenly used in order to distinguish them from refrigerated, or cold storage, plants. Non-refrigerated storehouses are also sometimes designated as "Air cooled," from the fact that the ventilation with outside air is relied upon to cool off the contents of the building.

Buildings for common storage are usually insulated to some extent, that is the construction is such as to hinder more or less the passage of heat through the outer walls of the building. They are not usually nearly so well insulated as buildings designed for cold (i. e. artificially cooled) storage purposes. As a matter of fact, buildings for common storage should really be even better insulated than are refrigerated storehouses, for the reason that cooling by ventilation is, at best, intermittent and is frequently more or less inadequate. Temperatures in common storage houses are not likely to be maintained at a constant point, and usually are not nearly as low as is desirable. This is particularly true during the apple picking and harvesting season.

If the weather conditions during the harvesting period are favorable, i. e., if the nights are very cool, the fruit in a storehouse of this description may be cooled promptly enough to effectively check ripening and decay. After the fruit is once thoroughly cooled, if the building is well insulated, it is usually possible to keep it at a fairly low temperature. It frequently happens, however, that cool nights are lacking during the harvesting period, or the night temperatures do not remain low for long enough periods, resulting in a considerable delay in the cooling down of the stored fruit. This delay in cooling may be serious through allowing the ripening to progress to a considerably greater extent than is desirable. It also affords opportunity for the development of decay in fruits having slight bruises or other mechanical injury. Apples held in common storage sometimes hold up nearly as well as similar fruit in cold storage; but, ordinarily the fruit, on account of its condition, must be removed from common storage considerably earlier than from cold storage, and when removed is likely to have ripened up to such an extent that it goes down quickly upon being transferred to a warmer temperature. Various troubles encountered in storage, such as scald, etc., are usually more in evidence in common storage than in cold storage, mainly as a result of the higher temperature of the common storage. The humidity of the house is likely to be low and the fruit may lose much of its natural luster and plumpness, or it may shrivel more or less. Lack of control of the temperature and humidity makes the common storage house somewhat questionable for the fruit farm except under the most favorable climatic conditions.

Common storage buildings are cooled by allowing the outside air to circulate through the building whenever the outside temperature is as cold or colder than that of the air inside the building. The circulation of air is usually by natural ventilation, a number of openings being provided in the side walls at or near the lower part of the building, also ventilating openings, or ventilators, leading upward from upper portion of rooms to permit the escape of the warm air to to the outside atmosphere. Natural ventilation is induced by the difference in weight of air at different temperatures. Air when warm expands and occupies a greater amount of space than when cold, i. e. the weight of a cubic foot of warm air is less than the weight of a cubic foot of cold air. When the air inside the building is warmer than that outside, the colder air, by reason of its greater weight, flows in at the openings in lower part of building, and pushes out the warmer, lighter, air through the openings in the upper part of the building. Whenever the interior of the building is colder than the outside air all openings should be tightly closed in order to retain as much cold as possible and exclude all outside heat. If the ventilators and ventilating openings are left open when the outer air is warmer than that within the building, the flow of air through the ventilators will be reversed. The colder air within the building, on account of its greater weight, will flow out through the openings in lower part of building, and be replaced by an equal volume of warm air drawn in through the ventilators at the top of building. The effect of introducing warm air into the building is, of course, to gradually warm up the contents of the building, which is exactly the reverse of what is desired. It follows then that temperatures, both inside and outside, a common storage house, should be watched with care and advantage taken of every opportunity to ventilate the house with air colder than that inside the house. At all other times the ventilators should be kept tightly closed.

To cool down a large mass of warm fruit in a storage room requires the circulation of very large volumes of air. To cool the fruit at all quickly the air must be very cold. Warm fruit in closed barrels, or boxes, will stand a current of air at a temperature many degrees below the freezing point for many hours without danger of freezing the fruit. This being the case it is evident that the cooling of boxed or barrelled fruit by a gentle current of only moderately cool air is necessarily extremely slow. The temperature of the fruit changes far more slowly than that of the air in the storage room. In order that the fruit may cool with any reasonable degree of rapidity, it is necessary that the air circulation be very free and abundant. Ventilating openings should not be small miniature affairs, a few inches in dimension, but should be of large size, the larger the better, and all ventilating openings and shafts leading from the upper part of storeroom to atmosphere should also be very large, as straight and direct as possible, and carried up as high as is practicable. The difference in weight between a cubic foot of warm and one of cold air is very slight, amounting usually to a few thousandths of a pound with ordinary temperature differences, so that the pressure due to the difference in temperature is extremely slight. It is this pressure which produces the air movement and, being so very slight, the flow of air is materially checked if air passages are small or crooked. Tight closing shutters or dampers should be provided for quick closing of all ventilating openings, both in upper and lower part of building.

The ventilation, or air circulation, in some common storage buildings is assisted by means of power driven fans. Such fans are especially useful when the periods of low outside temperatures are so short that it is desirable to take advantage of the same to the greatest possible extent and hasten the cooling of stored fruit by the circuation of larger volumes of air than could be obtained by natural ventilation alone. Fans for this purpose should be of good size and adapted to the rapid movement of comparatively large volumes of air. Fans of the propellor type are suitable, provided the air ducts are short and straight and of large area. This type of fan is both lower in cost and requires less power to drive than the centrifugal or blower type. They are not adapted, however, to forcing air through long, small or crooked ducts, as a very slight resistance materially retards the delivery of air by these fans.

Drain tile set over each celery plant blanches it nicely. Paper or boards may be used in cool weather, but either is apt to decay the plants in warm weather.

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

Volume XI | Madison, Wisconsin, October, 1920 | Number 2

A border of herbaceous perennials, Fox-glove, Campanula, Sweet William and many other kinds so arranged that there will be bloom from frost to frost. We may all have a border of perennials, if not as large as this at least as beautiful.

The Profits From the Peony Patch

By William A. Peterson

The purpose of this article is to show "how to make the most money out of an acre of peonies." The entire process is briefly described, from purchasing the roots to marketing the crop. The ideas presented are not untried theories, but are an epitome of a specialist's experience.

I do not propose to discuss isolated cases of extraordinary profits obtained by producing new varieties of peonies or even by cornering the market on a rare sort. In fact, stocking up heavily on some new "queen bee" of a peony show frequently finds the grower, five years later, offering the same at twenty per cent of the original cost. There may be a dozen American growers whose extensive catalogues and large advertising of several hundred varieties make their profit on their acre of soil a bonanza.

There are just two ways to make money out of peonies, either by selling the roots or the flowers. Leading up to the subject of profits, let us consider the three contributing factors thereto: First, the roots; second, the soil; third, the labor.

THE ROOTS OR DIVISIONS

The roots should be young and healthy. If divisions are used, have them cut from plants not over 4 years old and remove all but two strong eyes to each piece of sound tuber. The use of 1-year or 2-year-old plants saves some time, but on a given investment the divisions are more economical.

Most people prefer blooms of solid colors, and mass together in lawn planting or in bouquets those of the same shade. The number of varieties carried, therefore, depends on the amount of land available, as one must cut enough blooms of a kind to make a shipment worth while, and furnish enough similar material to carry out a decorative color scheme. For example, a florist might want 500 Eugenie Verdier, the famous "baby pink," for a reception.

The possible range of varieties comprises four distinct colors; namely, white, light pink, deep pink, and red, which is the usual classification adopted for exhibitions and by the cut flower trade. In each of these four classes are three well defined blooming periods, the early, mid-season and late. This makes twelve sections to be represented, as the goal set before each grower in selecting his varities and testing out the sorts to finally grow. Ultimately one may find it necessary to carry two absolutely indispensable sorts in some sections.

SELECTION OF VARIETIES

This building of a master list, into which each tested variety must fight its way by sheer demonstrated worth, is exceedingly absorbing. In comparing the painstaking records which we annually make, we sometimes find that an outstanding variety, like Mme. Forel, should be finally dropped, because other kinds have superseded it. In my personal study, in order not to be too exacting and in order to give new varieties every chance that is due them, I have really seven colors to divide the sorts into, viz.: First, paper white; second, cream or yellow; third, blush or delicate flesh; fourth, light or medium pink; fifth, deep pink, and rose; sixth, red; seventh, crimson and deep red. In this way we have tried out about 1,400 varieties and at the present time are carrying less than eighty.

Recommending varieties for other localities is not an entirely safe proposition and I shall only give a few notes on how certain sorts conduct themselves at our nursery. We have discarded Meissonier, because of its crooked stems. We have also rejected Mme. Emile Galle, because it has no low lateral leaves and the lack of these prevents cutting it with a long stem, whereas Octavie Demay, a dwarf-growing delicate pink, admits of cutting with a fairly good stem without injuring the plant, and is a wonder. So far with us the prize-winning Jubilee has a weak stem. Golden Harvest is one of the mixed colored kinds that florists cannot send on a definite color order, unless the customer knows it by name.

FAULTS OF OLD FAVORITES

Mme. Crousse is tender in our climate and often skips a season in blooming. Because Richardson's Rubra Superba has proven extremely shy, we no longer carry it, while Richardson's Grandiflora is all that its name implies and a free bloomer besides. This is one of those unusual sorts that come into bloom over a long period; so one must have a good many plants to cut from to get a fair quantity of flowers at one time.

Adolphe Rousseau is a wonder-

ful "black," but is too loose and shows the yellow stamens too much. The greatly talked of pink, Lady Alexandra Duff, is on the same order.

Single-blooming varieties attract some people, but are not really suitable for shipping.

La Tulipe is objectionable in bud, as the florists call it a "candy bud," whereas the bud of Kelway's Venus leaves nothing to wish for.

No matter how fine a sort may ultimately develop on the plant, if in the early stages of opening it is likely to "waterlog," like Charlemagne, it is not worth carrying. Probably more Delicatissima are used at June weddings than any other light pink sort.

The most popular selling red is Felix Crousse, with its perfect bomb shape and large gourd petal, which always indicates a good storage variety.

Many will be surprised to learn that we have finally dropped Edulis Superba. It does remarkably well in many places, but on our records, which we have kept annually since 1888, it is not nearly so dependable as M. Jules Elie and is generally not more than a day earlier. In some quarters Mme. Ducel is grown, but with us it is smaller than M. Jules Elie and so similar in shade and time of blooming that we do not need it.

We notice an increasing emphasis laid on the desirability of the fragrant varieties.

SUITABLE SOIL

Having settled what roots to carry, we will now discuss the best soil conditions. The soil should be rich, deep and well drained, with plenty of sunshine. For root propagation a loose loam makes the tubers admit of better dividing, but the heavier soil, with even a clay subsoil, produces the best blooms. Not only plenty of well rotted manure before planting should be plowed in, but also an annual mulch should be applied thereafter in the fall, but without covering the top of the crown or touching the stem. Pigeon, sheep or cow manure and even some hard-wood ashes make the best fertilizer for our prairie soil. Peonies are such gross feeders that a large quantity of fertilizer, if worked in thoroughly, can be well taken care of, but no manure should ever touch the roots. For the most favorable results there should be plenty of water during the blooming period, and also toward the end of August, to make large eyes for the next season. Some of the foregoing remarks might be classified under the head of labor rather than soil.

PLANTING AND LATER ATTENTION

Now as to the labor: The planting should be done during the early part of September, in rows three feet apart by fifteen inches between plants down the row. In two years' time, if the bed is to stand for blooming, every other plant should be lifted, divided and planted elsewhere.

If there is any question of the plants having any stem disease, during the month of September, cut off the old leaf-tops level with the ground and burn them up. The surest method of keeping the roots free from disease is to dig out and destroy every large plant, among blooming ones, that has no flowers. In fact, we have made it a practice for years, in the treatment of all our standard sorts, to destroy June 1 every peony plant 2 or more years old that has no buds. This avoids the possible spread of disease and also prevents the perpetuating of shy-blooming strains of peonies. As long as plants bloom, we need not worry.

KEEPING THEM TRUE TO NAME

The young shoots, as they push up in the spring, are quite beautiful and differ decidedly. At this stage of their development we go over our fields and dig out and throw away every plant differing in appearance from others in the same variety. This gets rid of any possible mixtures and is the last check in our system of keeping every plant true. I may be pardoned in mentioning here our 10-year-old, unique guarantee of giving three for one for every plant blooming untrue to description.

Every three weeks from May to September we run a horse cultivator down every row, and just before freezing up we use a V-shaped potato plow to trench a furrow to draw the water away from the crown. Sufficient hand-hoeing during the summer must be done to keep the land free from weeds.

MARKETING THE ROOTS

The labor of marketing the roots is mostly done in September, which is the proper time to move peonies. It is preferable for customers to do their own dividing, as then the cut surfaces are fresh and wither less when put into the ground. However, many purchasers do not know how, and for that matter we our-

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Johnnie Speaks a Piece

This Time It's About Fairs

Oak Holler, Wis.

My Dear Horticultural Friends —Did you ever get the chance to do something you had always wanted to do? If you have you'll know how I felt when the Editor of this paper told me he wanted me to write him something every month for a year. Didn't care what I wrote so long as I wrote. Do you know my friends I'm thinking this Editor-man is a going to be a sadder and wiser man at the end of the year, principally sadder. For I sure never did anything in my life just as other people thot I ought to. They used to tell me my first name should have been Willful and my middle name Contrary, instead of the plain old fashioned name I really have. But ye Editor man was wise in one respect —he firmly impressed on my mind "one page" was my limit—maybe a little more but he looked extremely doubtful over the "little more." Guess he was afraid I was like the story I heard about the Chinaman, who listened to the political speaker,—"Talkee, Talkee—who windee up." Oh I'm not going to count this introduction as part of my page, Mr. Editor. I just want to start out right. I'm sure the readers aren't going to agree with me and I want to tell 'em I will not worry a bit if they don't. They can criticise me all they like, I just listen and go right ahead and—write some more. This time I'm going to write about the State Fair—just got back. Some Fair to try to see in one week. You see a Fair has always had a great attraction for me. Way back—oh, I'm not going to tell you how many years ago I started going to Fairs. Used to go with my Grandparents, Aunts and Uncles in the big old fashioned buggy, along with the jams, baked stuff and flowers. The big wagon had gone with the grain, vegetables, fruits, butter. Some exhibits they took down there to the County Fair and when they came home they were well decorated with blue ribbons. Grandmother's garden was sure famous and as for baking "Um" I can still taste the blueberry pie, cookies and fried cakes. There was only one building to hold all these exhibits, pretty small we'd call it now—but still, looking backward, even now I think it used to be a pretty good Fair. Everybody in the county went. Why it was the event of the year. Such good natured friendly rivalry to see who would get the most prizes. Do you know I can not remember whether they gave any premiums or not. They gave blue and red and white ribbons. Just about two inches of dark blue ribbon, that was the coveted sign. The thing that impressed me most then and still clings to my memory, is the greetings, the grip of the hands, "glad to see you sort of a feeling." I can remember standing around my hand tightly clutching the hand or dress of some of my people, while the crowd closed around us and they asked and answered questions. I used to think, well I wouldn't tell everybody what I did to get such nice things to exhibit. I'd just be selfish and keep things to myself. There's the thing I didn't understand. That was the secret of this particular Fair being such a success. They got together and told each other what they had or hadn't done. Help each other and help yourself. Some slogan wasn't it? And now Im coming back to the big Fair. I can see it slowly but surely surging back to our grandfather's days. Now don't you all start to talk at once. I know this Wisconsin State Fair is the most wonderful modern up-to-date exhibit, sure--read the advertisements —been to these too and its true. But—there's still room for improvement. We need more of this get-together sort of a feeling. We need to get together Fair Board, Superintendents, Exhibitors—plan, criticise, praise, criticise, plan some more. Each Superintendent and his or her exhibitors want to make their building the most attractive, the most helpful, the most educational. They can't do this without criticism, not the kind that hurts, the kind that helps. Get the other fellow's opinion. Never mind if you don't think he's interested in your building. It's surprising some times what a lot the other fellow knows about the things you think he doesn't care anything about. And you just come back at him, tell him where he failed to come up to your expectations, but don't forget to praise him for what he has done: "a little praise goes a long ways." And besides you'll all feel better. Then we want the opinion of the Public—the people who go to the Fair. Write to the Secretary, to the Board, to the Superintendents. Holler long and loud. Keep on hollering till you get what you want or they give you a plain statement as to why they can't. You see the lit-

tle girl said if you want anything bad enough, and pray hard enough, you'll get it. I believe this; the explanation is simple. You will do your best to get what you want if you really and truly do want this—whatever it is. Don't sit back and sulk because things don't suit, just get busy and get it to suit. Take a chance, smile and go after it. Nine times out of ten there's no obstacle there. All you've got to do is get busy. My gracious here's that Editor-man and he's hollering, if you want to get anything in this paper hand it over, and I'm just getting started. Well I'll continue in my next. Got a whole lot of things I'd like to tell you about Fairs, Folks, Boys, Gardens, and funny its more Fairs. Sounds some like a weather report don't it? Continued Fair. Hope it don't get Frosted.

Yours Truly,
Johnnie.

Something to Think About

Editor Collingwood of the Rural New Yorker has been shedding bright sunshine and cheer for years to the hearts of thousands thru his "Hope Farm Notes" but in a recent number he, for the first time, gets real provoked over the price situation and the meager returns from his truck farm in New Jersey. He asks and answers some questions to which your editor invites your respectful attention. There are things brewing in this fair land of ours and among them an effort, well thought out, on the part of those whose fortunes depend on labor, to hammer down the price of food so that the workman may be induced to accept less wages. The farmer is the goat every time. The following theme ostensibly written by a market gardener is somewhat long but well worth reading:

Is the market improving?

Not much. Sweet corn still brings a fair price, but apples and tomatoes are very cheap. At times tomatoes have been down to 35 cents a basket. It is reported that the Delaware growers refuse to deliver at the canneries for less than 50 cents. If they cannot get that they will let the fruit rot on the ground. We have a good crop, and as fairly as I can figure they cost over 50 cents a basket to produce. We have had a great crop of Wealthy apples, but they strike a market filled with culls and windfalls, and bring very little.

Discouraged, we suppose?

Not a bit. We simply push a little harder to get our stuff off. We took our chance, put up our money and raised a good crop. The market, which we could not control, has beaten us, and we now expect to lose money on the season's work. If anyone is to be definitely blamed I suppose we should take our share, for we took a chance on future prices, much as people do on wheat futures or stocks. Thus we are not growling publicly, but—never again! We have done our share contributing to the nation's food supply at a loss.

But what could you have done?

Saved the labor of all but one man, some $500 worth of fertilizer, a great bill for packages of seeds, and various other items. In that case we should have seeded everything except a few acres of corn and a garden, kept more hogs to pasture the grain and left the orchards in sod. In this wet season we should have had a good apple crop, and the saving on labor and fertilizer would have meant a profit and much less worry. As it is, all hands have worked themselves down to worry without any adequate return.

But what would the world do if all followed that plan?

I do not know, and I begin to feel that I do not care! We have had our lesson, and I think "the world" needs one in like manner. I think the lesson must be rubbed in until the people fully understand the part which the farmer plays in human society. When I first saw New York most people did understand that, for thousands of city folks were only one generation removed from the farm. Now with another generation sewed up in brick and stone, people have little idea where their food comes from, or who works to produce it. As they do not seem able to learn through heart or brain I think they must learn through their stomach.

But is not that a very narrow view to take?

I am not going to stop and argue whether it is or not. I never really saw anything "cut any ice" unless it was narrow. If someone wants to tell me why I should continue to produce food at a loss I am willing to listen, but I do not agree to accept the argument. I will, however, agree to work at a loss if other industries will sell their products as cheap comparatively as our farm prices are! I notice that most other industries are able to control prices and also the output. We are unable to do either unless we follow the example of the American Woolen Company and shut down when a surplus seems likely.

Where do you place the blame for the present trouble?

Why, I can get a dozen reasons for it—all from men who think they know. My neighbor says it is all due to the Democratic Administration. Another neighbor says it is due to the Republicans, because they control Congress and will not let the poor Democrats save the country. You may take your choice on that. Personally, it seems to me that the present Administration is about the feeblest specimen of law enforcement I have ever known. Yet, as judged from their record (in New York State) in food law enforcement, I do not see that the Republicans are any better. I do think the politicians of both old parties are largely responsible for our present mixup, because they have lacked the courage to stand up and face the real issues. For either party on their record to promise any reform in profiteering or food handling is, in my opinion, pure "bunk," and no one knows it better than these same politicians.

But who is responsible for what has happened?

We are chiefly responsible. By "we" I mean both producers and consumers. We have exhausted our political strength fighting over what I call third-class issues which do not directly affect us. We let the politicians select the issues for us, and out of the 110 million people in this country you may count on the fingers of one hand the leading public men who are not tied up to some selfish interest or prejudice which comes in ahead of the rights of the people. The biggest and most vital issue in this world today is the production and distribution of food and fiber,

but let any public man undertake to get down into the heart of it and tell the truth, and see what becomes of him. You can no more cure the trouble from which our business suffers through either of the present political parties than you can cure a case of heart disease by rubbing liniment on a man's back and giving him ginger tea!

But what will cure the trouble?

Nothing on earth but a change in human nature—on the part of both farmers and consumers. For years we as farmers, have fought each other and tried each to match our own little farm against the entire market. We have been too anxious to make the present dollar at any cost without considering that a dollar spent reasonably today may make $10 tomorrow. We have not invested our earnings in the farm, but have sent them off to invest in stocks or bonds which simply built up the town and city, and made new bait to lure our boys and girls and our capital away from the farm. For example, take my own farm. Had I spent more time in draining our wet fields and seeding more cover crops and hauling more black dirt out of the swamps I could this year have grown even larger crops with far less cost of fertilizer! Then we all raise what we can and dump it onto the market, each for himself, culls and all—anything that will bring a little money. We have not known up to within a few years what our crops cost, or what others are doing. Now all this has become a part of human nature. No political legislation can change that. **We have got to do it ourselves.**

But can it ever be done?

Yes, for it is being done here and there all over the country. The Dairymen's League has started it, and met with some success. I can name many cases where farmers have organized to control their market. They do not always succeed, but they slowly realize the need and the meaning of discipline, the proper use of capital and the fact that they must drop their personal prejudices and get together. That is what I mean by changing human nature. It is said to be an impossible thing to do. If that is true we must **harness** human nature and make it work as a double team.

And the consumers?

They are also very largely responsible for our troubles. The "human nature" of the city consumer is more selfish and shallow and hateful than that of the countryman. One day on the Paterson market fine tomatoes were down to 25 cents a basket. A woman walked right by the wagon for a quarter of a mile to a store and bought a can of tomatoes for 18 cents. People buy $15 shoes, 30-cent collars, "soda" at 11 cents and other luxuries in proportion without a murmur, and then growl like bears at any fair price for food! Every grocer must support a lot of "dead beats." They run up a bill, and then run away from it. The grocer gets it back in two ways. He charges more to the people who pay cash and he beats down the producer for what he buys. Of course he cannot beat down the big food handlers. Their prices are fixed. But there will come a time when the market is crowded. Then the storekeeper buys for almost nothing and holds up the consumer for the full price. For some years now consumers in the factory towns have been buying recklessly. Now they are beginning to curtail. They are keeping up purchases of high-priced manufactured goods, but fighting food prices bitterly. I think the Government through its failure to control the Cuban sugar crop is responsible for the high price. The people are so angry over this high price that they refuse to buy sugar. They are using less of it as candy, for cooking and for canning. That action is reflected in the market for our fruit and some vegetables, for the home canning trade has become enormous. The loss of this home canning trade has increased the market surplus for fruit, thrown it back upon us and hurt prices. This means cheaper supplies to the big canners, who can buy for almost nothing, unless, as in Delaware, the farmer refuses to sell below a stated price. Then next Winter, with a shortage in home canning, these cheaply acquired goods will mount up in price. If these consumers could have canned without sugar and bought their usual quantity, the price of fruit would have been held, and with the new sugar crop the dealers would have been forced to come down.

What part do the middlemen play?

Like most of us, they are after the last dollar, and they get it. I spend no time cursing the middlemen, though they have steadily robbed us. If they are thieves it is because "we" (producers and consumers) permit them to practice thievery. I know what they do to get our produce for less than its value, and then sell it for more than it is worth. The middleman is a human being, and in our present state of civilization he is entitled to a fair share of the cost of distribution. The trouble with the world is that he gets more than his share. We cannot make him disgorge by swearing at him or pleading with him—**we have got to do it ourselves!**

That's all right—but how?

First, change human nature and get together in support of our business. I am told that on the board of directors in many large corporations are men who hate each other personally with a hatred which you and I can hardly understand. Yet when any question concerning the rights of the corporation comes up these men drop their personal differences and vote together. I think, as farmers, we must learn how to do that. In the next place we have got to put what is called "the fear of God" into the hearts of our law-makers. "The voice of the people is the voice of God."

Just what do you mean by this "fear of God?"

I mean the conviction in the hearts of our public men that they have got to serve humanity and not their party alone. In the end the politicians are not masters. They are very humble servants. They obey the strongest hand. They are ruled by fear. You rarely see one stand up and fight for the unpopular side. What I mean is that "we" have got to make this issue of food distribution so big and so true and so popular and so just that our leaders will have to get in and put it over. It must be a crusade for a fair distribution of the essentials of life—no more, no less. These public men work on the theory that their delegated power authorizes them to do about as they please, after election. Twenty men averaging $5,000,000 each and very insistent will have more power over a public man than 10,000 ordinary citizens who find fault 364 days and "vote straight" one day! It would be just so with you or anyone else. It will ever be so until you and I and the rest of the 10,000 can change our "human nature" and make our public men understand that we mean business.

Strange

The Fall is here and leaves will leave
The trees and make us sigh and grieve;
The leaves will leave, the trees will stay,
To shiver through each wintry day;
The trees will stay, and yet, by jing
You'll find the trees will leave next Spring.

—Luke McLuke.

Denies Apples Are Wasted

The season is now about ripe for the "feature" writers of the big city dailies and the political spellbinders to begin their annual howl about apples rotting on the ground all over Wisconsin while consumers are paying enormous prices. Such articles do not please the consumer, the fruit grower nor anybody else.

While it may not be of any great interest to readers of this paper the editor takes the liberty of reproducing a specimen of his spleen which appeared in a Milwaukee paper one year ago.—F. C.

Reports from the various sections of the state about the waste of apples in Wisconsin are disputed by Secretary F. Cranefield of the Wisconsin State Horticultural society. Mr. Cranefield, in response to an inquiry from The Journal, writes:

"So far as the present season is concerned, such reports are without any foundation whatever. Wisconsin apples are just beginning to ripen, and it is therefore absurd to say that any are rotting under the trees.

Reports Are Current Annually

"However, such reports have been current in other years and are usually greatly exaggerated, and in most cases wholly untrue. Some alarmist from the city rides through the country in an automobile, sees a few bushels of windfalls on the ground and sets up the howl, 'Thousands of bushels of apples are rotting on the ground, and we in the city are paying exorbitant prices.'

"This cry is taken up by the politician who wants to make a big hit with the city people, and he rings such changes on it as best suits his purpose. It positively is not true that thousands of bushels of apples rot on the ground annually in Wisconsin. I do not mean to say that no apples go to waste, but the quantity is much smaller than the poorly informed alarmist or agitators would have us believe. A bushel of apples on the ground under a tree makes a big showing. Further, no self-respecting housewife would take as a gift much of this fruit, and if it was gathered and offered for sale to the people who circulate these wild yarns they would rage still more at the grocer for offering them such trash.

Two Classes of Orchards

"In order to understand the situation, it is necessary to know something about the orchards in Wisconsin. In this state the apple orchards may be divided into two classes, farm orchards of ten to fifty, or rarely as many as 100 trees each, and commercial orchards of 500 to 10,000 trees each.

"In the average farm orchard the trees are wholly neglected. The farmer never gives the orchard a thought until the apples, if by chance there are any, begin to ripen. "On account of lack of pruning, spraying and tillage, much of the fruit is gnarly, scrubby, and wormy.

"If all the apples from the farm orchards of Wisconsin were packed in barrels it would be necessary to label 95 per cent of them culls under our state grading law. Sometimes such apples as these rot on the ground and that seems to be the only solution, as most of them would not bring freight charges if shipped to Milwaukee markets.

No "Commercial" Apples Lost

"The only suggestion I have to offer is to those who know something about handling apples at wholesale. These farm orchard apples can be bought, shipped loose in box cars and sold either direct to consumers or to the trade. The shipper may or may not make a profit.

"No apples from commercial orchards go to waste. These apples bring a good price, and they are worth it. It has cost time, money and brains to produce them.

"The apple crop in Wisconsin this year is estimated by the federal bureau of markets at 114,000 barrels. Of these from 25,000 to 30,000 barrels will be first class apples, grades A and B, and, according to the present outlook will bring from $6 to $8 a barrel wholesale, and possibly $10. Of the balance, some, fewer this year than usual, will rot on the ground. It is unavoidable."—Milwaukee Journal, Sept. 2nd, 1919.

A Worth While Fruit Show

Wisconsin fruit growers, especially amateurs should help to make the Wisconsin fruit exhibit at the meeting of the American Pomological Society in Columbus, Ohio, Dec. 1–3 a credit to our state. Apples, pears and grapes are needed, not in large quantities but a dozen, or less, typical specimens of standard varieties, especially apples of Wisconsin origin: Wolf River, McMahan, Northwestern, Pewaukee, Gem City and others. Pears are also badly wanted for while pears are not commercially prominent in Wisconsin we can and do grow some good ones. Grapes of the later maturing kinds will easily keep in storage until Dec. 1st.

No cash premiums are offered but bronze and silver medals and ribbons. This Society is assembling a display and help is needed. An A. P. S. medal or ribbon is the highest honor that can be won by any fruit grower. All fruit contributed will be entered in the name of the grower. Select only perfect specimens, typical of the variety, wrap each in several layers of paper, pack snugly in cartons and send by mail or express to F. Cranefield, 701 Gay Building, Madison. The fruit will be placed in storage and placed on exhibition without charge to the exhibitor.

Wisconsin Horticulture

Published Monthly by the Wisconsin State Horticultural Society
12 N. Carroll St.
Official organ of the Society.

FREDERIC CRANEFIELD, Editor.
Secretary W. S. H. S., Madison, Wis.

Entered as second-class matter May 13, 1912, at the postoffice at Madison, Wisconsin, under the Act of March 3, 1879.
Advertising rates made known on application.

Our Neighbor

Our Neighbor says that he has now completed a year's observation of his Neighbor's Garden and has nothing more to tell.

The editor accepts this statement with reservations.

The author of the delightful articles which covered just one year in a garden is a well known professional man of Madison, who, as you may have surmised, is a skilled amateur gardener who grows flowers and vegetables of the highest quality just for the joy of seeing them grow. He is a true nature lover, very unobtrusive but always ready and eager to help his neighbors.

One of our members, a professional gardener of high standing, said: "No other feature of the paper has given me as much pleasure the past year as Our Neighbor's notes; they remind me of David Grayson."

May we not live in hope that Neighbor may have a new neighbor next year so that he may praise him and scold him a little in his own peculiar way.

F. C.

Just Plain Mud

Now comes Prof. P. J. Parrott of the New York Experiment Station who has used clay as an insecticide. For leaf hoppers he offers four formulas and the fourth is this: Copper sulfate, 2 lbs., lime 2 lbs., **clay 30 to 40 lbs.**, water 100 gallons.

A correspondent of an eastern agricultural journal thought that Prof. Parrott must surely be joking or was misquoted but on being questioned about clay comes right back like this:

"All of these mixtures, if applied in liberal amounts and at the proper time, will give effective results against such insects as the apple leaf-hopper, apple aphis, pear psylla, etc.

If you have followed our experimental activities as reported in the Proceedings of the State Horticultural Society, you have perhaps noted that we have been recommending the use of considerable lime in several formulas for spraying against the foregoing insects. In the case of potatoes, tomatoes and young growth of apple trees, large amounts of lime may injure the tender leaves, and in experiments with various clays we have discovered that clay may be a satisfactory substitute for lime. Clay exercises the same repellant properties as lime, and is safer, besides being much less expensive.

The suggestion that clay possesses insecticidal properties generally provokes a smile at first, but horticultural history reveals the fact that clay has long been used as a repellant, although its merits for this purpose have not been thoroughly understood. I hope our work will determine the ranges of usefulness of clay and the conditions under which it can be satisfactorily employed for a number of our common pests, such as potato leaf-hopper, potato flea-beetle, pear psylla, apple aphids, etc.

P. J. Parrott."

It's going to be awfully hard on the lime-sulfur manufacturers but we certainly should worry, not. Just hitch up alongside any old clay bank and load the spray tank.

I Shall Pass This Way But Once

Therefore I crave a pleasant journey. I desire congenial companions and the opportunity to loiter a bit by the wayside, perchance to gather a flower or plant a seed. In order to enjoy this journey I must be cheerful or those who journey with me will lose their cheerfulness.

I rather think its up to me to make this trip worth while; don't you?

Tell me then, you good people who sometimes read this paper, what shall I, who will pass this way but once, do to make the journey pleasant.

The editor will find room be it only a line or two, if you will tell me. What shall I do? What would you do? Will you tell me?

Write it out just as you would say it to a friend, ten words or a hundred and not necessarily horticulture.

I shall be here next month in this same corner. Do you want that I should be alone? I know many fine people and I know that every one of them has some fine cheerful idea locked in his heart. I wish they would tell me. You must send your name to the Editor but I will not tell if you want it that way.

PILGRIM.

Growing Raspberries in Iowa

By T. W. Blackman*

We have grown Raspberries for many years, most of the time by the acre.

We were successful for a number of years growing the Gregg on our hillsides and mulching heavily. By this means we obtained a strong, healthy growth of canes which came through the winter in good condition, and we finally came to the conclusion that the canes are not killed so much by low temperature, but rather that it is the dry, hot weather in summer that so weakens the canes that they are unable to stand the dry, cold winds of our winters. In summer they produced large juicy berries in the driest weather. People often asked us if we watered our bushes.

While this method was a success, still the time came when we could no longer obtain mulching and so we were forced to look to other means. As an experiment one year, probably in the nineties, we selected a nice piece of rich garden soil, planted six rows of Gregg and each fall covered five rows with soil and left one row out to the weather. The result was surprising; the five rows bore fine crops yearly, while the one row bore little and at the end of three years was almost gone, the five still being strong bushes.

We at once began planting both black and red Raspberries by the acre for covering, and have continued the practice. This year we covered about five acres of the largest canes we ever saw.

*Paper read at 1919 Convention of Iowa Vegetable Growers' Association.

Now it is some undertaking to cover these bushes, and probably would not be practical except for the fact that we are market gardeners and usually have most of the force necessary for the work. We do not always get a good crop, yet we are reasonably sure of a good crop most seasons. This last season a very large crop set, but the early drought reduced the size of the berries about half. Still the crop was very satisfactory and a light rain towards the last made the last pickings best. Raspberries are very quick to respond to even a small amount of moisture, we mean, of course, good thrifty bushes, because half dead bushes in a weed patch would not do this.

We are now growing four varieties, and a fifth, the Scarff, on trial, is very promising. Our standards are Gregg, Cuthbert, King and Columbian, and all respond equally to winter covering. If some one can discover any easy and cheap way to grow Raspberries in Iowa, his fortune is made, as demand is practically unlimited at any reasonable price. We sold ours this season at $4.80 to $5.40 per 24-pint case.

The question will naturally come up, will all this labor of covering and uncovering pay?

I doubt it myself and rather think one could make more money growing corn and hogs, but the business is in our line and, if I am to grow them at all, I want crops and this is the only way I know of getting them. And then we forget about the covering along in July when the berries begin to roll in and we can load up and go to market with something that people want and are willing to pay well for. When you ask the grocer how many he wants he often says: "All you have on your load."

Aside from covering we give no special cultivation, but prefer rich soil not too rolling, and preferably fall plowing. We plant two feet nine inches by seven and eight feet, the Black Caps in very shallow furrows, the red in deep furrows, all laid out straight. We plant nothing between them as we want the bushes to have all the moisture available. We have grown the old Wilson Blackberry this way and were highly successful with it until anthracnose and cane borers drove us out. In fact the most amazing crop of fruit we ever grew or saw anywhere was an acre of Wilson Blackberries matured in 1892 and which had been laid down in winter and the whole soil deeply covered with manure mulching.

In laying down bushes we use four men in a gang—one gathering the bushes together, pulling and bending down, placing one foot on them to hold them while the other men pile on the soil, enough to hold them, then move on. Later we go over them and finish the job. A few canes will be broken, but not enough to cause serious injury.

We always take out all old canes as soon as possible after fruiting, beginning sometimes before the pickers are out of the patch. This throws the whole strength of the plant into new growth.

We also, at this time, thoroughly cultivate the bushes, as we have been obliged to slack up on cultivation for a time.

This treatment, if weather is

Continued on page 40

AMONG WISCONSIN BEEKEEPERS

Devoted to The Interests of The Wisconsin State Beekeepers' Association
H. F. Wilson, Editor

Wisconsin State Beekeepers' Convention

December 1, 2 and 3,
Senate Chamber, State Capital.

Make this the greatest convention ever held in Wisconsin

Have you a paper to read before the State Convention? If so, send us the title at once and we will put you on the program. The program for the December meeting will appear in the November issue of Wisconsin Horticulture.

Among those present at the Beekeepers' Chautauqua, Madison, August 16th to 20th.

BETTER BEEKEEPING
BETTER CROPS
STANDARD GRADES
STANDARD PRICES

Local Affiliated Associations Showing State and Local Membership

Sheboygan and Fond du Lac Counties have been doing some splendid work in getting state members. There is a big opportunity for other local associations to induce the members of their local to join the state association. The membership of the state association is now over 800 but unless considerable work is done, we will not be able to reach the desired number of 1,000 by the time of the convention.

Name of Beekeepers' Association	No. of state members	No. of local members
1. Sheboygan Co. ..	52	52
2. Fond du Lac Co.	51	51
3. Grant Co.	32	32
4. Marathon Co. ...	31	39
5. Waukesha Co. ...	30	44
6. Chippewa Valley	24	35
7. Northeastern Wis.	24	77
8. Dane Co.	23	25
9. Milwaukee Co. ..	23	47
10. Winnebago Co. ..	20	27
11. Richland Co.	20	28
12. Shawano Co.	19	22
13. Wood Co.	17	23
14. Northern Wis. ..	15	35
15. Jefferson Co.	14	28
16. Fox River Valley	14	29
17. Washington Co...	13	23
18. Vernon Co.	13	26
19. Green Co.	13	17
20. Baraboo Valley..	12	22
21. Price Co.	12	19
22. Brown Co.	12	20
23. Walworth Co. ...	11	16
24. Clark Co.	11	18
25. Rusk Co.	10	16

Standard Grades—Why Not Standard Prices?

In looking over the reports from the reporters of local associations, one is immediately struck by the variation in honey quotations. Since our honey is now all graded according to certain standards, why can we not have a standard price throughout the state? The standard retail price per pound averages nearer 35c than otherwise. The great variation comes in larger quantities and wholesale lots. Some of our beekeepers do not believe that honey can be profitably produced for less than 30c a pound. Yet there are beekeepers who are disposing of their crop at 20c a pound and no doubt we may later hear of some who have accepted less. In competition with western honey it is possible that our beekeepers may have to accept as low as 20c wholesale but I do not believe any beekeeper can pay himself good

wages and a fair interest on his investment and accept less. The cost of bottling, wholesaling and selling could easily make a difference between this wholesale price and the retail price now being paid for honey.

Personally, I do not believe that it is fair to compare the food value of butter, eggs, milk or even sugar with that of honey. Honey is not in the same class of foods as the above although the sugar content is relatively close to that of cane or beet sugar. However, honey is not sold in the form of sugar nor is it intended that it should be used in the place of sugar. Honey belongs in the same class with jams, jellies and other similar food products. The price of honey should be compared with the price of high grade jellies, jams and bread spreads.

Wisconsin produces only a comparatively few kinds of honey. The quality of this product is more or less the same each year for the entire state and there is no reason why honey should sell for less in one section of the state than in another, and it would not if all our beekeepers would follow good business methods in disposing of their crop. It is a known fact that carloads of honey from the west are shipped into the state, bottled, put on to the market and sold at the same retail price as our Wisconsin honey. Some Wisconsin honey is shipped out of the state. The great bulk is sold at home. **Every pound of honey produced in Wisconsin could be sold within the borders of the state if the beekeeping industry was organized,** the honey advertised, and properly distributed.

Is it not possible then for our beekeepers to become better organized even to the extent of forming a selling organization so that honey can be produced and distributed at a price that is fair to the beekeeper as well as the consumer. This question will undoubtedly be brought up at the state convention in December and our beekeepers should come prepared to discuss the situation from every angle. H. F. W.

Dr. C. C. Miller recently died at his home at Marengo, Illinois. Dr. Miller was one of the finest beekeepers of his time and in addition was a splendid man to meet and visit with.

We are rapidly passing into the third generation of beekeepers in America and it is to be hoped that the next generation will see the beekeeping industry standardized and working on a business foundation that will place it among the important agricultural industries of the time.

The Other Half

Those what attended the Chautauqua were doubtless struck by the incompleteness of the write-up in this paper. The writer in a measure must take the blame, but circumstances alter cases. He had been busy for hours immediately previous writing up notes of the lectures and brought to the article an "apperceptive mass" of beekeeping lectures only when he had a very limited time to prepare the article. Of course, it is unfair both to those who planned a good time besides the lectures not to mention those other enjoyments. Now that time has elapsed a little reflection is possible.

Chronologically first and last came swimming much indulged in by Dr. Phillips, Mr. McMurray, Theo. Bronson and others of the near "finny tribe." Then there was Prof. Wilson's "hard-to-pull-off" sight-seeing auto trip to Vilas Park and other places of interest in Madison. Mr. Barr, the Scotchman from Milwaukee, gave two short talks overflowing with humor. His little talk on "Ethics of Beekeeping" showed how ungrateful others may be for services rendered and his moral which can be stated something like this, "Teach your fellow beekeeper but let him learn by doing his own work" was well taken. All will remember Mrs. Hildreth, the genial clerk, ever ready to relieve you of your superfluous cash; take down your beekeeping data in return for a little tag to preserve your identity; and other slips of paper which entitled you to the physical necessities of life as provided by Mr. Hamble under the smaller tent.

The tent colony enjoyed somewhat of a common fraternizing. Then, there was that picnic to Bernard's Park across Lake Mendota. Mr. McMurry was master of ceremonies and was very much at home keeping the "young folks" busy with entertainment. The picnickers enjoyed very much the violin playing by Mr. Brown, and the banjo playing and darky songs of the colored cook.

All in all the chautauqua was a success both socially and "apiculturally." We surely had an enjoyable and profitable time together. Lets do it again next year—more of us!

Ivan Whiting.

Monthly News Reports From Local Associations

Sept. 9.—Some beekeepers are requeening. No surplus from fall honey flow, weather too dry. Extracted honey, wholesale, in 60 lb. cans 25c per lb.; to retailers 10 lb. pail $3, 5 lb. pail $1.60, pints 54c; to consumer 10 lb. pail $3.50, 5 lb. pail $1.80, pints 65c. Comb honey to retailer 35c; to consumer 40c. The average amount of honey produced per colony for the entire season is about 33 lbs.

Reporter—Emma L. Bartz, Chippewa Valley Beekeepers' Assn.

Sept. 3.—Lots of brood this fall; some of our beekeepers are requeening. Not getting any fall flow. Extracted honey selling for 25c per lb. and comb honey for 30c per lb. Practically all of the extracted honey has been sold and very little comb honey on hand. The average production per colony is about 75 lbs.

Reporter—J. S. Sloniker, Clark County Beekeepers' Assn.

Sept. 13.—The fall flow still continues to be good thus giving members an excellent opportunity to requeen, work that has been done more thoroughly this year than ever before. The amount of surplus honey from the fall flow varies greatly depending upon the amount of extracting done after the clover flow. Prices of Honey: **Retail**—Extracted 35c to 45c; comb 45c to 55c depending upon size of containers and upon various grades of comb honey. **Wholesale**—Extracted 25c to 30c depending upon quantity; Comb 35c to 45c regulated by grades. The next local meeting will be held at the apiary of Carl Felton; enthusiasm is very keen, winter problems and preparations for winter bidding for first place. The average production per colony per spring count is about 75 lbs. allowing ample stores for wintering.

Reporter — Robert L. Siebecker, Dane County Beekeepers' Assn.

Sept. 6.—Bees are in 100 per cent condition and nearly all are requeened. No fall surplus but enough for stimulation. Prices. Wholesale—Extracted 22c to 25c; Retail—26c in 60 lb. cans and 30c in smaller quantities plus cost of container. Comb honey 35c and 40c. Three-fourths of extracted honey crop on hand. Comb honey practically all sold. European foulbrood all through the eastern half of Outagamie county; American foulbrood is bad in the northwestern corner of the county. The average production will be somewhat better than 100 pounds, a few claim double that amount. Personally, I believe it is a mistake for beekeepers to boast about their large crops. They happen only once in a while, and give a wrong public impression with reference to the profits in the business. How many business men will tell you how much business they do in any given length of time. Why should a beekeeper **boast** a large crop of honey and have any one multiply the same with the price and know how much money you are making; and at the present time be accused of profiteering, when we all know that we have poor sea-

sons, disease and winter losses" to make up some other year and the good year must bring same to a balance. Some beekeepers boast a large crop and buy sugar to winter the bees on and do not subtract the pounds of sugar from their honey crop. Is that fair?

Reporter — Edw. Hassinger, Jr., Fox River Valley Bee. Assn.

Sept. 18.—Very few beekeepers in this section requeen. No surplus from the fall honey flow secured. Prices: Wholesale—Extracted 30c; comb, 40c; Retail—Extracted 30 to 35c; comb 40 to 50c. Enough extracted honey for local market on hand and very little comb honey on hand. The average production per colony is probably not more than 25 lbs. for comb honey and 50 lbs. for extracted honey.

Reporter—W. R. Abbot, Jefferson County Beekeepers' Assn.

Sept. 13.—Beekeepers in this section secured a surplus from the fall honey flow. Prices: Wholesale, Extracted 23 to 25c; Retail, Extracted 30 to 35c.

Reporters—H. V. Wilson, Milwaukee County Beekeepers' Assn.

Sept. 4.—Bees are in fine shape; some beekeepers are requeening. Prices: Wholesale, Extracted 25c; Retail, Extracted 30c. Not a great deal of honey on hand, mostly extracted; very little comb honey. The average production per colony is about 60 lbs. The "clean-up" has made some of our beekeepers feel better and others down-hearted.

Reporter — Jas. Gwin, Richland County Beekeepers' Assn.

Sept. 14.—A few of our beekeepers are requeening but not nearly as many as should. In this section only in a few cases do bees gather a surplus in the fall. Not much honey sold to the wholesaler in this section, retail prices 30c to 35c per lb. for extracted. Only part of this year's crop on hand and that is mostly all extracted honey. It is impossible to give the average production per colony at this time as it will run from 20 lbs. to 400 lbs. spring count. A meeting was held at L. T. Bishop's yard September 22. It was a real school, demonstrations in packing bees for winter were given by some of our most successful beekeepers.

Reporter—L. T. Bishop, Sheboygan County Beekeepers' Assn.

Sept. 7.—Some of our beekeepers are requeening but quite a large number are not. Many of our beekeepers feel that requeening is too big an undertaking. We have very little fall flow here as a rule, although my bees never have worked so steadily as this fall on buckwheat. About

50 per cent of the extracted honey crop on hand and about the same per cent of comb honey on hand. Our beekeepers are asking 45c for comb honey No. 1 fancy and 35 to 45c extracted depending upon how put up. As far as I can tell at this writing comb honey will run from 40 to 60 lbs. per colony. Extracted honey—one party averaged about 75 lbs., another party only about 20 lbs. while my average was about 65 lbs.

Reporter — W. T. Sherman, Walworth County Beekeepers' Assn.

Sept. 13.—The progressive beekeepers are requeening, some every years, others every two years. Most of the side line beekeepers do not requeen. We have not fall honey flow in this county that yields a surplus. No comb honey on hand. Most of the beekeepers have been asking 30c retail for extracted honey. A few are selling for less The average amount produced per colony varies, some had an average of 100 lbs. per colony and some secured no surplus at all. A lack of experience is the cause of this great variation.

Reporter — A. H. Seefeldt, Washington County Beekeepers' Assn.

Sept. 6.—The condition of the colonies is good in general. Some beekeepers have requeened, but many have not. In some scattered places there was a fall flow, but little if any surplus is reported. It was too dry during July and most of August. Mostly all comb and extracted honey has been sold. Prices: Wholesale 25 to 28c extracted; Retail, extracted 30 to 37c; comb honey 45c retail. In general the crop is not as good as last year, the average per colony will not run over 75 pounds per colony. It was too cold and dry the first half of June and too dry after the first week in July.

Reporter—C. W. Aeppler, Waukesha County Beekeepers' Assn.

Sept. 9.—Bees are in good condition generally, a few beekeepers have requeened and brood rearing has kept up well to date. No surplus from fall honey flow; buckwheat, sweet clover, golden rod gave enough to produce young bees for winter. About 12 tons of extracted honey in county; smaller producers completely sold out; no comb honey on hand. Extracted honey selling at 25 to 30c retail. The inspection work is nearly done; some American foulbrood scattered through the county. Disease situation is improved over last year.

Reporter—H. E. Greenwood, Winnebago County Beekeepers' Assn.

Desserts Made With Honey

Baked Honey Custard:
5 eggs
½ cup honey
4 cups scalded milk
⅛ teaspoon powdered cinnamon
¼ teaspoon salt

Beat the eggs sufficiently to unite the yolks and whites, but not enough to make them foamy. Add the other ingredients and bake in cups or in a large pan in a moderate oven. The baking dishes should be set in water.

Boiled Honey Custard:
2 cups milk
3 egg yolks
⅓ cup honey
⅛ teaspoon salt

Mix the honey, eggs, and salt. Scald the milk and pour it over the eggs. Cook in a double boiler until the mixture thickens. This custard is suitable for use in place of cream on gelatin desserts, or to be poured over sliced organized or stewed fruit.

Honey Pudding:
½ cup honey
6 ounces bread crumbs
½ cup milk
Rind of half a lemon
½ teaspoon ginger
2 egg yolks
2 tablespoons butter
2 egg whites

Mix the honey and the bread crumbs and add the milk, seasonings, and yolks of the eggs. Beat the mixture thoroughly and then add the butter and the whites of the eggs well beaten. Steam for about two hours in a pudding mold which is not more than three-quarters full.

Honey Charlotte Russe:
1 quart cream
6 lady fingers
½ cup delicately flavored honey

Chill the honey by placing the dish containing it in a pan of ice water. Whip the cream and add it to the honey, mixing the two well. Line a dish with lady fingers and fill it with the honey and cream. Serve very cold.

Honey Mousse:
4 eggs
1 pint cream
1 cup hot, delicately flavored honey

Beat the eggs slightly and slowly pour over them the hot honey. Cook until the mixture thickens. When it is cool, add the cream whipped. Put the mixture into a mold, pack in salt and ice, and let it stand three or four hours.

Honey Ice Cream No. 1:
1 quart thin cream
¾ cup delicately flavored honey
Mix ingredients and freeze.

Honey Ice Cream No. 2:
1 pint milk
Yolks 6 eggs
1 cup honey
1 pint cream

Heat the milk in a double boiler. Beat together the honey and eggs, add the hot milk, return the mixture to the double boiler, and cook it until it thickens. Add the cream and when the mixture is cool, freeze it.

Orchard and Garden

Elderberry fruits are used in pies and sometimes in making sauce or syrups.

High bush cranberry fruit makes fine jelly and with the high prices being paid for fruits this year should find a ready market.

Send for bulbs for fall planting. Tulips do well planted outdoors. Daffodils, hyacinths and narcissus varieties are fine for spring flowers in the house. Plant in pots this month.

Black currants sold for twenty five or thirty cents a quart in July. Red currants and gooseberries were nearly as high and yet there are thousands of farms in this state that do not have a bush of either. Why?

Fifty cents a quart for raspberries the latter part of July ought to encourage more people to grow red raspberries, especially since they are one of the easiest fruits to grow either by the acre or on the city lot.

Bids are being asked by the government on vegetable and flower seeds to be distributed by congressmen. A few of the items are as follows: sweet peas 5,000 lbs., zinnia seed 500 lbs., candytuft 1,000 lbs., nasturtium 2,000 lbs., beets 70,000 lbs., lettuce 60,000 lbs., and radish 75,000 lbs. All of these are standard seeds easily obtained from any seedsman. Why should congressmen send them to you or me?

THE INSECT PAGE

Conducted by the Department of Economic Entomology College of Agriculture

Worms Injure Pine and Spruce Nursery Stock

A worm about an inch to an inch and a half long with the body covered with black dots has been found in several instances, injuring young evergreen nursery stock this past season. This insect is the larva of a black four-winged fly and is called the pine or spruce sawfly because of the saw-like ovipositor possessed by the female. A closely related species called the larch saw-fly often defoliates the trees in the tamarack swamps.

The pine sawfly makes its appearance in late summer feeding upon the leaves and as the larvae are gregarious, the work is quite conspicuous. Nursery trees suffer and may perish unless steps are taken to stop the larvae from feeding. It has been found that arsenate of lead used at the rate of 2 pounds to 50 gallons of water to which has been added about 2 pounds of dissolved laundry soap (small amounts are 2 rounded tablespoonsful to a gallon and an inch cube of soap) will readily check the pest. The soap is added to make the spray stick to the leaves and unless this is done poor control will result. If the amount of soap indicated above does not cause the spray to spread well, add more soap.

Chas. L. Fluke, Jr.

Fruit-Tree Bark Beetle

A tiny insect but one which is capable of doing considerable damage. It usually confines its work to dead or unhealthy trees but when quite abundant it will attempt to enter perfectly healthy trees. Stone fruits, however, exude so much sap if injured that the beetles are either driven out or killed. In time the tree may become so weakened that the beetles will gain entrance and begin their depredations.

They will attack peach, plum, cherry, apricot, quince, apple, june berry, and choke cherry. A peculiar instance of the damage they may do came to our attention this year, during mid-summer. The adult beetles were found on cherry trees eating small burrows into the short sprus which bear the clusters of leaves, causing the leaves to brown and die.

Interesting Life Habits

The adults, which are beetles, are about 1/10 of an inch in length and dark-brown in color. They appear in spring and the females seek suitable branches in which to lay eggs. They then burrow through the bark into the sap wood and make what is known as egg chambers, tunnels 1½ to 2 inches long which run between the bark and sap wood, usually lengthwise of the branches. As they make these chambers, they lay from time to time minute white eggs in single rows, one on each side of the burrows.

In about a week the chambers are finished but as it takes only three days for the eggs to hatch, the first laid hatch before the adults are through laying. As soon as the young grubs emerge from the eggs they begin burrowing at right angles to the egg chambers, but change their direction shortly so that as they become full grown, all the tunnels run lengthwise of the limbs. In about 20 days they become full grown, excavate burrows into the sap wood, plug the opening, and change to pupae, the resting stage. The pupae transform into beetles in about ten days and soon gnaw their way out ready to mate and start another generation. Probably only two generations occur each year in Wisconsin.

How to Prevent the Damage Caused by the Fruit-Tree Bark Beetle

One of the best methods to avoid infestation is by keeping the trees vigorous by proper pruning, cultivation, and spraying. Abandoned orchards, old pruning piles, choke cherry trees along the roadside and neglected or weak trees should be cut down and burned. If limbs and branches become infested they should be cut off and burned before the beetles have a chance to emerge. A stiff whitewash, to which has been added ¼ pound of salt to every pail of whitewash, applied to the trunk and larger limbs has given good results. Trees which have become half dead or dying are the surest and most direct route to trouble from this pest. Avoid this insect by giving proper attention to such trees.

Charles L. Fluke, Jr.

The Needs of Our Neighborhood

By Mrs. Hattie Kepler, Boaz, Wis.

In writing on the needs of our neighborhood I am writing on a need that is general. There may be, and, doubtless, is this difference, that the need is greater or harder to remedy in one place than in another. If I may put it in one word, ours is a genuine community spirit. You ask, what is a community spirit? Well it is a feeling of interest and concern for the other fellow. It sees itself bound up with a neighbor for weal or woe. It knows that, no matter how much personal success there may be, if a neighbor suffers loss, this loss falls, in part on the other, also. Such a feeling is always more common in t he early history of any community. We can have pardonable pride in the fact, that our state of Wisconsin stands in the front rank of states that are trying to create and foster this community spirit. This work is being done through the efforts of men in close touch with our state university. Men are sent out to address people and organize them into clubs and community centers. Besides, they are sent out to instruct and interest the people in those things that concern the general welfare of each community. The burden is carried largely by the state. There are also instructive motion pictures and slides that can be obtained for no other cost than postage or express. Now, the question is how are we to get this community spirit. Well, to get at the matter, perhaps, a lesson from life may help us. Almost always, before we build up we must do some pulling down. In a prairie country the most may be only to burn the tall grass, but in a timber country, there must be cutting of trees and burning of much rubbish and pulling of stumps, before any good cultivating can be done. So we shall need some little pulling down before we can build.

To begin with, there is great need of some forgetting. In the past years, this neighborhood, (like many others) has been a scene of much unpleasantness. As long as these are kept alive by constant repeating and remembering, there is no hope of better things. They cannot be undone, do only harm in being remembered, and so ought to be buried. In the language of the Indian, we should bury "the hatchet."

Another bit of rubbish to be destroyed is suspicion. This evil trait will make its possessor and all about him or her most unhappy. The sincerest acts are looked upon as hiding a dagger of some sort. Every truthful word is a cover for some poison. The beauty and fragrance of the rose is not observed and enjoyed, because of the fear of some rank thorn beneath. Its feeling is expressed in the words: "Do the other fellow, before he does you." As long as this feeling exists in any neighborhood there can be no pleasure or profit that can be called common.

There is great need of trusting, even if occasionally deceived. Confidence shown will some day bring confidence, just as love begets love. The Bible says, "We love Him, because He first loved us." This holds good in all relations of life. It is impossible to take interest in any one we hold under suspicion.

Very closely allied with this is the unfortunate trait of telling all, or perhaps, more than we know. The proof of one's religion lies in the ability to bridle one's tongue. We need to paste under our hats words something like these: "There is so much good in the worst of us, and so much bad in the best of us, that it ill becomes any of us to talk about the rest of us."

Another thing to be removed is indifference, I-don't-care feeling. The man or woman that thinks or feels this way, as good as says, that nothing can touch them. They serve notice, that they do not consider themselves a part of the community, they don't mix, and so are in no danger or are in no need. They are sorely deceived. No social wall can be built thick enough or high enough, that the outside influence will not touch us somewhere. If they do not touch ourselves, they will our children, and often sooner and more than we notice. It has two bitter stings, it will sometimes promise, and not fulfill, or it will blight by discouragement.

The whole may be summed up in the one word, S-E-L-F-I-S-H-N-E-S-S. Write it with capitals. This does not mean the love of money, but includes a list too numerous to mention here. Just as the apples on the same tree are not alike, so selfishness does not show itself in the same way in each person. The man who will let his wife worry with green wood all winter is as selfish as the man that cheats a neighbor in a deal.

This will likely clear the

ground now for the building-up part, the making of a community spirit or feeling. One part of the task is already performed. It is something to have a topic like this on our program. It means that we feel that we need something. We are asking what it is. We only tear down the old when we feel that we need something new and better. The first thing to be seen is, that each one is, that each one is a part of the neighborhood, the city, the state and the nation. And, for that matter, a part of the world. The community is what you and I make it. No one man or woman makes the conditions of it. One may be doing more than another in trying to make the neighborhood good or bad, but we all do our part. When we see this, we lose our indifference. Every thing concerns us greatly. And, if we see someone trying to do something to better things, we will walk up to him or her some day, and say, "I am glad to see you do this; it is just what we need. You can count on me to do what little I can to help you along. Just call on me any time." It will help much, when people see that two are on the job. We go by twos today when raising money, etc.

This will open our eyes still more. Working at a common task shows us all off to better advantage. It is hard for any of us always to look our best under all circumstances. We usually look a little better at parties and at church than we do at our daily work. What is true of the exterior is likewise true of the interior. When we are interested in a common purpose the truest democracy shines forth. All hearts beat with the throb of the same enthusiasm, and this helps us all to appear better to every other engaged in the same effort. And, if now and then, there arises a slight ruffle of difference, the fervor of the bunch soon smooths out the wrinkles. Consequently, they do not gain their usual large proportions. Besides, no one is at all anxious to throw a cold sheet over the warmth that is felt by every one that is helping along good things. In this way we leave to become a little ashamed of our suspicions, and our neighbors appear better than they did.

Then there is need of a larger view of life, and no one needs this more than rural folks. There is always plenty to do for him who will work, and there always will be. If we did not take a little pleasure until there was no work to do, we would never take any. We need to see that life is not all work, but that there is also a time to play. Birds and beasts have their playful moods, then why not we?

There is no better place on earth to live than a good country home. Pure air, pure water, everything to eat fresh and clean, and plenty of room to stir about. If to these we can only be taught to add a few hours and times of enjoyment, our boys and girls will not have a hankering for city life. Pleasure and society are the lure of the city for the young. And it is a great deception at that.

Now this cannot be as it ought to be, until it becomes a common thing. No one family can bring the right conditions about. Mr. John Babb often took his family out for a day's fishing, but how many followed his example? The most that this community saw of this sort of effort was when Rev. Chas. A. Stevens managed to induce the farmers to take a Saturday half holiday, and played ball. Old and young entered into the spirit of the occasion, and are we any the worse off for the recreation? Did we lose anything then? What proper effort will do even in and around Sabin, can be learned from what was done for several seasons in having a lecture course. Some of those most active in the matter, were, sorry to say, under some suspicion of running a money making scheme, but any who knows at all about such things knows that this is almost impossible. But the lesson is, that these efforts were seconded by the people,—they patronized the entertainments. This was the work of only a few. What would it mean to Sabin and this vicinity, if the whole community entered heartily into such work.

And this makes me think of something else. There ought to be a place for everyone, and something for everyone to do. And there ought to be plenty of room furnished for young people to use what talent they have. They should be kept in the lead as much as possible, so that the next bunch will have a better outlook than we had. See how our government,—yes, all governments, save, perhaps one,—are calling out young men of promise, to train them for the active duties that must soon fall upon them. Where the right sort of feeling prevails, the older ones do not feel that they are cast aside, and the younger ones are not discouraged.

Just one thing more, and this is for the writer, a delicate thing. For standing on the outside, it may be thought out of place thus to write. But the one looking on often sees what another does not. This is the need of a better feeling among the christian people, both with the same church and among those of different beliefs. It is only natural for a community to look to them to take the lead in all good works; and, if they do not work well together, how can we expect others to do so? If there were a little more pulling together for the welfare of all and not so much concern for the gain of any party, this vicinity would soon feel the effect of the effort.

If, under the enthusiasm this institute gives, we could here and now organize a club, bent on creating and fostering a "Community Spirit" there is nothing that we need of the necessary things of life and happiness that we could not have. There is no lack of means for anything we wish, we have some talent that we could utilize to our profit, and, if we go at it with the right spirit, we can be among the happiest and most prosperous of communities. But, to accomplish this, "let not each one look on his own things, but also on the things of others."

Insulation of Common Storage Buildings

For purpose of storage, apples should be cooled promptly after picking and held steadily at a low temperature. In general the lower the temperature, so long as the fruit is not actually frozen, the longer apples may be held in storage. The temperatures necessary for the storage of apples for any considerable period is, of course, much below the average outdoor temperatures which usually prevail in apple growing sections during the harvesting period. This means that a storage building, whether refrigerated or non-refrigerated, must be provided with insulation of some kind. By "insulation" is meant any mateial, or method of construction adapted to effectively hinder the passage of heat. The insulation of a common, or non-refrigerated, building, is a matter deserving of more attention than it usually receives. Buildings intended for artificial cooling, or refrigeration, are usually more or less effectively insulated, since inadequate insulation means a greatly increased cost for refrigeration. In a common storage building, however, the importance of insulation is sometimes not fully realized.

In most climates adapted to common storage the insulation performs a double duty. During the warm part of the storage season, while fruit is being harvested and stored, the duty of the insulation is to exclude as much as possible of the outdoor heat, while during the cold season of the year outdoor temperatures are likely to be considerably lower, at least for a certain portion of the time, than the stored fruit can endure without danger of freezing. During this portion of the storage period the insulation provided in the walls of the building serves to retain the heat contained within the building sufficiently so that the contents of the building will not become unduly cooled before the weather becomes warm again. Insufficient insulation means that the fruit may be either insufficiently protected against the outside heat during the early part of the season, or during long continued cold spells the contents of the storage building may become unduly chilled and damaged by freezing. In most climates adapted to common storage an insulation sufficient to give protection against frost is amply sufficient to give the protection required against the outside heat early in the season.

Hollow walls, or walls with so called "dead air spaces," are sometimes depended upon to provide the required insulation. The degree of protection, or insulation, which such walls afford is however very small. While it is true that still air, or air at rest, is a very effective insulation it is also true that the air in an inclosed space of any considerable size does not remain at rest, but is constantly in circulation if there is any marked difference in the temperatures of the two sides of the wall. The enclosed air lying against the warmer side of the wall space becomes heated and expanded and consequently rises, while that lying against the colder side becomes chilled and descends, a rotary circulation being thus set up within the air space itself which serves to transfer the heat from the warmer side to the colder side of the wall. The smaller the air spaces the less is the tendency to circulation of the air within the same. The expense of sub-dividing wall spaces into sufficiently small and tight air-cells to provide a satisfactory insulation is however out of all proportion to the results and renders an effective construction of this kind impracticable. A practical method of accomplishing the desired result consists in filling wall spaces with some material of such nature that when packed down it will enclose a multitude of very small air spaces, or cells, these air spaces being so very small that the tendency to air circulation within the same is negligible. Among the materials suitable for the filling of such wall spaces are ground, or granulated, cork, mineral wool, mill shavings, and sawdust.

Of the materials mentioned, cork is probably the most effective, and is also, under most circumstances, the most expensive. Mineral wool is quite effective, but requires thorough packing in order to prevent settlement. It is also a rather disagreeable and somewhat uncomfortable material to handle, as some of the glass-like shreds, of which the wool is composed, are sufficiently rigid to penetrate the skin of the workmen's hands and cause sores, also the dust which arises from the wool consists of splintery glass-like particles and is considered decidedly detrimental to the lungs of anyone breathing the same. Mill, or buzz planer shavings, particularly if from thoroughly dry or seasoned lumber, are quite effective and are usually rather cheap. Sawdust is effective only if used in a thoroughly dry condition. As ordinarily obtained from saw mills it is likely to be from green, or partially seasoned wood, and contains a great deal of sap which, when the sawdust is shut up in a closed space will result in fermentation, heating, and settlement of the sawdust filling.

In modern cold storage plants either cork or mineral wool in slab form is ordinarily employed as insulation. The slabs of insulating material are cemented directly on the interior surfaces of the storage rooms, the surface of the insulation being protected by a suitable covering of cement or plaster, to prevent mechanical injury.

All materials suitable for insulating purposes are of necessity more or less porous in nature and require thorough protection against moisture, as their value as insulation is very largely lost when saturated with moisture. Protection against moisture is usually provided either by a covering of waterproof cement, or by one or more layers of a heavy waterproof insulating paper. Papers, such

as are commonly used in ordinary buildings and known as "building papers," are by no means water-proof and will not answer the purpose.

In climates adapted to the growing of apples the weather during the harvesting season is not likely to be nearly as cold as is desirable from the standpoint of the common storage building. The cooling of such a building by ventilation is of necessity intermittent, and is practically certain to be much slower than that in a refrigerated storehouse. The insulation of a common storage building, should, in most cases, be nearly or quite as good as that of a refrigerated storehouse in order to retain as much as possible of the cooling effect obtained during the cool portion of the day and prevent the warming up of stored fruit during the warmer portion.

If weather conditions during the harvesting period are favorable, i. e. if the nights are very cold, apples in a common storehouse may cool promptly enough to effectively check ripening and decay. In a well insulated building, after the fruit is once thoroughly cooled, it is usually possible to keep it at a fairly low temperature. If, however, cool nights are lacking during the harvesting period, or, if night temperatures do not remain low for long enough periods, a considerable delay in the cooling of the stored fruit may result, which may be serious through allowing the ripening to progress considerably farther than is desirable. Delay in cooling also affords opportunity for the development of decay in fruit by slight bruises, or other injuries, which afford starting points for the development of mold spores. If the building is not well insulated these conditions will be further aggravated and the apples will enter upon the storage period under unfavorable conditions from the start.

Crop is Equal to Last Year

The cherry crop for 1920 equals the enormous crop that was harvested in 1919, according to the Fruit Growers Union.

The season came to a close for this year on Saturday night, when the last can was run thru the local factory.

According to the records of the cherries shipped thru the Union there were a total of 193,070 cases.

During the season of 1919 the total number of cases handled by the organization was 205,453.

During the season just closed there were less Early Richmonds harvested than in 1919. Of this variety there were 25,919 cases of fresh fruit shipped and 58,975 cases canned at the factory, or a total of 83,975. Last year the total number of cases was 102,154, of which 69,513 were canned and 32,641 shipped.

The Montmorencies showed a marked increase over that of last year. The number of cases totaled 109,095. Of these 78,756 were canned at the factory and 30,339 shipped to outside points. Last year the total number of cases were 103,299, of which 16,231 were shipped fresh and 56,868 canned.

There were 10,891 cases more canned this year than there were during the season of 1919.

In addition to the number of cases sold thru the association there were fully 5,000 cases or more that were disposed of by the growers to tourists and by individual shipments by parcel post. Under these circumstances there were fully as many cases harvested this year as there were last.

The work of labeling was commenced on Wednesday and shipments will be made as rapidly as possible from this time until all the canned fruit is shipped.—News, Sturgeon Bay, Aug. 12th.

Everbearing strawberries are becoming most as common as spring bearing varieties. Progressive does well on most soils and fruits until the ground freezes.

Early celery is better if blanched with tile or boards. Earth is apt to cause decay of the stalks.

Mark a fruiting vine of the wild grape for transplanting late this fall or early spring. Fruiting vines are more ornamental than those that do not carry fruit.

Cut out all old canes of raspberries and thin the new ones now. Thorough cultivation about the plants will reduce the insects that are apt to work on the plants.

Are you going to set out trees or shrubs about the home next year. Now is a good time to prepare the land, so that the work of planting may be quickly done next spring.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

Peonies and iris may be transplanted now. Divide the old plants and set about two inches deep. There are few plants that will give as much pleasure as these two for the amount of work put on them.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

Therese, Avalanche, Mary Brand, La Tulipe, Baroness, Schroeders, and Asa Grey are all good varieties of peonies. Plant them this month. Keep the cultivator going in the strawberry bed as late as possible. You want strong, vigorous plants, if a good crop next year is to be expected.

GROWING RASPBERRIES IN IOWA

Continued from page 23

selves are often surprised at the poorly cut plants we sometimes receive.

After digging, the tops are at once cut off, to prevent the roots from withering, and in this dormant condition they can travel safely for several months. In all handling of the roots great care should be taken not to injure or break off any of the eyes.

MARKETING THE BLOOMS

Regarding the marketing of peony blooms: Long, straight stems are essential, but the cutting must leave the plant to grow the balance of the summer with at least one lateral leaf or, better, two lateral leaves on each stalk left standing. Where every terminal has a bud it is a good plan, when disbudding the side buds for the cut flower trade, also to roll off a terminal bud on one of two of the weakest stalks and thus give the plant more leaf area with which to breathe. The disbudding of all lateral buds, when the size of a pea, makes the terminal bloom develop larger.

Just at what stage of unfolding to cut a bud depends on the variety and how soon it is expected to open. Several carloads of peony blooms come annually to Chicago before Decoration day from points fully 600 miles away.

IN BUNDLES OF THIRTEEN

As soon as the stalks are cut and most of the lateral leaves stripped off in order to give more of the sap remaining in the stem to the bud, they are gathered together in bundles of thirteen of the same variety and size of bud. In uits of thirteen they can be sold either by the dozen or the hundred. The buds cut when the dew is on them carry better, but if they are to be wrapped in paraffin or other paper, the petals must be thoroughly dry.

If possible, it is a good plan after the bundles are tied up to stand the stems in water for an hour before shipping in boxes.

HOLDING BLOOMS IN STORAGE

For the benefit of those who want peony blooms much later than their normal season—and this is really one of the recent developents of the industry—it should be stated that certain varieties of peonies when cut in bud will keep in cold storage for six to ten weeks, and upon their being taken out will unfold in all their usual glory.

We have now followed our lady love from the cradle to the grave. The subject under discussion naturally eliminated many other interesting features pertaining to the peony, all equally fascinating, such as the ancient history of the peony, the renaissance of its culture in Europe, some of its famous hybridizers, a comparative study of the different shapes and types of its blooms, the various styles and shapes of its petals, a classification of its fragrance, the duration of the individual bloom when cut and also on the plant.

THE PROFITS FROM THE PEONY PATCH

Continued from page 29

reasonably favorable, will cause a vigorous growth which is your promise for next year's crop.

I can remember when Raspberries were hauled from Des Moines to Nevada in wagons and on cars, stacked in great piles on the sidewalk and offered at $1.50 and $2.00 per twenty-four quart crates. This has all changed. Perhaps the anthracnose and the many droughts of late years have had something to do with it.

In those days we sold our fancy Greggs for $2.25 per case and got them picked for ten or twelve cents per six quarts, now the same berries would sell for $9.60 and would cost three and one-half cents per pint for picking.

I neglected to say that about the middle of October we trim our bushes and burn the surplus so we have no long branches to bother when covering. We do not grow our own plants, but leave that to the plant specialist, and prefer eastern grown plants from Michigan, Ohio or New York, but usually buy Michigan plants.

We have no figures regarding returns per acre or cost of growing, and the profits will not equal those from Strawberries, but the two crops go well together and as long as we grow berries we shall want both of them.

Berries grown on bushes having winter protection are usually much better developed than those from bushes out to the weather, and at least weakened in vigor by cold drying winds. Of course, in well protected situations the difference might not be so marked but we are on the open prairie country.

To sum up, while there is no fortune in growing Raspberries, there is a fair profit and much satisfaction in the business.

Fruiting wild grape vines make good trellis covers.

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

Volume XI | Madison, Wisconsin, November, 1920 | Number 3

THANKSGIVING

Let us be thankful—not only because
Since last our universal thanks were told
We have grown greater in the world's applause,
And fortune's newer smiles surpass the old—

But thankful for all things that come as alms
From out the open hand of Providence:—
The winter clouds and storms—the summer calms—
The sleepless dread—the drowse of indolence.

Let us be thankful—thankful for the prayers
Whose gracious answers were long, long delayed,
That they might fall on us unawares,
And bless us, as in greater need, we prayed.

—James Whitcomb Riley

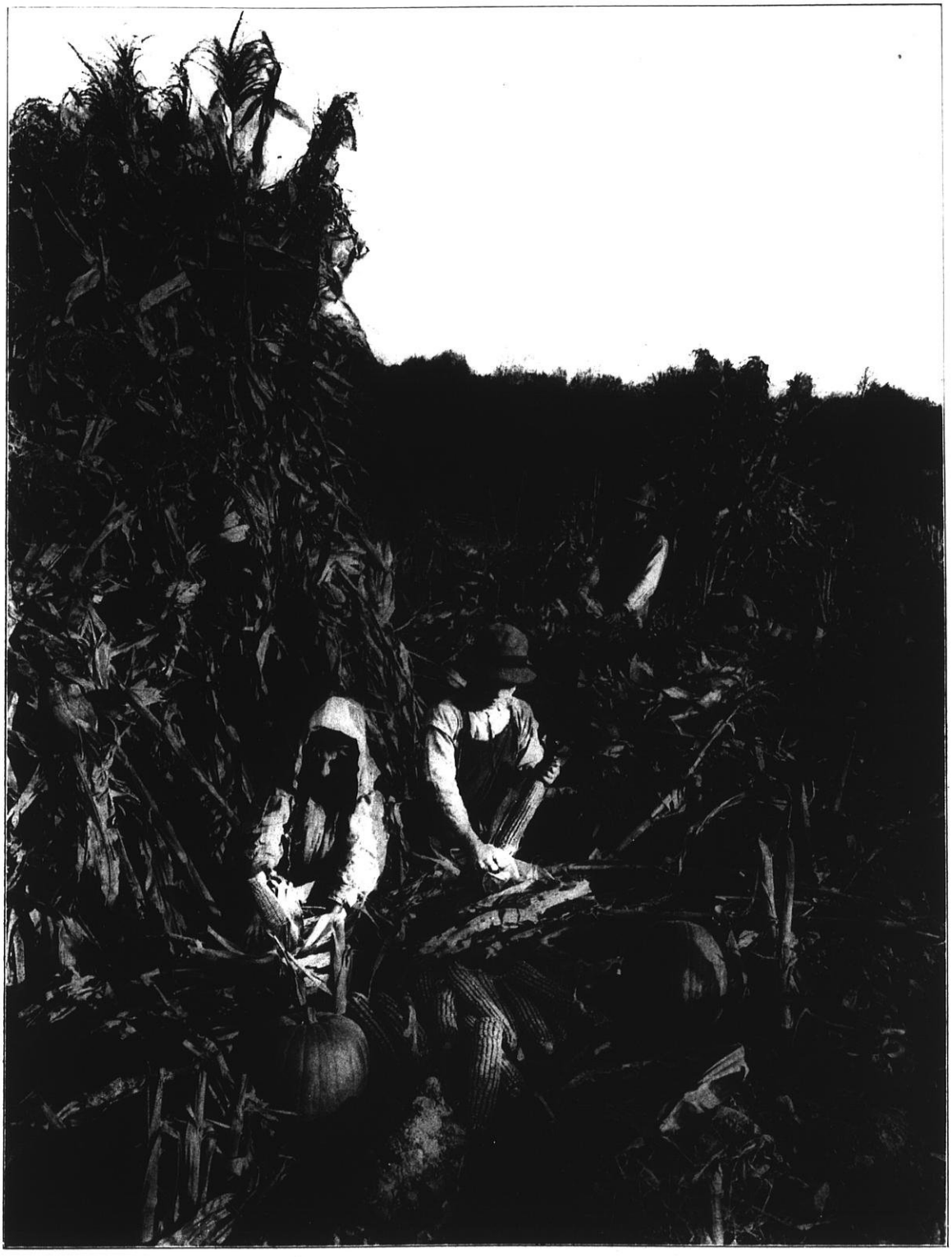
It's Still Fair Weather

Oak Holler, Wis.

My Dear Friends: I'm wondering if this Editor man thinks I'm going to stand on this platform with my toes on a chalk line until I finish telling you what I thought about, saw and learned at the State Fair. Well I'm afraid I'll be dreadful tired if that's the case. (Hope you folks wont go to sleep while I'm talking) for this spell has been coming on for some time and I've just got to get it out of my system. I've been told if you keep such things to yourself it settles into a disease called "Chronic grouch," and if there's one thing I don't want to get it's that. So perhaps if I "toe the mark" a spell I'll feel better even if you don't. Do you know I think some of this old fashioned, toe the mark, be on time, stuff we heard about in our grandfather's days would help this State Fair as much as any one thing could. Wouldn't the folks who come to the Fair on Monday be pleased if every exhibit was in place at nine or ten o'clock when the Fair officially opened? Am sure the children as well as the older people would be pleased to see that row of empty tables on either side of our building filled with flowers. Do you know I almost fear that Grouch is getting hold of me when I think of our inviting the children of the state to come to the fair, this is to be their day, and it's just about half ready. You might as well tell them they don't amount to much we're saving the nice pretty things for the other folks. Just like some women keep house, save all the nice things for company, never mind the children they don't notice any thing. If any of you people think I'm exaggerating you just stop and think. Got a pretty good memory haven't you if you're honest with yourself? Now tell me somebody please why, oh why do we invite those children there, just to let them wander aimlessly around the grounds and thru the buildings. When I see them I feel a good deal like my neighbor's small son who called to his brother, "wake up, wake up, don't you know this is *my* day,—my birthday?" If Monday is their day, suppose we wake up to the fact that children aren't much different than you and I. If we work and help make any thing a success we are happy. I know, I helped even as a child when we went to the good old county fair. My stern old grandmother believed in children helping. The lessons learned then have never been forgotten.

I would like to see that grandstand filled with children, singing as only happy girls and boys can sing our national songs, for at least three quarters of an hour morning and afternoon. I would like to see them take part in a Pageant representing the history of Wisconsin. Get them in the habit of thinking this is their fair. Did you ever stop to think what it would mean to the fair in the coming years? Why do you enjoy the fair? This is why I enjoy it, I am interested in the exhibits, have never lost my interest—I like to watch the people, their expressions, the stray bits of conversations, the meeting of friends. Ah, that is one of the great things; from far and near they come in their automobiles, a happy, friendly crowd. Once a year we greet each other. Now think of the children meeting here year after year singing the songs, seeing the visions of the past and future arise before them. Will there not be a greater get-together feeling than is possible with us older people. It's a power not to be lightly spoken of. You know what was said about training a child in the way he should go. Aren't some of us forgetting that? The days and years speed by—the children of today are the men and women of tomorrow, they are missing, we are missing so much that would help us all. Now don't think I'm forgetting the many things the state fair board has already done for the boys and girls. It's this Day—the great Day of the party. Why it should be the biggest day of state fair week. You see it makes me mad because I'm only about seven on that day, and I'm missing all the fun in this party. Why who ever heard of a party without any eats or games or anything? I don't care if there are any eats or not because there are ice cream sandwiches a plenty, but I want to wear my best clothes and play games and show how well I can sing, just as well as the other children. And as they are more bashful than I am I'm just going to stand round and pester folks until they do something so I'll keep still: Spanking has gone out of style nowadays, I'm not scared one bit. But I'm not going to give this Editor man any chance to say when he gets this handed to him, "Say, do you think I meant the whole magazine? I said a page." Beautiful weather.

Yours truly,
Johnnie.



"When the frost is on the punkin and the fodder's in the shock."

Annual Meeting American Pomological Society

The next annual meeting of the American Pomological Society will be held December 1–3 in Columbus, Ohio. This convention, will be one of the utmost importance in the development and future of the organization, and every effort is being expended to make it a complete success.

A program of widespread interest and far-reaching effect is being arranged. Large displays of fruits and nuts have been promised. Delegations are expected from many of the states and from Canada. Everything now points to a big and profitable meeting.

Location

The meeting and exhibits will be held at the Ohio State Fairgrounds, which is one of the finest in the country. There will be more than ample space for everything. One building, 200 feet by 100 feet has been reserved for the fruit displays. This building has an auditorium attached. Another building connected and of the same size will be used for exhibits of commercial materials, used by fruit growers.

Ohio State Apple Show

The Ohio State Horticultural Society will stage the State Apple Show in conjunction with the American Pomological Society meeting. There will be a premium list of $2850.00 for this feature. As the money is authorized by the state, it is not possible to allow competition from outside of Ohio. The success of previous shows promises that this one will be a big attraction to the visitors and public. It will also serve to furnish excellent advertising material for the American Pomological Society meeting.

Other Exhibits

Efforts are being made to have other states send exhibits of their pomological crops. Quite a number are already promised. Ample space, either on tables or racks will be furnished, and every assistance given that is possible, to exhibitors from other states. While no money prizes are available the American Pomological Society will offer "Awards of Merit" to successful competitors. In addition, there is the possibility of winning the Wilder Medal, a much coveted honor.

Assistance to Exhibitors

The Exhibit Hall will be open for work any time after November 23rd. This will allow a full week in which to put up the fruit. There will be a number of men present during that time who will give their services in packing and arranging exhibits. Fruit may be sent even by those who cannot come themselves and it will be taken care of.

Sales

There will be a sales booth operated for retail trade during the entire show. Friday evening and Saturday all day will be available for selling the fruit which has been on exhibit.

Storage

Exhibits may be shipped to Columbus either just before the meeting or earlier. If sent immediately before, mark it with your own name, care of the Ohio State Apple show, State Fairgrounds, Columbus, Ohio.

If storage space is desired, ship prepaid to R. B. Cruickshank, c/o National Ice and Storage Co., Columbus, Ohio. Also send notice by mail to the National Ice and Storage Co.

Student Judging Contest

One interesting feature of the meeting will be an intercollegiate students' judging contest. Each institution will be represented by a team of three men. A cup will be awarded to the winning team, and first and second individual winners will be given prizes. Professor F. G. Charles, The Ohio State University, is in charge of arrangements.

Commercial Exhibits

As this meeting will have representation from almost every fruit producing state and from the provinces in Canada, it offers a splendid opportunity to manufacturers and distributors of materials and implements used by fruit growers to display samples of their output. The attendance is expected to be between 1000 and 2000. A large building, connected with the Show Hall is available and will afford every convenience for exhibitors. Those interested should get in touch with R. B. Cruickshank, The Ohio State University, Columbus, Ohio.

Hotels

Columbus is well supplied with hotels, but as is the case in nearly all cities just now, it will be absolutely necessary for visitors to make reservations well in advance of the meeting. This must not be neglected.

The Hotel Deshler will be headquarters for the Society. Other hotels are the New Southern, Chittenden, Neil and Hartman.

For further information address,

R. B. Cruickshank,
Ohio State University,
Columbus, Ohio.

A Code for Motorists

Some of these days we are evidently going to have a code for motorists. It won't be a set of laws somebody frames for them. It will be a list of reminders of their own framing and will mention things thoughtful men and women will not do because they do care about their neighbors.

The state botanist of New York calls attention to the increasing disappearance of the wild flowers because thoughtless motorists invade the woods along the highways and tear down and uproot. It is an unhappy thought that for the pleasure of an hour or a day, the bright beauties which have returned to us season after season and made the outdoor world beautiful should be destroyed. The weeds and burrs are ready enough to take their places. And they will not be plucked. But the bloom of spring and summer and the bright berries of autumn are a nation's resource.

And this is chiefly the work of thoughtlessness. "What harm can the few flowers I take do where there are so many?" Would not this be the answer of most of the ravishers? Let them multiply the destruction by the number of cars which journey over any good road in these days. If they think of this, will not the laurel and the arbutus, the dogwood, the wild roses and all the rest be spared?—Milwaukee Journal.

Some Cucumber Diseases Make Rotation Advisable

Certain diseases that affect cucumbers live over from one year to the next in the soil, investigation by the United States Department of Agriculture shows. A transfer to new soil each year in addition to seed treatment and spraying of the vines is found advisable to effect their control.

The ornamental wild cucumber vine is a factor in over-wintering and spreading cucumber mosaic or "White pickle," one of the most serious diseases. Mosaic cucumber fruits are often deformed, mottled with green and yellow and have numerous large dark green warts. The leaves turn yellow and die, leaving stretches of white stalks.

The disease does not live in the soil, but is believed to be caused by a virus which lives over winter in the wild cucumber seed and is spread by striped beetles. The cucumber beetles feed first on the diseased wild plants in the spring and then fly to the cucumber fields. The eradication of the wild cucumber is therefore recommended.

Downey mildew is prevalent in the Eastern, Southern, and to some extent in the North Central States, west to Illinois. It is caused by a fungous parasite, and can be checked by timely and thorough spraying with 4-4-50 Bordeaux mixture.

Angular leaf spot or leaf blight is caused by a bacterial parasite and is carried by the seed. It can be combated best by treating the seed in a 1-1,000 corrosive sublimate solution, washing them in running water afterwards and drying immediately. Directions will be sent on application to the department. The disease may live over in the soil to a slight extent, making rotation advisable.

Cucumber anthracnose, recognized by brown dead spots on the leaves and sunken areas on the stems and fruits is a fungous disease, which lives over winter in the soil and probably on the seed. Seed treatment and rotation are recommended.

Cucumber scab is another fungous disease, known also as spot rot and pickle spot, which occurs mainly in the northern cucumber-growing sections. Stems and leaves are attacked but it is most noticeable on the fruit. The disease lives over in the soil, and crop rotation is recommended.

Bacterial wilt is caused by bacteria which live in and clog the water-carrying vessels of the plants and causes them to die. The disease is carried over winter and spread chiefly by striped cucumber beetles. It may be somewhat checked by pulling and burning or burying all wilted plants as soon as they appear and by spraying with 4-4-50 Bordeaux mixture and arsenate of lead (four pounds), the spray acting as a repellant and poison to the beetles.

Grapes and raspberries are best protected over winter by covering with dirt. Lay the plants as near the ground as possible. Put the dirt on just before the ground freezes.

Gladioli, dahlias, cosmos and other tender bulbs should be lifted before the ground freezes and stored in the house basement where they will not freeze. They should not get too dry or be kept moist.

Plant tulips about four inches deep and mulch with straw or strawy manure when the ground begins to freeze.

Why and When Winter Kills Grapes

(From Bulletin No. 433, Agr. Exp. Station, Geneva, N. Y.)

The winter killing of fruits is an evil for which a remedy would be heartily welcomed; but effective control of winter's rigors or prevention of their dire consequences has seemed to many investigators so "impossible" as hardly to be worth study. Recent experiments with Vinifera grapes at the Station have shown, however, that winter injury, one of the great obstacles to success with these grapes in early attempts to grow them, can be easily controlled. Can like effective, practicable methods of preventing the occasional disastrous freezing of fruit buds or fruiting canes of American grapes be developed? As experience has often shown, the best "striving" for a remedy for any evil is a thoro investigation of the conditions under which it develops and of the causes which produce it. The occurrence of three years of marked shortage of crops in the "Grape Belt," due to winter injury, has given opportunity for such study of the factors influencing winter killing.

The grape crop of 1910 in the section about Fredonia, particularly in the Station vineyard there, showed that more than half of the fruit buds were killed during the previous winter; again in 1913, the yield dropped to about half what it was in 1912 or 1914; and in 1916 the tonnage was the lowest known for many years.

While each of these low-yield crops was preceded by notably cold weather during the preceding winter, it was not low temperatures alone that determined the injury, nor was the extent of injury in the three seasons measured by the fall of the mercury. The half crop of 1910 followed a winter when the lowest reading of the thermometer was —10° (in February); yet the crop of 1912 was practically uninjured by the winter altho the mercury dropped to —19° on February 10th of that year. Similarly, the crops of 1914, preceded by a thermometer reading of —15° in February, was twice as large as that of 1913, when the lowest temperature recorded for the winter was only 0° or slightly below. The abnormally low temperature of —16° in mid-March of 1916 would undoubtedly have caused a poor crop in the fall of that year, but other factors were necessary to bring the yield down to one-third of what the vineyard had produced.

Undoubtedly the most important factor in winter injury to grapes is immaturity of tissues in the fall. Preceding the severe injury in the winter of 1909–10 was a marked shortening of the season of growth, so that fruiting wood and buds went into the dormant condition soft and moist. On October 12 and 13, toward the close of the harvest of 1909 and while many grapes were still on the vines, a freeze stopped growth so that the tissues had no further opportunity to ripen and harden. Of course, the drop to 27° at this time did not actually kill buds or wood on which the next season's crop depended; but their immaturity allowed them to succumb easily at one or more of three critical times during the winter. These were a long-continued period of cold weather in December with 5° as a minimum, a sudden drop to —10° in late February, and a freeze in late April (27°) following an abnormally warm period when buds probably started growth.

In 1912 very heavy rainfall in September with temperatures far above the normal promoted succulent growth and again led to immature wood and improperly ripened buds. In pruning during this fall it was impossible to find enough well-matured canes on two-year wood to provide for a full setting of fruit, and it was necessary to use some canes coming from older wood. Only three-fourths as much wood was pruned away this fall as in the previous year, owing to the light weight of the withered, immature canes, yet fewer buds were left for fruiting than in that year. Altho no remarkably low temperatures were recorded for the winter of 1912–13 the poorly-matured canes and buds again suffered, so that the crop was only a little larger than that of 1910.

In the late summer of 1915 low temperatures and cloudy weather made growth of fruit and wood slow; and again a warm, rainy September and a cool, dark October left wood soft and succulent, so that it was in no condition to resist the low temperatures of February (—13°) and March (—16°) that followed.

Frequently light crops follow heavy ones in vineyards, the common assumption being that the heavy crop exhausts the vine's supply of food, which it must have an "off year" to replenish. This is undoubtedly true to some extent, but winter killing of part of the buds also centers here as a factor. The energies of the vine are probably devoted mainly to ripening the fruit as long as this remains immature on the plant, leaving the final maturing of buds and canes to the comparatively short period which comes between the grape harvest and stoppage of growth by cold. With a large crop, too little strength remains in the vine to mature the buds properly, and many of them are killed or changed in character by winter without general death of the canes.

The bud of the grape is compound, consisting frequently of three buds enclosed within the same bud scales: The first, or primary, to produce fruit; a secondary which ordinarily produces wood only, but may sometimes bear fruit; and a tertiary, which ordinarily remains undeveloped but expands as a shoot in case the others are destroyed. The unnoticed winter killing may caus-

the primary bud to fail, when the secondary, or even the tertiary bud, puts forth a shoot; and the owner of the vineyard thinks the vine did not produce a fruit bud at all, because of food exhaustion. Many instances of this character have been observed in the studies at Fredonia; and, on the contrary, it has also been noted that two full crops may succeed each other, like those of 1911 and 1912, when winter killing did not harm the second crop because conditions allowed proper maturity of both fruit and wood in 1911.

The winter killing of the season of 1915–16 showed that varieties differ greatly in their resistance to winter injury. The destruction of buds in the Station vineyard at Fredonia varied from 10 per cent to 100 per cent, or complete killing. This vineyard contained about 150 varieties or representatives of species; and of these twenty lost more than 80 per cent of their buds, and fifteen of them lost less than 20 per cent.

These varietal differences indicate, to some extent, that hardiness to winter injury is a species characteristic, though species are so thoroughly intermingled in many varieties that very definite conclusions are not warranted. Labrusca influence definitely lessens the tendency to such harm; while varieties with Vinifera blood, in any combination, usually show a high percentage of winter injury. Aestivalis varieties appear slightly less affected, and Riparia still less but more than the relatively hardy Labrusca crosses.

This specific difference in groups of varieties may be associated with greater or less hardness of wood, since grapes are known to differ considerably in this respect, but studies have not been carried far enough to establish this correlation.

In nearly all the cases studied, immaturity of wood and buds for the season was indicated by immaturity of the fruit, as shown by high acidity and low content of solids, especially sugar.

This index cannot be taken as infallible, however, since many other factors than maturity of wood and bud may influence the degree of winter killing. Most perfect maturity may be followed by winter injury, if warm and cold periods alternate too violently or too frequently; but such maturity undoubtedly serves as a protection in ordinary winter weather.

Since immaturity predisposes to winter injury, those factors which tend to produce slow growth or to prolong unduly the season of growth are "accessories before the fact" of winter killing. Among the factors found to exert such an influence, improper drainage was perhaps most injurious. In some instances, severe pruning after damage by late frosts in the spring induced rank growth of wood, which did not properly mature and therefore suffered during the following winter.

Excellent opportunity was given to test the effect of fertilizer elements on maturity, since the Station vineyard contains duplicate plats fertilized with these elements alone and in combination with each other and with lime. None of the elements—nitrogen, phosphorus and potash—influenced maturity; so none of them can be considered as having any relation to winter injury of grapes.

Winter injury in very unfavorable seasons cannot be prevented, of course; but the evidence indicates that something can be done to lessen the amount of damage in such years and to reduce it to a minimum in other years.

First, vineyards should not be located on land that cannot be readily drained; and drainage systems should be installed or improved, where possible, in vineyards already established.

Second, the time of discontinuance of vineyard cultivation in mid-summer or later should be governed by the weather, allowing cover crops or weeds to grow longer if soil is full of moisture, so that the transpiration of these plants may lessen water in soil and check undue luxuriance of the grape vines. Wide-leaved cover-crops, or green-manuring crops, like rape and cowhorn turnips, may shade the ground so much, however, that the check of evaporation from the soil surface is more detrimental than the transpiration from the plants is helpful. Thin seeding is the remedy where such conditions are anticipated.

Narrow-leaved plants like the grains, or sparse-foliaged crops like buckwheat, exert comparatively little shading effect.

Slowly available forms of nitrogen, such as raw bone, leather scrap, hair, etc., should be avoided unless used very early, so that their stimulus to growth may not come so late that the wood is left immature.

Wisconsin Horticulture

Published Monthly by the Wisconsin State Horticultural Society
12 N. Carroll St.
Official organ of the Society.

FREDERIC CRANEFIELD, Editor.
Secretary W. S. H. S., Madison, Wis.

Entered at the postoffice at Madison, Wisconsin, as second class matter. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of Oct. 3, 1917, authorized July 15, 1918.

Advertising rates made known on application.

Wisconsin State Horticultural Society

Annual membership fee, one dollar, which includes fifty cents, subscription price to Wisconsin Horticulture. Send one dollar to Frederic Cranefield, Editor, Madison, Wis.

Remit by Postal or Express Money Order. A dollar bill may be sent safely if wrapped or attached to a card. Personal checks accepted.

Postage stamps not accepted.

The Program; It's Up to You

Suggestions for the convention program are in order but must be in soon. There are certain leading topics concerning commercial fruit growing that are always on the program and must always be there. Each year's advance in spraying, cultivation, etc., must be discussed and the secretary is never in doubt about these topics. After all these topics comprise about one-third of the program, the balance being devoted to amateur gardening, floriculture and home adornment and it is this part that puzzles the one who prepares the program. What **do** you want? You tell. Suggestions received before Dec. 1st can be incorporated in the program.

Write the Secretary.

Potter to New Hampshire

George F. Potter of the horticultural department has been appointed professor of Horticulture at the New Hampshire College succeeding Prof. Gourley. The college is located at Durham. Prof. Potter is a very worthy young man, "self made" as the writer can testify but he always refrained from boasting of it.

He went thru college on a hoe, a bicycle and his nerve; hoed strawberries, potatoes and other truck during vacation and performed wonders in way of riding a bicycle 365 days in the year to and from a farm not by any means nearby. That he will meet with success in his new position no one who knows him will doubt. We shall miss Potter and the bicycle. Wonder if he took it along?

Annual Convention and Fruit Show State Horticultural Society, State Capitol Tues., Wed., and Thurs., Jan. 11th, 12th, and 13th, 1921

Winter is Coming

In spite of the beautiful autumn we surely will have winter by and by and all good gardeners will prepare for it. We live in a rather rigorous climate and "hardiness" of plant or tree must always be considered. In

Continued on page 49

I Shall Pass This Way But Once

I made no mistake when I asked leave to travel with you, to be your disciple. You whose lives are spent somewhat aside from paved streets, glaring lights and the turmoil of the city have a clear perception of life and the duty each owes to his fellow man. You are making my way easier. One who signs "Irving" known no doubt in your councils says:

It is hard for one to tell another just what **he** should do. If it were me I should wish to be a help to those whom I might meet or see by the way, cheer the timid, say a kind word to the young man or woman who is just entering the field of labor; pet the little child and aid with careful thoughtfulness the aged."—*Irving.*

That lays a burden on pilgrims but one that may be lightly borne for,—

"Apt words have power to 'suage
the tumults of a troubled mind
And are as balm to fester'd wounds."

Then there is another who dwells among flowers and knows the language they speak:

"A common sense application of the Golden Rule, a hobby and just enough of hard work all tend to make our passage thru life worth while."—W. A. T.

That hint about a little hard work is worth while. I shall ponder on that. Then his wife adds just two words: "Read Pollyana."

An excellent suggestion. Are there not other good books or verses I should read? Let me know.

Altho "Neighbor," who delighted us for a year, set himself a pilgrimage among gardens and turned his face away from us for a little time comes back to say:

"It was a great achievement to make two blades of grass grow where but one had grown before. It was a great vision which you had of making two great big, bright, lucious juicy apples grow where but a gnarled and wormy nubbin had grown before. Not often does one's dream come so close to realization. Not often has so glorious a dream had so able and persistent a dreamer."

—Neighbor.

Then another sent a verse, would there were more who would do this for I am fond of verses.

CONTINUOUS

This is the faith I bring to you,
This is the hymn I sing to you,
No matter what you preach, or where you pray—
There is no lasting victory,
No final valedictory;
You've got to save your own soul every day.

—Edmund Vance Cooke.

WINTER IS COMING

Continued from page 48

the case of fruit trees this is the first point to consider when new varieties are brought out because we cannot "put to bed" a tree, it **must** stand heat and cold and all the changes in between. In the case of cane fruits, shrubs, roses and herbaceous plants we have learned that "hardy" has a different meaning than as applied to fruit trees. We have learned that by means of little protection, sometimes very little, we may enjoy many beautiful flowering plants sometimes considered too tender for our climate.

Winter covering is largely for the purpose of protection from winter heat rather than winter cold. We cannot hope to prevent freezing but we can prevent alternate freezing and thawing and it is that that kills.

By bending the tops of hybrid roses to the ground, pegging them in place and covering with burlap, carpet or heavy building paper we have afforded all the protection needed. This keeps out the winter sun. This applies to Dorothy Perkins, Rambler and other climbers.

For rose growers who believe in severe pruning, a heavy mulch of leaves, straw or sawdust that covers ten to twelve inches of the canes or stems is sufficient. This plan is often followed but these heavily winter pruned roses produce but few blooms, altho fine ones but most growers want quantity.

Other woody plants such as Exochorda grandiflora (Pearl Bush), Forsythia Kerria, Thunberg's Spirea and many others may not kill back as to wood growth but fail to blossom unless "put to bed." A light covering will usually save the flower buds.

Peonies, phlox, campanula and all the others of this invaluable host, are benefited by a covering, not too heavy, of straw, hay or stable manure. Autumn leaves pack too closely and unless careful attention is given as spring approaches many of the kinds which start growth early will be smothered. Iris seems to need no protection. A heavy mulch is beneficial to most kinds to retard early growth.

A peony planted close to the south wall of a house receiving warmth not only by reflection from the house wall but by radiation from the furnace heated basement, left uncovered for several years made a splendid growth each year but never bore flowers. After a winter when snow and ice was heaped over it flowers were borne in profusion.

Strawberry plants should be lightly covered late in November or before heavy snowfall for the same reason we cover roses. Cane fruits, blackberries and raspberries when grown in closely matted rows usually survive but not always. It is wholly practical to protect them by bending down and covering with soil either in backyard or acre lots. The process has been described many times in this paper.

Time to plant hardy bulbs for spring flowers. Hyacinth, daffodil and lily do well in the house.

Plant butternut and walnut seed as soon as if falls from the trees. If it dries there is seldom any chance of its growing.

Sumac makes a fine cover for rough banks along a lake or hillside. If mowed down each year it thickens and holds soil well.

Now is a fine time to determine how the home grounds may be made better. Prepare the ground for setting shrubs next spring and order them soon.

Clean up the orchard and garden. Weeds, leaves or brush around the trees help to breed insects and diseases. Grass at the roots of apple trees makes a fine harbor for mice during the fall and winter.

The Night Blooming Cereus

Harry D. Tiemann

The queen of all flowers is the Night-blooming Cereus (Cereus grandiflorus). At least one feels disposed to concede the honor (no disrespect to the roses and orchids) when in the still of midnight while other garden beauties (including the aforementioned) have retired from the stage, the ivory white petals of the cereus majestically and slowly unfurl, forming a magnificent deep-throated chalice. The flower inevitably creates an impression as of something sacred and unearthly as though belonging to angelic beings, and one gazes at the wonderful crown of cream colored stamens surrounded by the chalice of ivory whiteness with a certain feeling of reverence, which impression is no doubt enhanced by the knowledge that the flower opens for one night only, and by daylight its transient beauty will be gone never to return. The curious swan shaped pink colored buds begin to expand usually a little after sundown, and the flowers begin to exhale a powerful but delightfully sweet fragrance. They do not reach their full perfection until well towards midnight, and soon after begin to close and by morning are drooping pendently, as seen in several of the flowers in the photographs.

Although so chaste a flower they are not at all difficult to raise and grow readily from cuttings of the leaves. They require a light sandy loam, partial shade, and unlike the closely related cacti, considerable moisture. The plant illustrated is about sixteen years old, and the night before the photographs were taken fourteen blossoms opened at once, and the night of the photograph, five or six more. Unfortunately no picture was made of the greatest display. The plants blossom irregularly, often two or three times a year.

The Cereus belongs to the Cactus family and is a native of Mexico and the species discussed is one of about 150 species. The C. grandiflorus and the C. ---- (Queen of the Night) are night bloomers. It is of course not hardy, but must be treated as a greenhouse plant. For the pictures I am indebted to the Photo-art Co. of Madison.

Storage Diseases Take Big Annual Toll of Apple Crop

Storage diseases take a heavy annual toll on the harvested crop of apples, greatly reducing an important food supply and increasing the cost and uncertainty of marketing operations. The responsibility for this loss may lie with the orchardist, the transportation company, the dealer, or the storage management, say specialists of the Bureau of Plant Industry of the United States Department of Agriculture, in Farmers' Bulletin 1160, Diseases of Apples in Storage, now available for general distribution.

The diseases may be due to the work of a parasite or to the direct action of unfavorable conditions upon the fruit itself. Diseases like scab and certain rots that are definitely traceable to the action of particular fungi are called parasitic diseases, while bitter-pit, water-core, and scald are known to be wholly due to abnormal physiological conditions in the fruit itself, and are called non-parasitic or physiological diseases. Both these classes of diseases can be prevented largely by proper methods of growing and handling the fruit, but each has its own peculiar laws of behavior upon which the requirements for its control must be based.

Delay in warm packing sheds or cars shortens the natural life of apples and greatly increases their tendency to rots and to scald. Filling the storage rooms so rapidly that cold-storage temperatures can not be maintained has a similar bad effect. Apple rots are slow to start at a temperature of 32° F., but if a beginning has been made at a higher temperature they proceed much more rapidly.

Ventilation is as important as low temperature in the prevention of scald. Apples that receive good aeration when delays occur in handling them do not have their tendency to scald increased by the delay. [Any ventilation of the storage room that results in an actual renewal of the air within the package is of great value in scald control.] Apples scald far less in boxes, baskets, or ventilated barrels than in the usual tight barrel. Wrapping apples in oiled wrappers furnishes the most complete protection against scald.

Trimming Evergreen Hedges

A member writes: We have a nice evergreen hedge here and last spring it seemed to blight quite badly. We thot it was going to die but late in the summer it started to grow again and has pretty well recovered now. I enclose a twig, perhaps you can tell me what to do so it wont happen again. I didn't know but I had trimmed it too late last fall as it was about December when I had it trimmed. Kindly tell me the best time to do that work and give me cause and cure of the blight if you can. P. H.

The specimens were sent to Prof. Vaughn who replies as follows:

I have examined this twig in company with Professor Aust, our landscape gardner, and we

believe that the hedge has suffered from over-cutting last fall and possibly winter injury. Professor Aust states that he has best results from pruning evergreen hedges in June or August. In a case like this, however, where there has been considerable injury, an early spring pruning would probably give best results. We do not find any evidence on this twig of any parasitic fungus disease.

Remove all weeds and grass from about trees now. Mice find a nest in the material and eat the green bark of trees and shrubs.

THE INSECT PAGE

Conducted by the Department of Economic Entomology College of Agriculture

"Buggy" or "Weevily" Beans

Beans are often damaged seriously by the presence of an insect which feeds within the seed, both in the field and in storage. This pest causes a loss of millions of dollars annually to the farmers and merchants of our country. In many sections farmers are planting other crops in fear of destructiveness of the weevil. Many a home gardener harvests his beans in the fall and puts them away apparently clean and in a few months finds that they are all full of holes and ruined for food or seed.

There are several species of weevils infesting beans but the most destructive is one called the common bean weevil. The adults fly from the storage room or house to the fields where beans are growing and there the female weevils lay their small whitish eggs which appear as mere specks on the pods. In time they hatch and the young white grubs burrow their way through the pods into the developing beans within.

As the beans usually develop and are harvested before the grubs become full grown, their presence is not detected at that time, and the beans are put away in storage. If the temperature is sufficiently high the grubs continue to grow and eat out cavities next to the skin but not puncturing it. The grubs change to pupae and then to adult weevils and at this stage before emergence they appear as darker or semi-translucent spots on the beans. The beetles then cut out circular flaps, emerge and this leaves the small round holes in the seed which is the most conspicuous evidence of the presence of the weevils.

These adults which have just emerged in turn mate and lay eggs directly on the beans. When these eggs hatch, the grubs bore thru the eggs directly into the beans. Thus generation after generation of weevils are produced until the beans are all full of holes, presenting a honey-comb appearance, gradually becoming reduced to a powder.

Are There Any Remedies to Use Against This Pest?

There is at present no satisfactory method known to prevent or stop the infestation which comes in the field.

Plant Only Weevil Free Seeds

This helps to lessen the number of weevils in the field and consequently reduces the number in storage.

At harvesting clean up all remains of pods and seeds. Those left in the field can harbor the insect over winter, which furnishes a source of infestation for the next crop.

As soon as the crop is ripe, harvest, shell and sack as soon as possible. Storage in pods does not confine or kill the weevils.

If there is then indication of the presence of weevils, the seed should be treated to kill the insect.

Fumigation

The use of carbon disulphide as a fumigant is one of the easiest methods to kill the weevils. This material is a heavy liquid which evaporates rapidly and its odor is easily detected. The gas is heavier than air and is also highly explosive when the proper mixture of air is secured. For this reason its use is objectionable but if proper precautions are taken to keep all fire or sparks away no trouble will ensue.

To fumigate place the beans in an air-tight container such as a pail, barrel, or specially made bin or box. The tighter the container the better the results.

Us the carbon disulphide at the rate of one-half cup to a barrel. Place in an open saucer on top of the beans or pour directly upon the seeds. Place on cover and leave for 24 to 48 hours. For best results the temperature should be 70° or 75° F. Below 60° it is not effective.

The fumigation, however, should be repeated within 10 days or 2 weeks to kill any weevils not caught by the first application.

Use Heat For Small Amounts

The small grower or town gardener can free his beans by placing them in an oven and heating to 120° to 145° F. for several hours. The beans should be spread out in a thin layer so that the heat reaches all parts. This process does not injure the germinating qualities of the beans but does kill all insects.

An old remedy is to dip the beans into boiling water for one minute, no more, and then spread them out to dry rapidly.

Lime mixed with the seed is used in some of the southern

states and has proved to be quite effective in preventing weevil development. Use air-slaked lime at the rate of 1 part by weight to 2 parts of seed. This prevents continued breeding in storage.

To keep the weevils out the beans should be placed in a tight room or bin free from the adult weevil. Examine occasionally to guard against reinfestation.

Charles L. Fluke.

Do not try to store squash in a moist cellar. A dry, warm place near the furnace or in a warm attic is best.

Much better quality of dill and sage may be had from the garden than can be bought. Start an herb garden next spring of the sorts you use.

Gladioli require less work than dahlias, are easier kept over winter, and in the long run are more satisfactory. Plant a goodly number of them next year.

Dig gladiolus bulbs as soon as frost kills the foliage. They may be dug any time now, but it is well to let them grow as long as possible. Larger bulbs will reset.

Why cut down all trees along the highways being graded? We recently saw two or three dozen large maples along a road taken out entirely: It would look much better and be as usable if the row had been thinned to 50 or even 75 feet. If the road were well made the trees would not injure it at all. Let's have some shade on our new roads.

What Our Neighbors Say About Us

A comparison of some of the eastern Minnesota roads with western Wisconsin roads would tend to send all traffic possible through Wisconsin. Minnesota must have better roads and better road maintenance.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minnesota.

THE RED CROSS OF THE FUTURE AND THE SERVICE MAN

The primary obligation of the American Red Cross is to the Service Man of the Army and Navy. Five duties still remain:

First—To stay with the Army of Occupation, comprising about 17,000 officers and men.

Second—To continue in the hospitals of the Army, the Navy and the Public Health Service where there are more than 26,000 men, many of whom will be retained there for months and some for years, and carry on recreational and social work.

Third—To keep in touch as an Advisory Organization with the discharged men of the Army and Navy, and be ready—not in the way of financial aid, but what is worth more—to contribute kind advice and friendly assistance.

Fourth—To carry on the work with the families of soldiers and sailors and for the community at large.

Fifth—To take care of those blinded in the crash of war, a Service turned over to the Red Cross by the Government.

"Am I my Brother's Keeper" is the stammering alibi of sordid selfishness. Answer the call of your Red Cross, which holds its Fourth Roll Call November 11-25, and fulfill your obligation to the brother who is still with Uncle Sam.

Right Here Where You Can't Miss it We Print the Dates of

The Annual Convention January 11, 12, and 13, '21

Reserve These Dates Now!

A well balanced program is being prepared, satisfying alike to amateur and professional.

The Fruit Show Is An Assured Success

The Big Gardening Event of the Year---Don't Miss It

P. S.---Invite Your Friends

AMONG WISCONSIN BEEKEEPERS

Devoted to The Interests of The Wisconsin State Beekeepers' Association
H. F. Wilson, Editor

HONEY—THE HEALTH FOOD

Why Not Have a Summer Meeting of the State Association

WE CAN PRODUCE THE FINEST HONEY IN THE WORLD

The important thing is to market it. Are we ready for a State Marketing Association? If not, why not?

To the Secretaries of the Local Associations: The dues to the State Association for 1921 are $1. New members joining prior to January 1, 1921, will be given membership free to January 1, 1921, and will be credited as having paid dues until January 1, 1922.

There are now 926 members in the state beekeepers' association. I hope every member will make an effort to secure another member so that we can have at least 1,000 members by the time of the state convention. Some of the old members are not paid up. If you meet one of these, be sure to get his renewal.

PROGRAM

Meeting of Board of Managers, Wednesday afternoon, December 1, 2:00 P. M., Judiciary Committee Room, Third Floor, State Capitol.

Thursday, December 2

Morning

9—Social Meeting, Paying Dues.

9:30—Call to Order. Reading of minutes of last convention. Presentation of New Business by Members. Report of Board of Managers. Reading of Secretary's Report. Reading of Treasurer's Report. Appointment of Committees for Convention.

11—President's Address, Gus Dittmer.

Afternoon

1:30—Bees, Animals and Other Things, R. R. Runke, Field Agent, Fond du Lac Co. Farm Bureau; Improving the Demand for Honey, A. C. Bartz, Jim Falls; Is the Present Honey Grading Law a Benefit to Wisconsin Beekeepers, F. F. Stelling, Reedsville; How the Honey Grading Law is Affecting the Honey Industry, C. D. Adams, State Div. of Markets.

Evening

7:30—Facts About Bees We Should Know (Lantern Slides), J. I. Hambleton Univ. of Wis.

Friday, December 3

Morning

9—Report of the State Apiary Inspector, S. B. Fracker, State Entomologist; The State Department of Agriculture and Apiary Inspection, C. P. Norgord, Commissioner of Agriculture; The Beekeepers' Folly, A. Swahn, Ellsworth; How the U. S. Weather Bureau Has Helped Me in Successful Wintering, C. W. Aeppler, Oconomowoc; Beekeeping On a Large Scale, led by Rev. J. E. Cooke; open discussion by all members present.

Afternoon

1:30—How to Market the Honey Crop and Prices for 1921, led by H. F. Wilson. Open discussion—every member should take part in the discussion. Open discussion on How to Make Our Association More Valuable to Its Members; Business Session—Report of Committee; Old Business; New Business; Election of Officers; Appointment of Standing Committees.

Every paper on this program is of vital interest to all of our members and each one should come prepared to enter into the discussion.

Local Affiliated Associations

With this issue of Wisconsin Horticulture we are starting a new classification of local associations. All those showing 100 per cent of the local association membership registered in the state association will be placed in the honor division.

Honor Division

County Bee. Assn.	State Members	Local Members
Sheboygan	60	60
Fond du Lac	58	58
Grant	32	32
Marathon	31	39
Waukesha	30	44
Chippewa Valley	24	35
Northeastern Wis.	34	77
Dane	23	25
Milwaukee	23	47
Winnebago	20	27
Richland Co.	21	28
Shawano	19	22
Wood	17	23
Northern Wis.	15	35
Jefferson	14	28
Fox River Valley	14	29
Washington	13	23
Vernon	13	26
Green	13	17
Baraboo Valley	12	22
Price	12	19
Brown	12	20
Walworth	11	16
Clark	11	18
Rusk	10	16

HOW WE PROGRESS

Start Now for the 1921 State Fair

The 1920 bee and honey exhibit at the State Fair was the biggest and most successful one ever held. For this success we are indebted to Mr. Dittmer and to the progressive and wide-awake beekeepers of Wisconsin who put forth their best efforts to assist him.

After bringing pressure to bear on State Fair Officials, Mr. Dittmer succeeded in securing their promise to enlarge the bee and honey building. however, in return Mr. Dittmer was compelled to guarantee that all available space would be occupied. Those that attended the fair can attest to how well both parties carried out their promises.

The remodeled building is infinitely much better than it was a year ago, although by no means as adequate as it should be to house the apicultural products of Wisconsin. There should also be a rest room, an office for the superintendent and a room for the judge where he could work unmolested. These improvements will come for Mr. Dittmer has already made tentative arrangements for further revision for the coming year.

Most of the displays were above reproach. Mr. and Mrs. John Kneser were back as usual with a large display of everything in the honey line from cough syrup to "fire-water." Mr. Keeber, who was absent last year, was in his old stand. He had samples of some of the first honey he ever produced—over thirty years ago. The Moes of Monroe were well represented. Mr. H. H. Moe, however, lost out this year, preferring to view the battlefields of France instead. His interests were well taken care of by his two sons. Walter Diehnelt had a very large and attractive display of comb and extracted honey. From the angle of the Czar and the manner in which he jingled nails in his pocket, people were led to believe that he was well pleased. Mr. Painter of Wausau, representing the Cloverland Apiary, was a new exhibitor this year. Having had no previous experience in the Fair 'Game', Mr.

Painter managed, nevertheless, to take back enough blue ribbons to compensate for the hard work.

Four of the county associations were present; namely, Dane, Grant, Marathon and Sauk. These displays were exceptionally good. Rivalry in the future is going to be strong between the various counties. In the writer's opinion every association in the state should have been there. One purpose of organization is to improve the honey industry of the state. The marketing and advertisement of our project are not any too well developed. The state Fair is the best and most economical medium that we have for advertising honey since it places our product before the people of the entire state as no other medium can. The absent counties are failing in an important and vital function by neglecting the State Fair. They are shifting responsibility to other shoulders. This year, at least, it seems that the younger associations have graciously taken this responsibility, an incident that points to the fact that some of our larger and more prosperous associations need revision or an injection of young blood into their constitution.

The allotted space for individual exhibits was crowded and improvement in the quality of the displays was apparent to every one. This was especially true of wax and baking,—where one or two cakes adorned the shelves the previous fair, countless cakes and cookies of every description were to be seen this year. As a matter of fact, the bakery goods and canned goods were little behind the displays of similar articles in the Woman's building. The wax was of very good quality and arranged in attractive cakes. In this connection we must mention the display of Mr. Barr of West Allis. His unique and tidy display reached the zenith of perfection and brought forth praise and numerous questions. The G. B. Lewis Company, Watertown, Wis., and the A. I. Root Company, Medina, Ohio, both dealers in bee supplies were on hand to display the most improved and up-to-date equipment. We were somewhat disappointed in the showing made by the A. I. Root Company, but understand that only a small part of their display arrived, due to lack of proper transportation facilities. The supply companies offered the beekeepers an excellent opportunity to personally examine every kind of bee equipment manufactured. A person contemplating the purchase of bee equipment will do well in talking to the representatives of these companies before making their purchase. Advantage can also be taken of the appreciable discount made to State Fair visitors.

The following gives the list of the principal exhibitors and amounts of premiums for each:

John Kneser, Hales Corners	$129.00
A. L. Kleeber, Reedsburg	117.00
Walter Diehnelt, N. Milwaukee	105.00
Marathon County	66.00
J. M. Barr, West Allis	65.00
H. H. Moe, Woodford	57.00
Dane County	55.00
Grant County	51.00
Sauk County	47.00
Cloverland Apiary Co., Wausau	46.00
F. F. Houghton, Reedsburg	33.00
Number smaller exhibitors	68.00
Total premiums awarded	839.00
as against last year	270.00
Difference	569.00

According to out-of-state visitors Wisconsin has now one of the largest, if not the largest bee and honey exhibit in the United States with the exception perhaps of part of the Pacific Coast. Some of the premium lists for 1920 are listed below as follows:

Wisconsin	$1153.00
Minnesota	1110.00
Illinois	589.00
Nebraska	447.00
West Michigan	595.00
Connecticut	489.25
Texas	423.00

The Wisconsin bee and honey premium list for 1921 will be $2,000.00. There will be a revision of the method of awarding premiums for 1921. Mr. Dittmer quotes in particular the following changes; "Our premium list for 1921 will consist of 3 classes: Individual exhibits, No. 122, Individual entries No. 123, and County Association exhibits No. 124. Class No. 124 will be revised on the same basis as county exhibits in the Farm Produce Department. A sum of $900.00 will be set aside for the county exhibits on the basis of $75 for each county having an exhibit. Instead of offering premiums the exhibit will be scored by points. 100 to 500 points will also be allowed for distance from the State Fair. A sum equal to $75.00 for each exhibit participating will then be divided pro rata, but no one exhibit to receive more than $125 or $150. For the best arranged and most attractive, ribbons will be awarded. Premiums will also be offered for the best graded exhibit, both comb and extracted, both for the individual and the county exhibit." Mr. Dittmer ends by saying, "We are not only having the largest bee and honey department, but we are going to remain at the top."

The prospects for the coming year are indeed excellent. Every exhibitor was well pleased and planning to return in 1921 with a much improved display. Many reservations for space have already been received. It will be quite a problem to satisfy every one next year, for no doubt, some exhibitors will have to put up with temporary accommodations. It will be a case of the early bird getting the worm. Associations and individuals contemplating doing their share in this big advertisement game should get in communication with Dr. Dittmer at once, and not wait until next year when it will be too late. It might be well to mention too that most exhibitors, individual and county, unload tons of honey to the Fair visitors at top prices. **Bring the matter up at your next association meeting and do not let your county be conspicuous by its absence, as many were at the Fair this year.** Often people would inquire, "Well, where is so and so's county display? Why, we raised lots of honey." Generally such questions were answered by their being told that their county did not have ambition enough to come and stayed at home to keep their bees from swarming instead.

J. I. Hambleton.

Monthly News Reports From Local Associations

October 15—Bees are in good condition. European foulbrood does not seem to be as prevalent as it was last year. I have no personal knowledge of any American foulbrood. A great many farmer beekeepers lost their bees through European foulbrood last year. I think the outlook for the future is so good for the professional beekeeper or any person who uses modern methods of keeping bees.

Reporter—E. A. Barlement, Brown Co. Bee Ass'n.

October 12—Bees are in good condition. Most of our beekeepers are getting pretty well along in fixing up the bees for winter. Prices of honey: Wholesale—10 lb. can $3.00; Retail 10 lb. can, $3.50—**Extracted.** Wholesale 60 lbs. at .35, $15.00; Retail 60 lbs. at 40c to 45c, $16.25 for **Comb honey.** Our own apiaries are free from disease. No reports from outside have been received, nor any come to my notice. There appears to be no marked change in beekeeping conditions with the exception of basswood getting less, but this being offset by the increase in white clover. But unless the beekeepers hold together and cooperate and discontinue under-selling each other, they will force themselves out of business. Especially is this true with the commercial beekeeper who has to pay big

wages for hired help and if he cannot get for the product of the hive what it costs to produce, he will have to go out of business and "try" his hand at something else."

Reporter—Emma L. Bartz, Chippewa Valley Beekeepers Association.

October 17—Bees are in good condition in numbers and age. Prices of honey: On containers by wholesale from 25c to 30c and retail 30c to 45c —regulated by grades by wholesale from 35c to 45c and retail from 45c to 50c. American foulbrood is scarce. There is some European foulbrood where old queens are present, but in general conditions are very good. Beekeepers are enthusiastic in doing good work for the season of 1921. The honey crop is moving steadily with original fall prices still prevalent.

Reporter—Robert L. Siebecker, Dane County Bee Ass'n.

October 12—Bees are in fine condition. Our beekeepers have been receiving 22c wholesale and 25c to 30c retail for their honey, that is for extracted, and from 35c to 40c retail for the comb honey. American foulbrood in the northwestern part of the county, our present system of inspection with our local inspector on the job will, we believe, keep the disease under control if not eradicate it entirely in time. It certainly is the best means of inspection and insures our protection as no other system could and in a few years it will cost very little to keep up. European foulbrood is bad in the eastern half of this county, but only with the beekeepers who have black or hyrid bees. Most of these "bee owners" are such who have not attended our local meetings and are not members of our association. The future of beekeeping is on the rise under condition that the life of local and state associations be supported spiritually and financially by all the progressive beekeepers regardless of personal differences, act together and vote together for the common good of all. Sorghum mills have sprung to new life since the sugar shortage. Consequently farmers are buying very little honey for the present.

Reporter — Edward Hassinger, Jr., Fox River Valley Bee Association.

October 12—Condition of the bees is good. Some beekeepers are feeding the bees sugar to help along as our Fall honey flow is a scarce article. There is not very much extracted honey on hand and scarcely any comb. Our beekeepers have been receiving 20c to 25c wholesale for their extracted honey and 25c to 30c retail for it, and from 30c to 35c wholesale for the comb honey. From all reports bee diseases are being wiped out in good shape. The past two years has taught the beekeepers the absolute necessity for clean yards. They are all learning the necessity of looking after the bees' welfare. The future outlook seems to be getting on a more business like basis. Our beekeepers are learning that there is nice money in the business, but like other vocations, "One must know the business." Failures and losses are simply the result of ignorance. The Winter Problem seems to be the hardest to solve; too many ways, none just right. Conditions are so various. We are all learning the game, and we will know it if we live long enough. It takes a life time.

Reporter—C. L. Leykom, Langlade County Bee Association.

October 16—Bees are in fair to good condition. There are about 30 tons of extracted honey on hand in this locality, and very little comb honey. Our beekeepers have been receiving 25c for extracted honey wholesale, and 30c and 28c retail, and 40c retail for the comb honey. I think the disease situation is better since the clean up, but not as good as we expect a year from now. We have no strictly speaking beekeepers in this county. We have perhaps 20 apiaries of 100 colonies and over. I am sure the area-clean-up law with the restriction of movement of bees and bee appliances in the future will see better regulated bee yards. This has been a very successful honey year. The variation of prices of honey has been a great hindrance. I believe in another year this price matter will be regulated.

Reporter— James Gwin, Richland County Beekeepers Ass'n.

October 14—In general bees are in excellent condition for winter. There are about 7,000 pounds of extracted honey on hand and 200 pounds of comb honey. We have been receiving 25c for extracted honey wholesale and 30c for retail, and 35c to 40c for comb honey retail.

Reporter—L. E. Cass, Vernon County Honey Producers Association.

October 13—The condition of the bees is good. There is very little extracted honey on hand and the comb honey is about all sold. We have been receiving 30c to 35c wholesale for extracted honey and 35c to 50c retail for it; 42c for comb honey wholesale and 45c to 50c for comb honey retail. The disease situation in this county is quite serious. I think the getting together and the very helpful talks by Mr. McMurry have awakened great interest among the beekeepers which will result in better beekeeping.

Reporter—W. T. Sherman, Walworth County Beekeepers Association.

October 14—Condition of bees is good. There was enough stimulation for late brood rearing, assuring young bees, but only in a few places is any surplus reported from fall flow. There is very little extracted honey on hand and no comb honey at all. Prices of Honey: Extracted— wholesale 25c to 28c, retail 32c to 37c and comb honey wholesale 40c to 42c; retail 50c. The disease situation is improved, but an area clean-up is what is needed to insure complete success. The bees in this county are mainly in the hands of the small beekeeper, there being a few large producers. Since our association was organized a keener interest is being shown. It cannot be said that there are more beekeepers, but all are evidencing the spirit of keeping bees better. If more sweet clover could be had, the bee pasture would be much improved.

Reporter—C. W. Aeppler, Waukesha County Beekeepers Association.

October 13—The condition of the bees is good in the southern part and fair in the northern part. The amount of extracted honey on hand in this locality is about 5 tons, and the comb honey is nearly all sold. We have been receiving 20c to 25c for extracted honey wholesale and 20c to 30c retail for it; 25c to 30c for comb honey wholesale and 35c for retail. There is quite a lot of foulbrood in the southern part also in the central part. Some around Marshfield. It is spreading fast. There is some in the southern part of Marathon and in northwestern Wood that is infecting the yards around Marshfield. Bees that are near wild swampy ground are in good condition, but those on high land stopped brood rearing early. On account of the drought there was no honey since about the 15th of August. In wet places there was honey until frost. Beekeepers will protect their bees better this winter to avoid repetition of last winter's losses. A few beekeepers are buying package bees for next year. A queen yard will also be started here next year.

Reporter—Engelbert Henseler, Wood County Beekeepers Association.

The Aims and Objects of the American Honey Producers League

Early in the year 1920, representatives of the majority of commercial beekeepers associations and kindred organizations met in Kansas City, Missouri. The object of this meeting was to ascertain if there existed points enough of common interest to warrant a national organization.

In former years such an association

had often been proposed, but all argued that East was East and West was West, and there was no common interest. The remarkable thing about the Kansas City meeting was that each section had one and the same great problem and all other problems depended upon the solution of the first.

This problem was: How to create a greater demand for honey. So apparent was it that the solution of this one question was the salvation of the beekeeping industry, that these men brought about an organization of organizations for this purpose. Thus was born the American Honey Producers League.

The first and greatest aim of the League is the betterment of the condition of the bee industry in America. As this end can best be gained through the increased use of honey, it is around this subject that the activities of the League center. Its membership is to be the membership of the State organizations. Its working force will be directed by a paid secretary and possibly a corps of paid assistants. To handle the work with ease and rapidity, the following divisions have been made: An Educational Bureau will utilize the combined strength of the beekeepers of the continent to see that State and National extension work are maintained, that the teaching of beekeeping in our agricultural schools is established or supported, that information relative to disease control, crop conditions, and markets reach the producer with dispatch, and that the public is well informed relative to the value of honey as a food.

The Equipment Bureau is to secure standardization in equipment, both in size and price, and to set rules for the sale of live bees and queens.

As popular sentiment must be backed by legislative power, a legislative bureau will endeavor to secure uniform inspection, quarantine, and pure food laws, and the appropriations needed to carry on state controlled work.

The Bureau of Supervision of Marketing is the most difficult and important of all. It must put into immediate operation a standard grading of honey, packed in a standard container, and make this product a household favorite. To do this, it must have definite crop and market reports, and must be followed in its recommendations by the state distributors in their sales.

As legal aid is often necessary to obtain justice, a legal bureau will be maintained to look after transportation and classification claims on com-

mon carriers and to take a hand where ever legal aid is needed.

As a clearance house for complaints a Bureau of Arbitration will act as a referee in disputes on matters of importance to the League.

The above projected work of the League, together with the countless smaller services it can render, makes this League unique in Business Organizations.

Membership in the American Honey Producers League

The American Honey Producers League deserves the support of every beekeeper in America. The services it offers and can render if you cooperate makes its value such that you cannot afford not to belong to it.

As the League is an affiliation of smaller organizations, there are several ways of obtaining membership. The first and regular method is by affiliation of organization.

"Any organization of Beekeepers may acquire the right to elect a member of this League by applying therefor to the Secretary of the League and accompanying such application with a sum equal to One Dollar ($1.00) for each member of such applicant association, provided that the Executive Committee may reject any application and shall return any sum deposited if such application is rejected. When once affiliated, such organization may continue its affiliation by paying annually to the Secretary of the League a sum equal to One Dollar ($1.00) for each member then belonging to such affiliating association, and by the further payment of a sum equal to One Dollar ($1.00) for each member subsequently joining such affiliated association, provided that the minimum fee for membership from any organization shall be One Hundred Dollars ($100.00), and provided further that when a state or provincial organization has affiliated, no other organization from the same state or province shall be received."

If there is no state organization, any individual beekeeper may become an independent member, securing the service at the above rates, but without vote.

Any firm or corporation desiring the help of the League may also receive this service by the payment of a fee of $10.00 per year.

All United States, Provincial or State employees interested in this subject are considered associate members and have the right to attend all meetings of the League and take part in the discussions, but have no vote.

It is hardly necessary to say that all applicants for membership must be approved by the Executive Committee.

The above extract from the constitution of the League shows definitely that membership is easy to obtain and hold and the voting power is retained by the beekeepers.

The value of the League has been realized by commercial firms dealing with beekeepers and they are becoming members, even though they have little voice in the organization. If every beekeeper, small or large, will get behind this movement, it will take but few years to place honey in its proper place in the dietary of the American people.

E. G. Le Stourgeon,
Pres. American Honey Producers League.

Asters have been a good flower in most places this year. The addition of lime to most of our soils before the asters are set seems to give better plants.

A pot of parsley set in a sunny window not only adds cheer to the room, but is useful for garnishing and flavoring during the winter.

Spring is the best time to plant all sorts of plants except peonies, iris and rhubarb. Prepare the ground this fall and plant as early as possible in the spring.

Squash should be carefully handled from the field to storage if they are to keep well. Place on wooden racks in storage house one layer deep. The house should be warm and have a good circulation of air.

Do not let roses or perennials get wet before they are covered. They must go into the winter with dry foliage if they are to come through in good shape. See that the soil at their roots is moist. Otherwise they may freeze dry.

Geraniums, Christmas cactus, calla, and cyclamen make good flowering house plants for winter.

Do not put ungraded fruit or vegetables on the market. It pays better to sell each grade separately. Try it.

Loveliness, Mrs. Watt, Schwaben, Glory, Bluejay, Empress of India and Niagara are all splendid varieties of gladioli. Now is a good time to order stock for next year's planting.

An attempt is being made to list and describe all the varieties of dahlias under cultivation. Between 5,000 and 6,000 names have been listed and this does not include many foreign kinds.

Carrots and beets keep better if a little dry sand is put over them. It prevents drying out.

Blackcap raspberries and gooseberries are best propagated by layering.

Apples carefully picked and wrapped in newspaper keep late into the fall and winter if kept cool.

Husk the popcorn and hang it up in a light airy place. It will dry enough to be used early in the winter.

Hang cabbage in a cool cellar. They may sometimes be wrapped in paper and laid on shelves in a cool cellar.

As soon as the frost kills the foliage of the grape it may be pruned back and laid on the ground ready to cover with earth.

While many raspberries will come through the winter without protection it is always safer to lay them down and cover with earth.

The Russian Mammoth sunflower is not only ornamental, but the seeds make good chicken feed. The plants make an effective screen.

Store onions in a cool, well-aired place.

Sapa and Opata plums fruit heavily and make good sauce. A tree or two is worth having in the garden.

Either spray and prune the orchard or use the ax. Trees uncared for are like abused underfed stock—unprofitable. Get rid of them.

It is a good plan to clean up the garden and spade or plow it this fall. Many cutworms and other insects are disturbed by fall plowing.

The past season has been a splendid one for hollyhocks. When well grown these are fine plants. Some excellent colors in singles and doubles are to be had.

Black raspberries are easily increased by tip layers. That is covering the top of each with soil causing it to send out roots quickly. These may be "heeled in" and planted next spring.

Some of the imported varieties of zinnias are well worth growing. Strains of fine colors and large size were on the market this year. These made excellent plants for cut flowers or landscape work.

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

Volume XI | Madison, Wisconsin, December, 1920 | Number 4

GROWN IN WISCONSIN

Farm Orchards

Just to head off Prof. Moore, to have the first word, the Editor prints herewith a paper read at the Dec. 1919 Convention of the Minnesota Horticultural Society. Hear Prof. Moore at the Convention.

There are at least two kinds of farm orchards. The first kind consist of orchards planted designedly to yield only enough fruit for home needs with an occasional surplus. Such an orchard may contain ten to twenty apple trees, four to six cherry and as many plum trees. Crabs are included in the apple quota. The trees are planted 20 by 24 feet for the apple and 16 by 16 feet for cherry and plum. For the first five years after setting intercropping is permissible if the land is reasonably fertile and if a light coating of manure is applied every other year. It is not absolutely essential to fair returns that the trees be pruned at all. This is not intended as an argument against pruning for the beneficial results of rational pruning are so well established that no argument of mine could affect the situation even if I choose to make one. I merely mean to say that fruit trees that receive ordinary cultivation, as much as farm crops, will yield fine crops of fruit even if pruning is wholly neglected except as to the removal of dead or dying branches which may, (usually do) prove a menace to the tree by the process of decay.

Proof of this unorthodox stateent may be had by carefully observing seedling trees twenty years or more of age or old trees that have not been pruned in twenty-five years or more. Pruning is neither a vitalizing nor a devitalizing process but one which we have adopted to better further our ends, the production of a maximum crop of wruit of high quality.

The excuse I offer for this digression in the beginning of my discussion is that pruning seems to be the great bugbear of the farmer, something which we horticulturists have hedged about with so much of technique and skill that he despairs of ever acquiring even a working knowledge of the science. While we may therefore let the farmer off from pruning we cannot excuse him from spraying. Spray he must and it is strictly our business to see that he does it.

I have no quarrel with the farmer who plants this kind of an orchard nor the nurseryman who sells it to him. Every farmstead in Minnesota should have such an orchard. It is another class of so-called orchards that I have fought for years and will continue to fight; the orchard whatever its size, usually, if not always, wished on the farmer by an ambitious nursery agent and carried as a side line to general farming.

Either the farmer has persuaded himself or someone has persuaded him that one hundred or two hundred fruit trees may be planted and with very little care will, sometime, yield profitable rereturns.

There was a time, about fifty years ago, especially in the eastern states and the central Mississippi valley states, where the apple is more nearly indigenous than in our more rigorous climate, and before insect and disease pests had arrived, when this sort of thing could be done and the doer "get by" with it but I am here today to tell you with all the emphasis that I can command that it cannot be done in Minnesota or Wisconsin at the present time.

The growing of high grade fruit is a highly specialized business and should be undertaken only by men or women, who are willing to devote the whole of their energies and abilities to the job. None of the farmers that I have met have brains enough to be a successful grain farmer, stock raiser or dairyman and at the same time raise good fruit as a side line. I am not denying that there may be such men, but I have never met them. In fact the farmers that have been most successful in their chosen lines of farming seem to have had too much sense to attempt it.

Fruit growing has never yet been successfully conducted as a side line to general farming and I predict it never will.

To be a successful dairyman will require all the time, brains and energy possessed by the ordinary man. As this is also true of fruit growing it is then plain that only the super-man can do both.

But entirely aside from the question of mental capacity and energy there is a question of applied agricultural economics. Fruit growing requires, aside from highly skilled labor, special equipment which may seldom be used to advantage in farm operations, the cost of which constitutes an item of overhead disproportionate to the volume of business. There is also the problem of marketing. Many factors enter into the problem of marketing perishable products

that do not affect the marketing of staple farm crops.

As I said before there seemed to be a time when this kind of orchard farming or farm orcharding could be carried on in a fairly successful manner and in fact for nearly a century most of the apples grown in the United States were the product of orchards of one to ten acres. But this was also the period when the butter of commerce was churned with a paddle and fresh (?) milk retailed from an open can and measured in a quart cup. I will not reflect on the intelligence of this audience by carrying the analogy farther.

If there are any who still cling to the belief that apples should be grown by farmers as a side line to farming let him take a look at the hundreds of thousands of orchards in Illinois, Indiana, Michigan, Ohio, Pennsylvania, New York and other states; orchards either slowly or rapidly disintegrating, depending on environment or the comparative resistance of varieties, but in every case producing only cider and cull fruit. From these farm orchards turn, and often it is only necessary to turn half way round, to orchards of twenty-five, fifty or one hundred acres owned and tilled by fruit growers and he will be thoroughly convinced that the business of fruit growing should be in the hands of fruitgrowers rather than farmers.

In discussing this subject it is manifestly impossible to differentiate the farm orchard from the commercial orchard by acreage or number of trees, it must rest on the intent of the owner. Are you a farmer or a fruit grower is the question I want to ask every land owner who now has trees in excess of home requirements or who expects to plant a "farm orchard." If he replies that he is a farmer and expects to make his living from farming, I should say to him, "dig out and burn every tree in excess of the number required to bear fruit for your own use. The sooner you do this the sooner you will be relieved of a great responsibility and you will at the same time be setting a good example and affording relief to your fellow citizens by reducing the quantity of undersized, scabby and wormy fruit on the market."

It may be held that this is a reflection on the intelligence of farmers. On the contrary I hold that such advice is not only rational but complimentary for I maintain that a man who is a successful farmer cannot afford to neglect his fifty acre corn field, planting or plowing it, to spray one hundred apple trees, nor to neglect his harvest to go into the highly specialized and competitive field of marketing apples. If it be further contended that the farmer is entitled to good apples for his own use, that the spraying of two dozen trees involves as much of skill as the spraying of two hundred or two thousand I will reply that there is a wide difference in the time required and in its exactitude. You are now ready to ask how and where apples should be grown, enough to supply one hundred and ten millions people if farmers are not to be permitted to raise any.

If we begin to use figures this does seem a serious proposition for if we allow only one apple apiece for the entire year one million bushels of "Standard A" will be needed while if we strive for the millenium of "an apple a day" and put all the doctors forever out of business it will require the stupendous quantity of 365 million bushels.

My answer is that apples must be grown by apple growers, specialists whose livelihood depend on producing high grade fruit. The size of a purely commercial orchard is not an important factor. A trucker or "cash crop" farmer who cultivates 20 to 40 acres of land may consistently plant an orchard of five acres and secure splendid returns from his local market, eliminating closed packages, freight charges and brokerage. There is probably no town of 1,000 population in Minnesota but could furnish a market for all the apples that could be grown in such an orchard while the cities of ten thousand and over afford markets that are never adequately supplied.

The farm orchardist or the orchard farmer who picks his scabby and wormy fall apples with a club and markets them in the Universal Farm Open Package, the wagon box, will not agree with this statement nor do I expect him to do so; the sooner he converts his surplus trees into material for saw handles and firewood, the sooner the market will be left open for the grower who offers clean, sound Duchess, Wealthy, McIntosh, and other good kinds carefully picked and packed in bushel baskets.

This leaves only the larger commercial orchard to be considered and the advisability of planting at the present time.

It seems to me the prospects were never brighter, nor the op-

portunities greater than at the present time for engaging in apple raising on a large scale.

Statistics show that the number of bearing trees is steadily decreasing, our population is steadily increasing, the fever of planting on a large scale is over, the promoters are mostly out of business and our export trade knows no limit. Considering these things why shouldn't we plant apple trees?

Success depends, as in any other business venture, on courage, vision and the application of business principles.

Growng fruit is **not** a get-rich-quick proposition, neither can it be done by proxy. It means being on the job all the time. For this reason orchard companies, company orchards, acre lots, and similar orchard investment schemes have never proven satisfactory to investors and never will nor should any reasonable person expect it.

If you invest a sum of money in an orchard company the best you have a right to expect is a fair rate of interest on your investment. You have invested neither brains nor time and the fellow who has invested these valuable commodities is entitled to the profits, if there are any.

I am not thoroughly familiar with conditions in Minnesota but I am inclined to the belief that your state could easily stand fifty thousand acres of commercial orchards to be planted within the next five years.

Minnesota horticulturists are engaged in a fascinating game, the raising of seedlings. This is a splendid work and I would not be understood as underestimating the value of it nor so presumptious as to offer any criticism of means or methods. I hope, however, I may be forgiven if I offer the suggestion that while it is well to emphasize their work it ought not to be over emphasized and while you are raising seedlings do not neglect at the same time to plant commercial orchards. If I read aright the geography and geology of Minnesota you have in the south-eastern part of your state a vast amount of excellent orchard land. Europe gave us the Duchess, Peter Gideon, the Wealthy and Wisconsin, the Northwestern. With this noble trio we can bid defiance to the Pacific Coast states and their delicious Delicious, New York with her Baldwin and even Missouri with tough old Benjamin Davis, Esq. Be of good cheer friends, sharpen your axe and your spade; the one for setting trees in commercial orchards, the other for the farm orchard.

Hints For Keeping Vegetables Fresh

Urban and rural dwellers are confronted every fall with the problem of storing to the best advantage vegetables grown on vacant lots and in gardens. Shrinkage and decay take heavy toll every fall and winter.

R. S. Mackintosh, horticultural extensionist of Minnesota University Farm, says that all vegetables should not be stored the same way in the same cellar. The storage best adapted to potatoes, beets, carrots, parsnips, vegetable oysters and other varieties of roots is the ordinary cool and reasonably moist cellar. Winter squash and pumpkins, on the other hand, should be thoroughly ripened and then put on shelves in a warm dry section of the cellar and near the heating plant. If stored in the ordinary cool moist cellar they are likely to decay in a few months. Squash and pumpkins should not be piled up high. A well ripened Hubbard squash, says Mr. Mackintosh, stored in the manner here outlined, should keep until May.

In order to limit shrinkage as much as possible the root crops mentioned should be covered with dry sand or soil, dry leaves or straw or chaff as soon as they are placed in the cellar. Cabbage should be kept reasonably moist and on shelves so that the air can circulate around them. If sufficient shelving is not available they may be wrapped in paper and suspended from the ceiling. Most of the outer leaves should be removed.

The moisture supply in cellars can be kept fairly constant by having some sand or soil that can be moistened occasionally. A tub of water will aid in keeping vegetables from drying too much.

Onions placed in storage should always be kept cool and dry to prevent loss.

Cover grape vines and raspberries with earth before the ground is frozen solid. It is best to lay them down when there is no frost in the vines. Frozen vines break easily.

The black alder and prickly ash are two native shrubs which might be used in landscape planting more freely to advantage. There are few prettier shrubs than the alder with its red fruits in autumn.

I Shall Pass This Way But Once

In this little corner will be set down each month kind thoughts, stray bits of sentiment, the record of kind deeds, some incident in life that made a deep impression, favorite verses or short poems, anything that will cheer our fellow traveler. Do not misunderstand, the editor is not the "Pilgrim," we are all pilgrims, let's help one another for each of us will pass this way but once. The editor merely brings together in one place these cheerful little bits gathered by the wayside.

Don't hesitate to send them in, anonymous or otherwise altho the editor likes to know who it is that writes for he claims the privilege of keeping for his own these letters. No names will be published.

Do I make it clear? This is a corner for heart throbs and among the three thousand (more I hope) readers there are 2,999 who have something to offer. But I must not take all the room allotted asking you to help for you will want to read the messages to "pilgrims" since last we met. Here is one from a woman who understands:

Fellow Pilgrim: Is it not true that we are all fellow pilgrims in this journey where we will "Pass this way but once?"

Do we not all enjoy the cordial greetings, and the friendly interest of our neighbors and fellowmen? Therefor we should show ourselves friendly, and do all we can to promote good feeling. Let us plant a hundred seeds instead of "one" so as to produce enough flowers—Smiles of nature—for others to enjoy with us; what more pleasurable reward than to create in some one the thought:

Those beautiful flowers upon my neighbor's vine
Are owned by her, but they are also mine;
Hers was the cost, and hers the labor too;
But mine as well as hers the joy, their loveliness to view.

They bloom for me, and are for me as fair
As for the woman who gives them all her care,
Thus I am rich, because a good woman grew
Those beautiful flowers for all her neighbors view.

R. L.

Here is one that made the pilgrim editor's heart glad for he knows this pilgrim is a very practical and successful farmer:

"There was one little incident in my life while in Montana that I often think of, and I really believe has helped me many a time. It was this: One day (July 4th) I saw a storm coming while visiting at a neighbor's house and started for my shack to shut some windows. When about 100 yards from the shack and pretty well winded from running the storm broke with great fury and before I could reach the shack—which by the way blew off the posts on which it was built—I was thoroly drenched and never felt so disgusted and discouraged in my life. A few minutes later when the rain ceased and I went ahead to see if there was anything that had not washed away the first thing that greeted me was a meadow lark sitting on a post and singing as tho nothing had happened, altho he must have been as wet as I was. It helped me then, and I never hear a meadow lark sing but I think of that experience.

King Saul had David play on a harp for him when he had the blues. I'd rather have a meadow lark for mine." A. P.

This one is anonymous but very pointed:

"For some time I have been pondering as to whether the subject I have in mind would seem out of place or too insignificant for the new "I shall pass this way but once" column, in Wisconsin Horticulture.

The Editor, being a man, will probably consign it to the waste basket. (No, sister pilgrim, the pilgrim editor has no waste basket.) My appeal will be "To men only," the women, in this case, being the long-suffering victims.

Is it possible, I wonder, to make the men or even any one man, realize how extremely aggravating, trying and nerve-racking it is to a woman, to have a meal ready on schedule time and then to be compelled to wait, wait, wait? Finally, after waiting and waiting we begin to eat, because he will surely be here soon. But no,—meal cold or dried up from repeated warming over, coffee cold, etc., etc. It is simply maddening.

If you male pilgrims make a resolution to be on time **and keep it,** you will reap the everlasting gratitude, not only of the one woman in your home, but of all the others, whose husbands you have, at some time, detained."

Quite so, quite so! How about it "He" pilgrims? Perhaps we better make that resolution.

And another has a suggestion that many already have followed:

"Plant a row of flowers by the roadside for the pleasure of all who pass by."

And that is all for this month: Who will recall some little incident or kind word for next time? Send your letter, signed or unsigned to Editor Wisconsin Horticulture.

Johnnie Went Away But Look Who's Here!

Oak Hill, Wis.

My dear friends, why is it so many folks dislike this time of the year, every little while I hear some one say: "Oh how I hate the fall all you can see is Dirt." I wonder—don't they really see anything but dirt? I don't believe that is what you people see, is it? Let me tell you and those others what I see. Not just Dirt but fields of waving golden grain; the purple rosy sheen of the meadows—the rows of tall green corn. I see the long straight rows of vegetables. I see the red of the berries peeping from the green leaves. I see the peach, the plum and the apple trees, row on row covering the hillsides, first in the glory of bloom, then loaded with their luscious fruit. I see the ferns by the side of the road, the creeping tendrils of the wild grape vine. I see the flower gardens. There is nothing I can see plainer—Dirt—There is a riot of color. Can't you see them? The gorgeous Tulips, the snowy whiteness of the Narcissus. The yellow of the Daffodils—I see the Violets and Pansies—like children's faces that smile at you. I see Pinks and Primroses. The nodding bells of the Foxglove, Campanula and Columbine. The great gorgeous Peonies; the carpet of blue Forget-me-not; the flaunting scarlet of the Poppies and Lychnis. I see the Lilies snowy white against the heaven blue of Delphinums. The Hollyhocks like tall sentinels they stand. I see the vari-colored heads of Phlox—bending gently to gaze at their humbler sister Phlox Subulata. I see the Lilacs, Honeysuckle, Mock Orange, the rosy pink of the Almond. I see the Roses, pink, white, red, yellow. I see them every where. I can even smell them they are so near, so real. The Dahlias, Gladiolus, Asters, Snapdragon—all my garden friends—and still I see the faces of my friends amongst them. Flowers and friends are inseparable to me—where one is the other must be. And still some see only Dirt. I wonder sometimes what do you see? All this—what more—just Dirt. Did you ever fill your hands with the soft warm dirt and let it run slowly through your fingers? Did it not speak to you a language that thrilled your soul? It isn't dust Dirt to you and I—its all the things I have said and more. Its understanding, contentment, happiness. You are, as one who knew said, "Nearer God's heart in a garden than anywhere else on earth." In just Dirt I learned to know and love my garden, to know—really know and understand my friends. Just Dirt lightened many long weary hours of pain; helped the sun to shine thru the dark dreary days when to me it seemed as tho it would never shine for me again—and still some say its Dirt—just Dirt.

The Ballade of the Gamefish

Where the puddle is shallow, the weak fish stay
To drift along with the currents flow;
To take the tide as it moves each day
With the idle ripples that come and go;
With a shrinking fear of the gales that blow
By distant coasts where the Great Ports gleam,
Where the far heights call through the silver glow
"Only the game fish swims up stream!"

Where the shore is waiting the minnows play,
Borne by the current's undertow;
Drifting, fluttering on their way,
Bound by a fate that has willed it so;
In the tree flung shadows they never know
How far they are from the old brave dream,
Where the wild gale's call from the peaks of snow.
"Only the game fish swims up stream."

Where the tide rolls down in a flash of spray,
And strikes with the might of a bitter foe,
The shrimp and the sponge are held at bay,
Where the dusk winds call and the sun sinks low;
They call it Fate in their endless woe
As they shrink in fear when the wild hawks scream
From the crags and crests where the great thorn grow,
"Only the game fish swims up stream."

Held with the current the Fates bestow
The driftwood moves to a sluggish theme.
Nor heeds the call which the far isles throw
"Only the game fish swims up stream."

—John Trotwood Moore.

Less human cussedness is what we need,
And that's my creed!
Less wish to make some other heart repent,
Or make it bleed.
Less will to muddy some one's crystal stream
Because we're queer,
And don't want anybody else to dream
When we can cheer.
Less human meanness in its varied forms,
That's my desire!
More of the heart love that so truly warms,
By nature's fire.
Less spilling other people's peaches just because
We spilt our own;
Less growling like the dogs do when they pause
By some stray bone.
Less human misery when we have less,
Of these I cite,
And more glad heartedness and joy to bless
Lives lived aright.

—Author unknown to me.

I too am a lover of verses, these two I am sending and the Twenty-third Psalm are the helpful ones. They fit my particular need.

And please Mr. Editor Johnnie went away. Didn't say a word, just went. Will let you know when he comes back. Will "E" do for this time?

The Poppy of Flanders Field

Prof. Cady of Minnesota who writes the many timely reminders that appear in odd corners of Wisconsin Horticulture has the following criticism of the American Legion in a recent issue of the Minnesota Press Bulletin:

"Evidently there were no gardeners at the national meeting of the American Legion which adopted the "red poppy of France" as its official flower and urged its members to wear it on Armistice Day, November 11. This means that artificial flowers must be used as no poppies are in bloom in Europe or this country on that date. It is unfortunate that a more serviceable and lasting flower was not chosen. Who wants to wear or use imitations? Surely not American Legion men."

We cannot agree with you Brother Cady. I have no doubt the boys knew full well that poppies do not bloom in November, neither do any other flowers that would appeal to them as much as the poppy even if artificially produced. Ask the boys, Brother, if a chrysanthemum, rose or carnation even the most beautiful florists' creation would mean as much to them as even a paper poppy, for they have not forgotten the poppy strewn wheat fields of France where they fought nor have they forgotten that,—

"In Flanders fields the poppies blow
Between the Crosses, row on row
That mark our place; and in the sky
The larks still bravely singing fly
Scarce heard amid the guns below."

A Batch of Garden Troubles and the Remedies

A woman who lives in a summer resort community in a northern county derives much revenue from her garden but these things trouble her:

Mildew on green peas after the first picking altho the vines are full of pods. Will Bordeaux help applied in the flowering stage?

Prof. R. E. Vaughan handles the subject fully as follows:

"This disease on peas is not uncommon in the northern pea growing sections of the country. As a rule, it is not serious enough to require any preventive measures for its control. In cases where the mildew is severe, the vines should be sprayed with Bordeaux mixture. In making small quantities of Bordeaux mixture, I would suggest using four ounces of copper sulphate dissolved in about a pint of hot water. After dissolving, this should be diluted until it makes one and three-fourths gallons. The dissolving and solution should be made in a wood pail or stone crock, as the copper sulphate is injurious to tin or iron. Next, take four ounces of fresh stone lime, slake in hot water and dilute to one and three-fourths gallons. This solution should be strained through a cheese cloth, after which the two dilute solutions should be poured together and strained, making two and one-half gallons of what is known as Bordeaux mixture. This mixture should be applied to the pea vines with a spray pump which will deliver a fine spray.

In case you feel that it is too difficult to make up Bordeaux mixture, since you are using so small an amount, it may be better for you to buy some of the prepared Bordeaux mixture powders or pastes and dilute them according to the directions on the package. These preparations are usually not as efficient in sticking to the vines or in controlling the mildew as are the home prepared mixtures. Furthermore, they are more expensive, but where small quantities are to be used, the added convenience of the prepared article frequently offsets the other points."

(2) What do you think of the June and the Empire red raspberries?

(3) What kind of asparagus do you recommend to produce large stalks? I have Barr's Mammoth but only a few of the stalks are large.

Hermann Christensen says:

"I have not tried the varieties of raspberries mentioned nor have I heard of any one who has. They were introduced last spring, if I remember correctly, so there has not been much time to test their merit. With regard to the asparagus, it is probably either not well fertilized or else not properly cultivated. It may be affected with the asparagus rust which quickly reduces the size of the stalks. If new planting is made, plants of the Washington variety should be set. This is a rust resistant variety originated by Prof. Norton of the Agricultural Department of the U. S. It is very vigorous and has large stalks. This is about all I can say on the subject.

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Wisconsin Horticulture

Published Monthly by the Wisconsin State Horticultural Society
12 N. Carroll St.
Official organ of the Society.

FREDERIC CRANEFIELD, Editor.
Secretary W. S. H. S., Madison, Wis.

Entered at the postoffice at Madison, Wisconsin, as second class matter. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of Oct. 3, 1917, authorized July 15, 1918.
Advertising rates made known on application.

The Convention Program

The making of a program is not a simple task. It's a complex task. One problem is to draw the largest possible number of people to the convention and to provide something of interest for each. After the plan is outlined to your satisfaction you begin looking around for "building material" and that is where your troubles really begin. You want the best but you sometimes have trouble in getting it. This year we have been remarkably fortunate in that respect and altho there are a few blanks in the program as here presented, assur-

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PROGRAM ANNUAL CONVENTION, STATE CAPITOL, MADISON, JANUARY 11, 12, 13, 1921

Tuesday Forenoon—11 o'clock

(1) Greetings—Governor J. J. Blaine.
(2) Introduction of delegates from Minnesota, Illinois, Northern Illinois, Iowa, Indiana and Northern Illinois societies.

This short session is arranged wholly as a get together and get acquainted meet. We want everybody to know everybody else. Be on hand for this session, it is interesting.

Tuesday Afternoon—2:00 O'clock

Everybody's Garden

Papers limited to 15 minutes, 10 minutes preferred.

If Mr. Everybody should happen to be present at this session he surely cannot fail to be impressed with the fact that everybody is working for him. The report of this session should furnish material for a high class manual on gardening.

(1) The Back Yard Garden, practical and theoretical—Mrs. William C. Kroening.
(2) Seven Varieties of Tomatoes for Everybody's Garden and the Best One: Three Ways of Training Tomatoes and the Best Way: Other Useful Information About Tomatoes—Henry T. Sheldon.
(3) All About Peas and Beans for Everybody's Garden; Three Best of Each; Succession Crops—Wm. Longland.
(4) Fruit for Everybody's Garden—N. A. Rasmussen.
(5) A Winter Garden for Everybody—C. N. Brown.
(6) Flowers for Everybody's Garden—Mrs. C. E. Strong.
(7) Insects and Other Pests in Everybody's Garden—C. L. Fluke.

A Short Course in Apple Judging conducted by Prof. J. G. Moore: One to two thirty, daily. All who take part must register on Tuesday.

Wednesday Forenoon—9:30 O'clock

(1) Business Session 9:30 to 10:30: President's Address, Reports of Trial Orchard Committee, Delegates, Secretary, etc., and Election of Officers.

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(2) The Poplar Trial Orchard and My Impression of Fruit Growing in Douglas Co.—P. A. Peterson, sixteen years manager of Poplar Orchard.
(3) The Manitowoc Trial Orchard and Fruit Growing in Manitowoc Co., amateur and commercial—Otto Drews, Supt. Manitowoc Trial Orchard.

(4) Paper by H. H. Swain, Sec. Indiana Hort. Society.

None are excluded from the business session altho only members may vote. The papers which follow will interest every member.

Wednesday Afternoon—2:00 O'clock

This is the commercial orchard session but no amateur can afford to miss it. We all want to know how the man who is raising fruit for a living gets the goods; it's a good way for us also, none better. Largely home talent but that is because there is none better anywhere. We are negotiating with a man who knows more about dusting than any one else in the country. If we land him we will let you know.

(1) Off Year Apple Bearing—R. H. Roberts.
(2) Buds: A Demonstration—A. L. Schroeder.
(3) Marketing Wisconsin Apples—M. B. Goff.
(4) Spraying—Paul Grant.
(5) Hardy Fruits, M. E. Dorsey, Minnesota.

WOMAN'S AUXILIARY PROGRAM

Wednesday Afternoon—2:00 O'clock

Roll Call—Responses—Items of interest—If a recipe, bring copies for distribution.

Community Clubs—Mrs. N. A. Rasmussen, Oshkosh.

My First Year's Experience on a Berry Farm—Mrs. J. E. Leverich, Sparta.

The Gladiolus—Mrs. F. B. Sherman, Edgerton.

The Old and the New—Mrs. M. E. Brand, Madison.

Woman's Opportunity in Local Affairs—Mrs. C. E. Strong, West Allis, Wis.

Mrs. E. L. Roloff, Pres.
Mrs. W. A. Toole, Sec.

Thursday Forenoon—9:30 O'clock

(1) Some Roses Worth Growing and How to Grow Them—James Livingstone, Milwaukee.
(2) The Peony; royal yet humble and friendly. A flower for the palace or the cottage—A. M. Brand, Minnesota.
(3) The Gladiolus, no capricious queen but steadfast and loyal—Elmore T. Elver.
(4) Our Native Trees—Wm. Toole, Sr.
(5) Evergreens for the Home—D. Hill, Dundee, Ill.

This session deals exclusively with flowers and ornamental plants. Mr. Elver is a Madison amateur who knows about "Glads" and can tell what he knows in an entertaining way. We all know Mr. Toole and know that his talk on trees will be worth while not only as an entertaining topic but as a contribution of value for our bound volumes. Dundee, Ill., is the home of evergreens. That's something we all want to know about, evergreens, and who can tell us better than "Hill"?

THE CONVENTION PROGRAM

Continued from page 68

ance is given that these will all be acceptably filled. There will be no subtractions and it is quite certain there will be several additions. For instance we will have representatives from Illinois, northern Illinois and Indiana whenever the presidents of these societies get around to naming them. Further it is not at all unlikely that one or more very well known men from other states who have been invited may accept. On the whole the program as here given may be taken as about seventy-five per cent complete.

The same is true of the Women's Auxiliary program. Difficulty in getting replies to invitations has perplexed the officers of the Auxiliary also.

While no mention is made of the evening programs this does not mean that there will be none. Oh, no, no, Mike, by no means not so.

The comments which appear in connection with the program may or may not prove illuminating, at any rate they are there.

At the past three annual conventions we have had about one hundred people in attendance each year who were in no way connected with the society as officers, committee members, delegates or on the program. This is somewhat encouraging but we ought to have five hundred. The program costs lots of money, it's for you; will you take advantage of it?

The Convention Fruit Show

Enough fruit has already been entered to completely fill the

Thursday Afternoon—2:00 O'clock

Please don't get nervous about going home but stay to the end of this session, it is the best of the lot, that's why it is put last, to hold you.

For several years past the Secretary has maintained that farm orchards, as commonly kept, are a nuisance and really ought to be dug out or otherwise eliminated. Prof. Moore thinks otherwise; says we have them with us, at present a liability, why not make of them an asset. Says he has done it and will bring evidence, on legs, to prove it.

Arno Meyer is a college graduate but that should not be held against him. He has been raising the dickens, and apples, in old Sheboygan Co. orchards. You ought to hear him tell about it.

S. L. Brown does not like the title of "tree surgeon" or even "tree doctor" —he just fixes trees but they stay fixed. Refuses to talk more than ten minutes.

For the very last we have saved the very best, Dr. M. E. Dorsey at the head of the Minnesota Fruit Breeding Farm, where the Latham raspberry originated and from whence soon will come some monstrous plums.

Don't you think you ought to stay?

(1) What Shall the Farmers Do With Their Orchards: A Symposium on the Farm Orchard, led by Prof. J. G. Moore. Three speakers, possibly four, whose names will be announced later will follow Prof. Moore.

(2) Young Men in Old Orchards—Arno Meyer.

(3) Wounded Trees and How to Treat Them—S. L. Brown.

(4) Paper by Mr. A. W. Brayton, Illinois.

(5) Making the Hubbard Squash Behave—Prof. M. E. Dorsey, Minnesota.

PREMIUM LIST

The following cash premiums are offered for exhibits at the annual convention, Madison, January 11th, 12th and 13th, 1921:

	1st	2nd	3d	4th	5th
(1) Best 25 plates, 5 plates each, 5 commercial varieties for Wisconsin	$12.50	$7.50	$5.00	$2.50	
(2) Best collection of apples, one plate each not to exceed 10 varieties	10.00	6.00	4.00	2.00	
(3) Best plate of each of the following varieties: Ben Davis, Fameuse, Gano, Golden Russett, Grimes Golden, Jonathan, King, Malinda, McIntosh, McMahan, Newell, Northern Spy, Northwestern Greening, Patten, Pewaukee, Plumb Cider, Salome, Seek-no-further, Scott Winter, Tolman, Twenty Ounce, Utter, Wagener, Wealthy, Windsor, Wolf River, York Imperial.	1.00	.75	.50	.25	

rotunda but some of it will have to go in the adjoining corridors for enough always comes in at the last minute to make a good display. It amounts to this: the best apples ever grown in Wisconsin will be shown and more of them than ever before shown at a convention. However let no one fail to bring or send fruit for fear there will be no room, the Capitol is quite a big building. If you will please send in your list of entries early the entry cards will be all ready for you when you arrive which will save time for you and others.

All fruit must be in place by two o'clock Tuesday. Please be on hand Tuesday morning and get to work. If you stand around half the forenoon talking to the other fellow about the fish that got away or the apples you didn't bring you may be ruled out. I hate to talk to you this way William but its for your own good.

EXTRA!

In addition to the regular program a sort of extension course in horticulture will be put on in the rotunda and connecting halls.

Prof. Fracker will have an excellent exhibit of injurious insects, specimens of affected plants, etc. and an attendant who will explain.

A nursery company will furnish samples of good nursery stock, both trees and small fruit, and another nursery will demonstrate root grafting.

Sick and ailing house plants will be shown with someone present to tell how to make them well. Also how to propagate house plants including the rubber tree.

Displays of insecticides and

(4) Best tray of any of above named varieties **except** Golden Russett, Malinda, Newell, Northern Spy, Patten, Plumb Cider, Tweny Ounce, Utter--	3.75	2.50	1.25	1.00	
(5) Best 5 trays of any of the foling: ---------- McIntosh, Northwestern, Wealthy, Tolman, Wolf River, Fameuse, Gano, Salome, McMahan, Seek-no-further, Windsor.	12.50	7.50	5.00	3.50	$2.00
(6) Best 10 trays of any variety in 5 tray class ---------- Separate samples must be furnished for each entry.	25.00	15.00	10.00	6.00	4.00

(7) Any other standard variety, properly labeled with variety name. Ten prizes of $2.00 each will be awarded under this prize number. Any exhibitor may enter a maximum of five plates under this prize number, but each must be of a different variety.

Trays shall be packed "diagonal pack."

The following score card will be used in judging apples:

Trueness to type	10 points
Size	15 "
Color	20 "
Uniformity	25 "
Freedom from blemish	30 "
Total	100 points

Apples to be exhibited in trays 18 x 11½ inches and 3 inches deep. Trays will be furnished.

Vegetables

Best collection, not less than 10 entries, 1st, $5.00; 2nd, $3.00; 3d, $2.00

	1st	2nd	3d
6 Blood Turnip Beets	$1.00	$0.75	$0.50
3 White Turnips	1.00	.75	.50
3 Yellow Turnips	1.00	.75	.50
3 Rutabagas	1.00	.75	.50
6 Chantenay Carrots	1.00	.75	.50
6 Short-Horn Carrots	1.00	.75	.50
3 Winter Cabbage	1.00	.75	.50
3 Red Cabbage	1.00	.75	.50
6 Chicory	1.00	.75	.50
6 Ears Pop Corn	1.00	.75	.50

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fungicides, baskets, etc., by dealers.

Quite likely there will be other things to attract or perchance, distract your attention.

Apples, Grapes and Plums For La Crosse County

1. Do you recommend the following apples for planting in this county (La Crosse): Delicious, Golden Delicious, Champion, King David, Stayman Winesap, Black Ben, Grimes Golden, Jonathan, Senator?

2. What five varieties of apples would you recommend for commercial orchard planting in this county?

3. Which plums and cherries and grapes would you recommend? L. C. G.

Ans. We cannot recommend either Delicious nor Golden Delicious for commercial planting until further trial, either in La Crosse county or elsewhere. Of the others named no experienced Wisconsin apple grower would plant Stayman, Black Ben, Grimes Golden or Jonathan for permanent orchard. None will live long enough to be profitable. King David is worthless for Wisconsin and Senator is doubtful.

(3) For dollars and for long-life plant Duchess, Wealthy, McIntosh, Dudley, Northwestern, Fameuse. Drop either Duchess or Dudley according to your market demands but stick to the others.

(3) Cherries and grapes for La Crosse county are best confined to the home garden. For plums any of the natives such as De Soto, Hawkeye, Forest Garden, etc., with a few of the Hansen hybrids.

THE INSECT PAGE

Conducted by the Department of Economic Entomology College of Agriculture

Our Lady Beetle Friends

The following is representative of a large number of letters received each fall, and especially this year:

"Gentlemen:

"I am sending, under separate cover, several bugs, and would like to know what kind they are. They are found on screens and clustered in cracks around the doors.

"Are they in any way connected with the buffalo bug or carpet beetle? In the house they are often found on the windows."

"Yours truly."

The above inquirer certainly did better than the man who found "that his roses were suffering from insect attack; he saw little, convex, black-spotted, reddish beetles clambering busily up and down the stems, and he set to work to pick them off one by one and drop into a tin cup with petroleum in the bottom. When he had a full pint, he showed them proudly. But the more little round beetles he picked off, the more rapidly wilted his roses, and for the wholly sufficient reason that he was collecting and killing 'lady birds' that were making a fight against the hosts of tiny inconspicuous green rose-aphids that were sucking the sap out of the rose-stems and buds."

Many persons are more or less familiar with lady beetles but the majority are not acquainted with their life, habits, and histories, and do not, therefore, recognize them as friends.

The common adult lady beetles are all quite easily recognized by their convex elongated hemispherical shape and their distinctive colors, usually red with black spots. The one most seen around the windows in the fall and frequently mistaken for the carpet beetle is red with two black spots on the back, for that reason called the two spotted lady-bird.

A LEAF SEVERELY INFESTED WITH PLANT LICE.

Two lady-bird larvae are feeding upon the aphids and toward the tip of the leaf is one which has alreay changed to a pupa.

Both adults and young are beneficial as they feed upon the aphids or lice so commnn on most plants.

The larvae are alligator-shaped and may be as long as three-quarters of an inch. The body is often covered with warts or spines. They are very active and are often seen running around on foliage infested with plant lice. When they become full grown they fasten themselves by their "tails" to leaves or stems; contract and change to the pupal or resting stage. Later the adult beetles appear.

For these reasons protect the lady bird beetles as they are among the farmers best friends.

Charles L. Fluke.

Important Insects of the House-Hold

1. Cockroaches

There are three species of roaches found more or less commonly in houses, stores and factories. The small brown roach, Croton bug, or water bug however, is by far the most important of the three. This disagreeable insect is fond of warm damp locations and breeds quite rapidly. It nearly always remains hidden during the day time, coming out in force at night to devour any food or refuse which is available. On account of its agility, its freedom from enemies, and its habit of keeping well hidden except at night this small household pest has been able to maintain itself against constant, although often ineffective warfare on the part of the housewife.

As far as known roaches do not carry disease germs and they do not breed in food as do many insects but they polute much food, cause a "roachy" smell about the kitchen, and may bespeak an untidy home.

Many are the so called reme-

dies used against roaches in the past but recently there has been found a material—**sodium fluoride**—which will, if properly applied, soon rid the average home of this insect. Even heavily infested restaurants and kitchens have been practically freed from the roach by the persistent use of sodium fluoride. This material should be mixed half and half with flour and spread in a band on tables, shelves, sinks and along edges of the floor where it will not interfere with work and still be in the path of roaches when they emerge at night. Every two or three days it may be swept up and new bands laid. This material is very slightly poisonous to human beings and may be used undiluted if only a few roaches are present. It is nearly as effective and much cheaper however diluted with flour. It may be secured at drug stores.

The way in which roaches are killed by this method is interesting: In walking through the powder to get to their food some of it clings to their feet, then when the feet are cleaned by being drawn through the owner's mouth (a daily practice) some of the poison is accidentally taken into the insect's stomach and death results. G. D. H.

Cosmos Bulbs?

The following item in the November number prompted a friend to inquire, "Where can I get some Cosmos bulbs? It's quite a bother to plant seeds every year. "Gladioli, dahlias, **cosmos** and other tender bulbs should be lifted before the ground freezes and stored in the house basement where they will not freeze." He was enjoying a little joke at the Editor's expense because "cosmos" slipped by instead of,—well come to think about it, what else? The original copy is lost and we will ask Mr. Joker or anybody else to supply the name of a third tender bulb, summer flowering, that should be dug in the fall and stored.

A BATCH OF GARDEN TROUBLES AND THE REMEDIES

Continued from page 67

(4) Why is it the Golden Bantam corn grows so tall and has such large ears when formerly it was short and had small kernels and ears?

Mr. Rasmussen replies: "There are at least two distinct strains of Bantam corn, the large and the small, the latter being of far better quality. If Mrs. —— bought her seed she evidently got the large kind; if she has grown her own then other corn was too near.

Do not prune roses or ornamental shrubs until spring or late winter. Extra wood helps to protect the plant over winter.

Calla lilies can be grown in the house and take the place of the Easter lily in late winter and early spring. Try some of them.

Snapdragon make good cut flower plants for the garden if they are planted early. They may be lifted and grown for a time in the home early in winter.

Plant some of the Darwin tulips in your garden this year. Clora Butt, Farncomb Sanders, Gretchen and Europe are good sorts.

Thoroly sprayed apples and plums are clean and more easily sold this fall. They will keep better this winter.

PREMIUM LIST

Continued from page 71

6 Red Onions	1.00	.75	.50
6 Yellow Danvers Onions	1.00	.75	.50
6 White Onions	1.00	.75	.50
6 Onions, Large Type	1.00	.75	.50
6 Winter Radishes	1.00	.75	.50
6 Parsnips	1.00	.75	.50
6 Peppers	1.00	.75	.50
Hubbard Squash	1.00	.75	.50
3 Heads Celery	1.00	.75	.50
3 Chinese Cabbage	1.00	.75	.50
6 Salsify	1.00	.75	.50
Sweepstakes awarded pro rata			$10.00

Rules of Entry for All Exhibits

1. Exhibits must be arranged ready for judges by 1:00 P. M. Tuesday, January 11th. This will be strictly enforced.

2. Five apples constitute a plate, no more, no less.

3. Competition open to all residents of Wisconsin, but premiums paid only to members. Successful exhibitors, if not members, must forward fee for membership before receiving check for premium; fee for annual membership, One Dollar.

Members or others unable to attend the meeting may send fruit to the secretary, who will make entries and place fruit on exhibition. Transportation charges must be prepaid.

All final entries must be made on regular entry blanks which will be furnished by the secretary on application but exhibitors are urged to send lists in advance even if not all entries are filled at convention.

F. Cranefield, Secretary W. S. H. S., Madison, Wisconsin.

AMONG WISCONSIN BEEKEEPERS

Devoted to The Interests of The Wisconsin State Beekeepers' Association
H. F. Wilson, Editor

Honey—The Health Food

One of the healthiest sweets known to the world—used in hospitals and recommended by physicians in special cases because of its being predigested by the bees.

Use honey every day during the winter and avoid colds and coughs.

We hope to see the greatest HONEY AND BEE exhibit ever shown in America at Wisconsin's next State Fair. $2,200.00 in prizes will be offered. Begin your preparations now for the exhibits. Clover Honey is recognized as having a flavor and quality inferior to few honies produced in marketable quantities, and Wisconsin is the center of one of the clover honey regions in America. We should all be proud of this fact and prepare our honey exhibits in a manner that will make our product worthy of its high quality.

Mr. Kull, Secretary of the Wisconsin Manufacturers association recently stated before a meeting of the Woman's League in Madison that the Bee Industry is tenth in importance among the agricultural industries of Wisconsin and that it now holds the place formerly held by the Brewing industry. IT CAN BE MADE TWENTY TIMES GREATER. HOW LONG BEFORE THIS INFANT WILL BECOME FULL GROWN?

Monthly News Reports From Local Associations

Monthly report blanks will not be sent out by this department until next March but we will endeavor to have each local secretary send in a special article concerning the bee industry in their respective districts. Items of interest to the bee industry are desirable at all times and we will be glad to print items sent in by our beekeepers.

Notice: Several requests have come to this office for bees. If any member of the association knows of any for sale, please notify the Secretary.

Beekeepers' Short Course

University of Wisconsin

Feb. 7 to March 17, 1921.

The Second Beekeepers Short Course for practical beekeepers will be given at the University of Wisconsin in February and March, 1921.

Package Bees for Beginners

There will always be a few Apiaries for sale, but never enough to supply the demand for full colonies of bees unless the price and demand for honey drops considerably. Package bees will continue for a long time to be one of the ready sources for securing more bees in the spring.

It is barely possible that beginners in beekeeping should not attempt to start with package bees, but if one does wish to start and has no other way of obtaining bees, what shall they do? We might say, neucleii are better, but there is always the danger of disease and a careful beginner who prepares himself by reading up on the care of package bees will be reasonably sure of success. In the case of the old time beekeeper who wishes to strengthen his colonies in the spring or who wishes to increase the number of his colonies by that method, if he has not had experience with package bees, we would suggest that he also carefully read some of the articles which have appeared during the last few years in the bee journals. Package bees cannot be thrown into a hive and allowed to drift for themselves, but they must be given even more attention than established colonies.

When Package Bees Should Be Shipped

We have found that during a normal season, package bees should not be brought into Wisconsin earlier than May 1, unless special preparations are made to give the bees outside protection up to the middle of May. Weather conditions during April are always variable and cold weather with temperatures, ranging below that at which bees can fly freely, are sure to occur during the latter part of that month. Even where combs of honey with pollen are available, the bees will have difficulty in building up, unless protected by outside covering or packing. Package bees received after the 15th of May are not likely to be able to build up strong enough to get much surplus from the clover flow unless it is late in starting, but they may be divided for increase and additional strong colonies secured by fall.

Some Figures on Wisconsin Beekeeping

It pays whenever possible to study available statistics to see where we are and what we are doing, as compared with others, so that we may correct any obvious mistakes. In the statistics presented by Dr. S. A. Jones in Bulletin 685 of the Department of Agriculture there are some data furnished by Wisconsin beekeepers which may profitably be studied.

The surplus honey of the state is of high quality, for the beekeeeprs report that 80 per cent is white, 14 per cent light amber, 4 per cent amber and only 2 per cent dark. The per cent of white honey in the surplus crop is reported as greater only in four states, Michigan with 85 percent, Utah with 84 per cent, Nevada with 91 per cent and Wyoming with 100 per cent.

The reporting beekeepers give the following data regarding the average yield per colony in Wisconsin:

1913	60 pounds
1914	40 pounds
1915	63 pounds
1916	69 pounds
1917	56 pounds
1913–17	58 pounds

This five-year average is equalled or exceeded in the reports from the following states: Florida 66 pounds, North Dakota (few reports) 69 pounds, Montana 64 pounds, Wyoming 69 pounds, Arizona 64 pounds, Utah 66 pounds, Nevada 62 pounds, Idaho 61 pounds, and California 60 pounds. With the exception of Florida, all of these states are farther to the west, thus farther from the largest consuming public.

Wisconsin beekeepers report that they sold the following percentages of their honey at nearby points, not in wholesale markets:

1915	58%
1916	68%
1917	68%

Of the states which exceeded Wisconsin in average yields in the years given, only North Dakota and Montana reported as large a percentage

of sales in home markets, but as some of these states with large yields have commercial beekeeping better developed, this will help to explain the larger amount sold in wholesale markets. Of these states reporting larger colony yields, none reported higher prices for wholesale honey in 1917 than did the Wisconsin beekeepers.

Wisconsin beekeepers reported their surplus crops as from the following high-grade sources:

(1)	White clover	44.3%
(2)	Clover and basswood	25.0%
(3)	Alsike clover	4.9%
(4)	Sweet clover	2.4%
(5)	Mixed clovers	2.0%
(6)	Fruit bloom	0.2%
(7)	Basswood	9.0%
(8)	Raspberry	1.4%
(9)	Buckwheat	2.1%
(10)	Aster	0.3%
(11)	Goldenrod	0.7%
(12)	Spanish needle	0.2%
(13)	Other sources	1.9%
(14)	Other blends	5.6%

The loss from disease is given as 1.5 per cent in 1915, 6.0 per cent in 1916 (a year of large crops) and 2.5 per cent in 1917, the average for the whole country for the three years being 2.4 per cent. In 1916, when there was such a fine clover yield throughout most of the clover region, only one other state reported so high a loss from disease.

According to the figures presented it is seven months in the average year between the fall honey-flow and the first of the following spring. The average confinement in winter without flight is 3 months and 6 days. This indicates a difficult winter problem and all Wisconsin beekeepers will agree that this is perhaps the hardest problem that they encounter. The winter losses reported are as follows:

1914–15	5.4%
1915–16	14.4%
1916–17	10.0%
1917–18	13.0%

The average winter losses for the whole United States for these years was 12%, so the beekeepers of the state seem to be doing as well as their fellows elsewhere. It must be taken into consideration that in reporting winter losses, the beekeepers report those colonies that have died outright and do not show the depletion of the strength of the colonies that still live. It is, of course, recognized that every year many colonies are not able to gather the full crop because of spring weakness.

It is the opinion of the reporting beekeepers that on the average for the state, they need to leave 31 pounds of honey with the bees for the winter and following spring to bridge the long gap. Seventy-four per cent of the bees are wintered in cellars, 16 per cent are packed, 5 per cent are protected in some way not indicated by the reports and 2 per cent are wrapped in paper, making a total of 97 per cent of the bees of the state that are given some protection.

To what did Wisconsin beekeepers attribute their winter losses? This is given as follows: Failing queens, 3.0 per cent; starvation, 5.0 per cent; cold, exposure and smothering, 1.0 per cent; moths and ants, negligible; effects of disease, 0.2 per cent; poor honey and dysentery, 1.0 per cent; late swarms, 0.4 per cent; lack of young bees, 0.5 per cent; miscellaneous and unknown, 0.9 per cent.

If beekeepers in Wisconsin leave an average of only 31 pounds of honey to the colony for winter and spring, as they confess, it is rather surprising that the loss from starvation is not more than 5 per cent annually. If the beekeepers were sure that Nature would provide more honey every year at the right time in the spring, then perhaps 31 pounds would be enough, but it is seriously to be doubted whether they can be certain of this help. Wisconsin bees are fortunate in having such fine stores for winter as is indicated by the sources previously given and also from the low death rate from dysentery.

Having examined briefly and insufficiently the fact given by the beekeepers, there is another source of information that should be consulted. The Census figures state that the following amounts of honey have been produced in the state in the years named:

1859	207,294	pounds
1869	299,341	pounds
1879	813,806	pounds
1889	3,515,761	pounds
1899	2,677,100	pounds
1909	2,153,819	pounds

It is of course evident that there will be a variation in the yield per colony in the several years of the Census that would account for some of this variation. However, if we look at the data from all the middle-western states we find the same decrease since 1889. The decline from the peak in 1889 was constant in all these states and not so variable as we would expect from a variation in nectar secretion. The Census figures include bees on farms but not those in towns and cities.

The year 1889 may be taken as about the peak of the enthusiasm for comb-honey production with small hives, trying to squeeze every possible drop of honey out of the brood-nest into the supers, and after this beekeeping declined in many places. From the teachings of that period comes the fact that Wisconsin beekeepers aim to leave only 31 pounds of honey on the hives in the fall, instead of at least 50 per cent more than that which would be nearer correct, but still sometimes not enough. The winter loss of 10 per cent of all colonies and the weakening of the ones which still live at the end of winter is an outgrowth of the type of beekeeping of the earlier period.

It is hard to shake off the things of the past, and we would not want to forget the many good things that came from the men who have preceded us in beekeeping. However, when we see the decrease in beekeeping that has come while certain practices were in vogue and when we learn that the beekeepers of the present day are still suffering great losses, these things ought to pull us up sharply to a realization that few of us have been doing for the bees all that we should.

More winter protection, more stores for winter and especially for spring and the enlargement of the hives so that a full colony of bees may get inside are some of the things that we all need to recognize as essential. The honey-flora of Wisconsin is certainly as good as it was in 1889, except that much of the basswood is gone. In all probability the planting of alsike clover has made the state as a whole a better place for beekeeping year after year than ever before. The honeys are of the highest quality, the yields are fine, the markets are as good as anywhere with such fine yields, and taken altogether the industry should have been growing since 1889 instead of declining. Bee diseases are partly to blame, but beyond doubt the greater menace to beekeeping is the beekeeper who fails to care for his bees as is necessary to get the full crop.

Dr. E. F. Phillips.

Beekeepers Must Cooperate

Co-operation is the keynote of this decade. Man's suspicious distrust of his neighbor is its only enemy. Forty years ago co-operation was a utopian dream testified to by the graves of granges and co-op stores. Twenty years ago the idea resulted in the formation of the trusts which even yet dominate certain lines of business. Certain firms could and did trust each other, and no one else. These firms became immensely wealthy, proving that co-operation is a money maker. At the beginning of the world's war we were horrified

at the thought of the enormity of the job before us. To raise the greatest army of the world, to finance the nation, and feed the world, but how? The business heads of the government adopted the plan originated and used by a number of the successful co-operative marketing associations and didn't we succeed? W. J. Bryan's prediction that we could raise an army of a million men over night was almost a reality.

Are the co-operative marketing associations going to pieces because the war is over, and the Wilson version of the League of Nations failed? They are not, for today the old ones are stronger than ever before and new ones are appearing daily. The rice growers, the cotton men and many others have lately joined the ranks. The wholesaler welcomes such bodies, as he is assured of a supply of standard products, delivered at a fixed rate.

Has the time come to co-operate? It has. It is co-operation or failure. To co-operate means that you will have to produce articles of the best possible character, take care of them with greater care, pack them by rules and ship to market by a stated time. In return you have an assured market. You get, not the top of the market, which you can hope for but once in a life time, but an average price which is higher than you could get in any other way.

Have beekeepers been successful in these associations? One of the oldest and most successful marketing associations in the United States is composed of beekeepers. Many states have honey producers' associations which are in active operation and on a firm financial basis.

Are the beekeepers of Wisconsin rady to support State and National associations? Are they willing to let the dairy and potato men of Wisconsin set a pace that the beemen can't follow? The beemen of every state ask your aid. Wisconsin has never failed.

E. G. LeStourgeon.

What the A. H. P. L. Can Do For the Beekeeper

The price of sugar is going downward and that of honey will surely follow. In the general demoralization of the food market the bee men must watch well or the price of honey will drop far below its relative place with sugar and corn syrup. The manufacturers of corn syrup have already started on their campaigns to increase sales. They have an article which is uniform in color, weight, and sweetness. It is packed in an attractively labeled can and is so advertised that its name is a household word. They have so distributed their stock that this syrup can be procured at almost any town in the United States. This is but one of a number of syrup firms and all are alive to the situation.

Can honey compete with such an article? We will have to admit that honey is very irregular in quality and oft times is very poorly packed in a crude and unattractive manner. Worse than this the irregularity of supply is such that today the market is flooded and next month you couldn't buy, beg or steal honey. Do you blame the housewife who buys a can of honey this month at a very reaonable price and when she repeats the order next month, is told that the price is doubled, for not buying. Do you blame her for buying an article, though inferior, which she can depend upon for quality, supply, and price?

The individual honey producer is powerless in this situation. He can only trust to local market and luck. The Honey Producers' associations and the American Honey Producers' league propose to be on the ground and with their help the individual can meet the sugar and corn syrup firms with their own methods. The League's system of marketing will standardize the quality and package of honey. Its advertising will make known the value of Nature's chosen sweet to the buying public, and its distribution system will render it possible to procure honey throughout the year at a price in ratio with that of sugar.

E. G. LeStourgeon.

Spread and Control of American Foulbrood

After one has passed through a siege of American Foulbrood, it is not hard to understand why beekeepers have had so much difficulty in the past.

Lack of knowledge concerning the true nature of the disease and the ways in which it can be spread has greatly hindered its eradication.

Aside from buying diseased bees and bringing them into a disease free territory, the buying of used hives and old combs is one of the most dangerous things a beekeeper can do. As a rule beekeepers who have old hives, combs, etc. to sell without bees, have lost their bees through disease. Old combs from such sources are almost sure to carry disease especially if there is honey in them.

Old combs from a region in which foulbrood is known to occur should never be given to disease free bees.

Second hand hives and equipment should never be used without first scraping and washing in hot lye water.

Spread of disease locally is caused by exposing infected honey to robber bees or through interchanging infected combs from diseased to healthy colonies. When the disease once appears in a yard, immediate measures should be taken to stamp it out. No risk, however small, should be taken in exposing a diseased colony to robbing and diseased colonies should not be opened at all during brood rearing when bees are not able to gather nectar in the field. A single drop of honey taken from a diseased colony may be sufficient to carry the disease to a healthy colony.

After the honey flow, manipulation of diseased colonies should be left until late October when brood rearing has ceased. The danger is not so great then because the infected honey will nearly always be put in the center of the brood nest and will be consumed before the next brood rearing period begins.

Why Extracting Frames From Diseased Colonies Should Not Be Saved

Many beekeepers have attempted to save dry brood-free extracting combs with the belief or hope that unless brood had been reared in them they were free from disease. Brood-free extracting frames that are absolutely dry and free of small drops of dried honey do not in our experience carry the disease. Careful observations show that so-called dry combs are seldom entirely free from honey unless the colony from which they are taken has been brought near to the point of starvation.* If there is a fair amount of stores present in the brood chamber, bees clean up the extracting combs and usually but not always put the honey in a few cells. In many cases a very small amount may be left in a cell and over a long period of time perhaps five or six months or from one season to another, these tiny drops dry out and form a very small scale which does not show in glancing over the combs. These small scales of dried honey may contain spores of the disease and when honey is again stored in these cells, the scales are softened

*Just how the honey in the extracting supers becomes infected is not clearly understood, but experience shows that it does. It is a well established fact that during a heavy honey flow the bees deposit nectar in the brood combs and later carry it to the supers, perhaps this is the explanation.

and the spores liberated. When the honey from these cells is fed to the bees a new infection is started which soon spreads to other parts of the brood nest.

In an experiment carried on in 1919, eight sets of "brood free" dry extracting combs taken from colonies diseased with American foulbrood were given to eight two-pound packages of bees. Sugar syrup was fed to these so that they had abundance of stores up to the time of the honey flow.

In six of these, disease did not appear at all during the season. In two others the disease appeared with the first set of brood and continued to increase until the colonies were treated in July. While only two of the colonies became diseased, the per cent of disease carried was 25 per cent. Such a high per cent makes the use of dry extracting combs very dangerous.

Five sets of frames with foundation which had not been worked on but slightly or not at all were also taken from diseased colonies of the year before and given to package bees. Sugar syrup was fed to these colonies until the honey flow began. No disease appeared in any of these colonies.

Does Scorching the Hive Parts and Frames Insure Complete Disinfection?

Bees do not leave honey scattered about on the walls of the hive or on frames and will immediately gather up the smallest drop that may fall from a cell. Therefore, there is no more danger of the disease being carried on clean hive parts than on the body of the bee. If the disease is spread at all outside infected honey or combs, it would seem that the bacteria would adhere to the body of the bee and continue as a source of infection indefinitely for we know that the spores of the bacteria may live over for several years. On the other hand, in every case where the diseased brood and infected honey is removed the disease is eliminated, and we must conclude that the bacteria are not carried over on the body of the bee. The same is true of hive bodies and frames, if they are absolutely free of honey, the bacteria are not carried over on them.

I have in a large number of tests taken the hive body, bottom board and cover from a diseased colony in the place of a clean hive, used clean frames with full sheets of foundation, and brushed the bees onto them. The percentage of successful treatment was as large in every case as with scorched hive parts. The danger of using old hive bodies lies in carrying them over until the next season and not thoroughly cleaning them of drops of infected honey which may have gotten on to them after removal from the bees.

If all hive parts and frames are thoroughly scraped and washed with hot lye water so that all particles of liquid or crystalized honey are removed, there is no danger of reinfection from this source.

Where a number of colonies are to be treated, hive bodies free of burr combs may be taken from treated colonies and used to shake other diseased colonies into if done at once.

Never use a hive body from a diseased colony on another colony having drawn combs without scraping and cleaning, and clean not only the inside of the hive but the outside and edges as well. Take special care to clean up all honey from behind the rabbets.

Scorching out the hive body is no safer than scraping and washing unless every inch of surface both inside and out is treated. Many beekeepers carefully scorch out the inside of hive, but overlook honey behind the rabbets or smeared on the outside of the hive.

Frames Should Be Saved

It is not economy to destroy the frames from diseased colonies except where one or two colonies out of a large number are affected and the beekeeper undertakes to stamp out the disease by destroying, hive bees, and all. It is also unnecessary to scorch the frames, but they must be scraped and cleaned of wax and honey. To insure the removal of particles of crystalized honey, place them in boiling water for five minutes and dip in a second tank of boiling water.

If the frames are loose, a few extra nails will make them rigid.

Treatment of American Foulbrood

Shaking bees from combs infected with foulbrood is a bad practice and is always likely to scatter diseased honey where bees from healthy colonies may gather it. It is possible to brush bees from combs without spilling a drop of honey and requires little more time than shaking. When bees are shaken out of a hive, there is always some danger that stray bees carrying a load of honey may go into a neighboring hive.

Bees are attracted to loose honey wherever they find it even during a honey flow and a few robber bees are always to be found in the yard during a heavy flow.

When the treatment is finished, burn the brush. A brush which has been used in the treatment of diseased colonies should not be used with healthy colonies. A whisk broom or a bunch of stiff grass tied so that pieces of grass will not break off are better to use than a brush made so that the bristles dip into the cells. If a whisk broom is used get a soft one and cut out about one-half the brush part.

When and How to Treat

Do not treat bees by brushing or shaking unless there is sufficient honey coming in to keep bees from robbing. Diseased bees may be treated in the late fall after brood rearing has ceased by transferring to "disease-free" combs of honey.

Bees may be successfully treated during any period of a honey flow but the most desirable time is shortly after the beginning of the main honey flow. This period for Wisconsin is June 15 to June 20. Diseased colonies found after the honey flow is over should be treated in late October after all brood rearing has ceased by transferring to combs of "disease free" honey. If the operator is careful in transferring the bees at that time, very little honey will be secured by robbers and this will quite likely be put where the bees will use it during the winter.

Plan your work and have your hive bodies ready so that every diseased colony in the yard can be treated on the same or the following day. Melt up the combs and clear the hives at once.

The immediate removal of diseased combs and honey is the greatest insurance against reinfection that can be secured. Don't store the hives over until next spring and if at all possible do not bring a diseased hive or comb into the extracting house or store room reserved for disease free hives and supers.

If a colony is found diseased do not open up the colony when no honey is coming in from the field. One of the most fruitful sources of infection is the exposure of combs containing infected honey or exposing diseased colonies to robbers. Colonies of bees vary greatly in their propensity to rob and some colonies are continually on the hunt for stores while others remain peacefuly at home. Possibly the amount of stores has some effect but I have been unable to observe any difference between colonies having abundant stores and those with small amounts. Diseased colonies that are weak at the end of the honey flow should be destroyed at once. Do not wait until tomorrow but close up the hive as soon as the disease is found, carry

it into the cellar and destroy bees and combs at once. Also see that after the bees are in the cellar none escape, for bees loaded with honey fly back to the old stand and when they do not find the old home, they will go to the nearest hive and will be allowed to enter. .....

The Double-Shake Treatment

A method recommended by some beekeepers is known as the "double shake method." In using this method the bees are first shaken onto frames with starters. After about four days these are removed and the bees shaken a second time onto full sheets of foundation. This practically insures eradication of the disease if no outside source of infection exists.

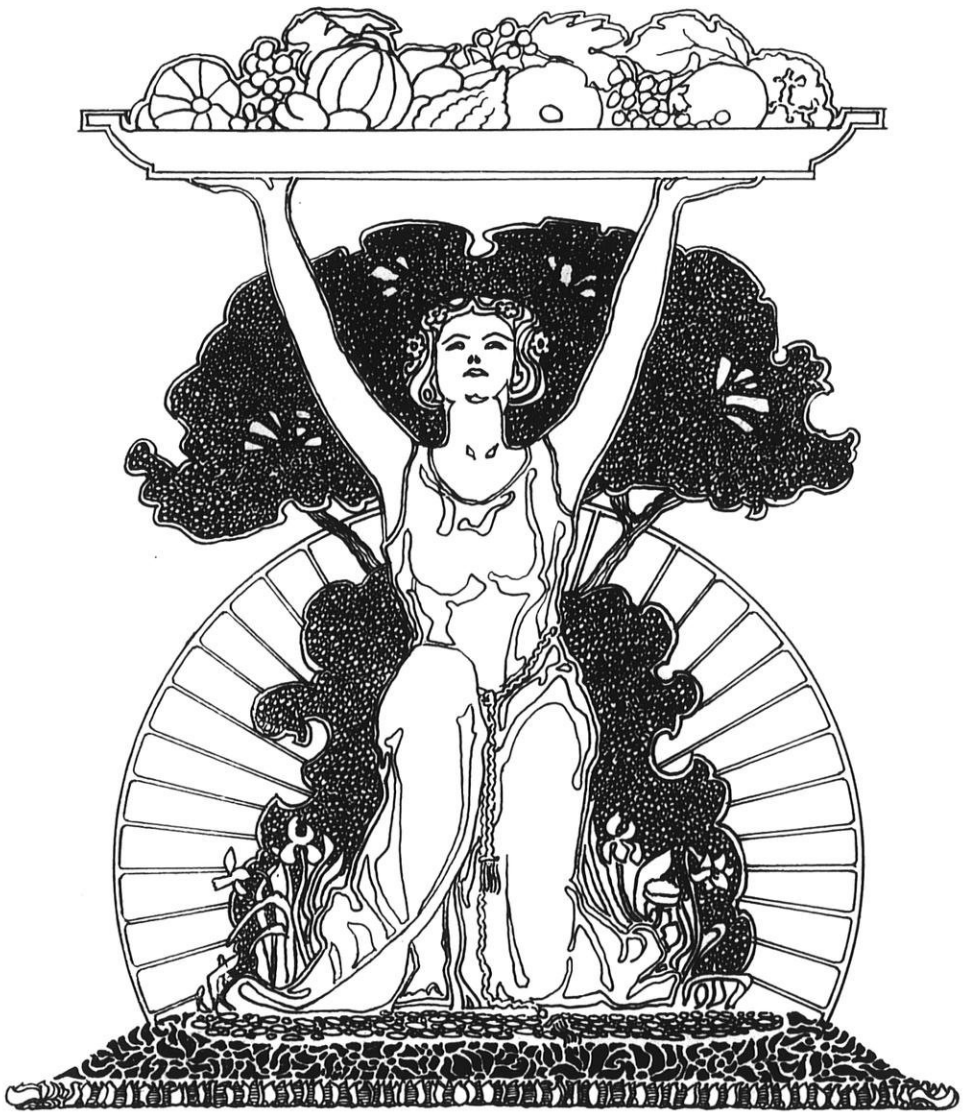
Drawn Combs Used With Foundation

Among Wisconsin beekeepers there is a practice which is more or less doubtful as to its success. When the bees are run onto full sheets of foundation, one frame at the side of the hive is left out and an old drawn comb is put in its place. The idea is that the bees store the honey that they have brought with them in this comb and that by removing it the next or following day the infected honey will all be removed. The very fact that the bees store honey in this comb makes the practice dangerous. No matter how careful a beekeeper may be, he cannot open the hive and remove the comb without inciting a number of bees to gorge themselves with honey from this comb. Thus the period for using up the disease infected honey carried by the bees at the time of shaking has been reduced twenty-four to forty-eight hours. By that time cells may be sufficiently built out on the foundation for immediate storage of the honey.

Spray or wash the foliage of house plants prequently. It will help to keep the plants in better health.

Farmers' bulletins 1039 on commercial comb honey production is worth sending for—write to the Division of Publications, Washington, D. C.

WISCONSIN HORTICULTURE



Volume XI Madison, Wisconsin, January, 1921 Number 5

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Soldier Memorials

Shall we plant trees as memorials to our soldier dead? Much has been written on this theme of late but mostly by sentimentalists and others who know little or nothing about trees.

Memorials are established, not for ourselves, not for this generation but for those who will follow us. We who are now living know and can well recall, also too well, the lives and deeds of those who died that we might the better live. We want to leave to future generations something that will serve not only to perpetuate the brave deeds of our soldier boys, but to teach the youth of this and other generations a greater love of country and a reverence for our flag, the symbol of Freedom.

Will a tree do this? Would not imperishable bronze or granite better serve the purpose if fashioned after the art of the sculptor?

Or a building constructed to endure for centuries into which could be brought records, rolls of honor and all else that show how men die for an ideal?

To plant a tree for each of our soldier dead is an appealing plan, for could we not, twenty-five or fifty years from now, rest under its branches, say this is his tree: All this and more appeals to every one and it is indeed a beautiful thought. But how about those who follow us, one hundred years from now, for are we not planning a memorial?

Of all the trees, in Wisconsin, and this is meant for Wisconsin readers only, there are few or none that can be expected to survive one hundred years, for trees like people grow from youth to old age and die. Trees reach a stage of maturity beyond which they persist for a greater or lesser time, then fall prey to their enemies.

Botanists, and perhaps horticulturists, will say that there is no limit to the life of a tree, that it may, theoretically, grow forever. While this may be true yet experience and common sense prove that trees either in the forest or in artificial planting are, comparatively speaking, evanescent. We plant today in a park, which lies on the outskirts of our home city, an avenue of elms or maples; the site is away from smoke and far beyond the deadly gas mains, an ideal spot for trees. Within a quarter of a century, just when these trees are coming to their fullest beauty the city, like some great Python, has encircled our park and is crushing the life out of it. Perhaps the tree we planted for our boy was the first to die. The true lover of trees knows too well its enemies and knows that only by eternal vigilance can the tree he loves be saved from its enemies. Even tho he drives away the insects and heals the wounds left by disease may not the winds of heaven lay it low?

Let us not be carried away wholly by sentiment or our love of trees but rather consider seriously how we can best establish a lasting memorial.

Of the pests which attack trees Dr. S. B. Fracker has the following to say:

"Wisconsin at the present time is remarkably free from diseases and pests attacking shade trees. Her tussock moth and canker worm attacks are slight compared to the insect problems of the eastern and southern states. The elm leaf-beetle which annually destroys the beauty of elms in New York state, while slowly working westward, has not reached us yet, and thus far we have avoided those all conquering pests, par excellence, the gipsy and brown-tail moths.

But even so it will take Wisconsin cities long to recover from effects of the cottony maple scale outbreak three to five years ago and the insects may increase to injurious numbers again at any time.

One of the most beautiful trees for planting in parks and cities is the birch, but it can no longer be recommended by landscape architects because of its short life. This is due to the bronze birch borer which first attacked in dangerous numbers about 1912.

One of the most puzzling of all conditions is the manner in which elms, mostly young trees but to a less extent thirty to forty year old ones also, will mysteriously and gradually but persistently die. This has been investigated in many Mississippi valley states and has been blamed on all sorts of physiological causes from leaky gas mains to too wet or too dry a soil. This summer a fungus (elm canker) has been

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found in the dying trees which may prove to be responsible for the entire loss. In Madison and nearby cities the damage from this cause is very heavy.

If the owner of a fine lawn has a group of oaks, he is usually very proud of them and values them above all his other trees. One can therefore well imagine his grief at the rapid demise which follows their infection with the honey-mushroom fungus *(Armillaria mellea)*. Two such cases have recenty come up in Dane county in which the appearance of very fine lawns has been spoiled by the premature death of several fine oak trees.

If one hopes to avoid such misfortunes by planting more rapidly growing and less desirable trees such as box elder, poplar, or willow, he finds himself no better off because they are even shorter lived. If the latter two survive the poplar weevil in the nursery, they have other and more persistent fates awaiting them.

The two common trees, least subject to attack by insects and disease in Wisconsin at the present time, are the Norway maple and the basswood. A few insects will feed on them or bore within the trunk but the results are usually not fatal."

The following item from a daily paper of late date shows what may happen to historic trees:

LD "MORSE ELM" SOON TO BE CUT

WASHINGTON—Another Washington landmark is near destruction.

The old "Morse Elm" under whose shade Samuel F. B. Morse used to spend his leisure hours while working on his invention of the telegraph will soon be removed.

The tree was planted in 1820 in front of the Old Willard Hotel.

Since those days the old hotel has been replaced by a modern eleven story hostelry. Morse, whose invention came true in 1844, died in 1872. But the tree has remained.

But it is now in its death-hour in spite of many operations of "tree-surgery" and all known appliances of "tree medicine" practiced by Washington's superintendent of city parks.

In view of the impermanence of trees should we plant them as memorials?

F. C.

County Park Systems

By John A. Hazelwood, Chairman, Wisconsin Highway Commission

The history of the origin and purpose of parks deserves consideration. The story of park development ought to be interesting. We appreciate, in a measure, the value and importance of city, state, and national parks, but I feel certain too few of us realize the need and importance of county systems of parks.

No state in the nation offers a better field for the development of an adequate system of parks than Wisconsin. We have the areas, the scenic hilltops and valleys, the historic places, and a climate unexcelled anywhere.

National Parks of the United States

The national parks of the United States have no equals in scenic beauty and natural wonder anywhere in the world. Take our great Western parks, study them, look the world over, and you will appreciate in part what America has accomplished in park building in less than a century.

Our State Parks

Wisconsin has displayed a broad vision in securing areas of land and water, beauty spots, as great state parks. We have eight state parks in our system, many of which have had little money expended on them for improvement. They are largely as Nature left them and as we found them. The principal state parks are Devils Lake, St. Croix Falls, Nelson Dewey, and Door County. All of these are scenic places of the state. There is no occasion for adverse criticism of the state for not developing our park areas. This can be done in later years, as means can be afforded, and as demands and conditions warrant.

Municipal Parks

If you visit Chicago, or any large city for any length of time, your city friends will not tell you to go home, but they will invite and take you back to the country,—the parks, for it is known that there you get in touch with the real Nature in all its beauty and glory. Here you

can enjoy the wild flora and fauna. Here it is you get a message, a contribution direct from Mother Earth, which refreshes you and frees you from the veneer, the artificiality you have pressing on your mind in the homes, the offices, and the factory.

Cities Vie With Each Other

Cities give great attention and spend enormous sums of money on their park systems. Those cities, such as Baltimore, St. Louis, and Minneapolis which have expended most liberally in the park systems, attribute their splendid growth and development in a great measure to the fact that they have emphasized park development.

The importance of a good system of municipal parks is appreciated by every progressive, up-to-date community. The value of parks as breathing places, recreational fields needs no debate. The old and young enjoy the advantages of a beautiful park. There is no place where the tired mind and weary body can be so refreshed and invigorated as out among trees, flowers, and shrubs of a park.

State Trunk Highways

Wisconsin has built up a splendid system of well constructed, well maintained, and well marked state trunk highways. Over these highways travelers and tourists are passing each year in ever increasing numbers. This has become the greatest tourist state in the Middle West. It is the playground for millions of tired souls and weary bodies. Our tourists travel about our state over our highways for rest and recreation. Our own citizens are the principal users of our roads, and our own people are appreciating the highway improvements, our scenic drives, our historic places, our camping sites, and our beautiful summer and autumn climate.

County Park Systems Needed

Just as the nation, the states, and the cities have been brought to value and appreciate systems of parks, just so must we come to realize the need and importance of systems of county parks. National and state parks do not supply all the needs of citizens of the cities. No. Nor do state and city parks furnish all the needs of citizens of counties. Therefore, we need to help counties establish adequate systems of parks.

We have provided in each county, a Rural Planning Committee, which is none other than a County Park Board. We must in some way put more life into these committees. These committees have large powers, in that they may accept title to property suitable for wood lots, camping sites, etc. Of course this County Park Board may purchase lake shore and river bank property, ravines, hill tops, etc., suitable for park purposes. The question of money with which to buy is one needing and deserving attention.

Movement Needs Support

It is not money alone that is needed. There must be an awakening. Our legislature must provide means for arousing an interest in the movement. There is need of men who can go out in the field and promote the idea that we need areas for county park purposes.

In fact, there is need for 1,000 county parks in Wisconsin. It is believed that half of that number can be obtained gratis if we had a good field man or men, to go about the state and show up the importance and value of county parks to our citizens. Many sites on lake shore and river banks are needed immediately in southern Wisconsin, but it is almost impossible to get a public entrance to many lakes, —all shore line has been grabbed up for private use.

Get Titles Now

Now is the time to get title in the public for all lake shore and river bank property in northern Wisconsin. It is obtainable for a song or a nominal sum. Some day we shall find conditions for getting hold of beautiful lake and river views just as difficult in the north as it is now in the southern part of the state. Why, beautiful Lake Geneva is practically denied to the public. Owners' signs of "Private Property," "Don't Trespass," "Keep Out" stare you in the face on every hand. People do not like to trespass. We are naturally law-abiding. We must get title

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of needed property for our people out of private hands and back to the public.

One Thousand County Parks Needed

The movement to secure from ten to twenty-five parks, wood lots, or camping sites in every county in Wisconsin is reasonable and worth while, and deserves the support of all who are interested in the welfare of people, state, and nation.

It is possible to make a system of county parks almost continuous, if attention is given to roadside improvement. The sides of roads are important parts of the highways, because the eye, the ear, and the nose are always working as we travel over highways of life.

The Wisconsin Highway Commission has urged the wild shrubbery now along our highways when not in line of vision and not in the way of traffic should be protected and preserved. There is nothing more beautiful than the Autumn leaves on trees and shrubbery, in valleys, on hills, and along roadways.

Roadside Planting

Yes, it would pay Wisconsin citizens not only to preserve the trees and shrubbery along our highways and in county parks, but it would profit the state much if a scientific program of roadside planting of trees, shrubs, and flowers could be worked out and carried out.

There are areas along the travel tracks of the roads to grow an abundance of fruit, berries, and nuts. All that is needed is an organized effort in the matter. While we work out our system of county parks, let us arrange to carry along a system of roadside beautification.

Let us get back of the county park movement, and put a comprehensive program across. All counties need a system of parks. Places along highways where springs are found should be turned over to the public for general use. Springs will save the trouble of drilling wells for water when park development takes place.

The fact is we need not worry about improvement, or money for development, at this stage. Let us get title back from private hands into the public at this time. A man could not furnish a more suitable and permanent monument than to leave a few acres of county park bearing his name for all time. We observe many otherwise practical people putting $100, $500, and even $1,000 in granite or marble monuments to be hidden away and seldom looked at, in a secluded cemetery. Why, better a thousand times, spend a few hundred dollars and get an Olson County Park, a Jones County Park, or whomsoever's name it is desired to perpetuate.

Bryant mentions the fact in one of his poems, "The Forest," that "The groves were God's first temples." Wisconsin should lose no time in preserving and maintaining these holy places for county parks.

The next legislature should do at least two important things to encourage counties to start county park systems. In the first place, fifteen thousand dollars should be appropriated to the State Rural Commissioner for the purpose of employing promoters, organizers, and landscape engineers to help county park boards perform their duties as set forth in the Rural Planning Act. Only 36 counties have thus far organized their committees. The state law provides that all counties must complete organization of county park boards.

The State Rural Planning Commissioner has no funds at all. He realizes the need of stimulating the rural planning committees to activities, but has no means or men with which to vitalize the county park boards.

In the second place, the legislature should appropriate at least one hundred thousand dollars to aid counties on a fifty-fifty basis to purchase camp sites, historic places, and county parks. State aid has done wonders in building up our high schools, our graded schools, our country schools, our county fairs, and our good roads. It would help Wisconsin to establish an adequate system of county parks. The money should be distributed for county park purposes on the basis of area, population, assessed valuation, and state trunk highway mileage. Counties would gladly accept the aid by making an equal appropriation, providing the act would make counties lose the money if nothing is done.

Firm, Persistent or Stubborn?

Oak Holler, Wis.

My Dear Friends:

Queer, isn't it, how some little incident will bring back memories of your childhood days? One of my neighbors has just been telling me about her boy. He thinks he'd like to be a farmer so every Friday evening he walks out to a big stock farm near the city where he works until Monday morning. He enjoys it so much, so his mother says, but his father is angry, he doesn't want his boy to be a farmer, he wants him to be a lawyer. The boy insists he has agreed to stay for a certain time. His father says he is so stubborn. Well, I don't know whether that boy is going to be a farmer or a lawyer, but I'm banking on this fact—his sticking to his job isn't going to hurt him in future years.

Made me think how I sat in the boiling sun one whole day and picked currants just because I heard an aunt of mine tell grandmother she guessed I wouldn't pick very long after the sun got hot. You see, grandmother was going to pick currants that morning and I had offered to help. Of course when you are eight years old you are a great help—at least you think you are, and I was never so happy as when I was helping grandmother in her wonderful garden. She accepted my offer, warning me, however, that I must pick the bushes clean, then added with one of her rare smiles, "if you pick a peck I will give you five cents." "Oh, I'm going to help all day," I answered joyfully and started for the currant patch with my measure. I was in haste to begin. Then I thought perhaps I'd better get a drink of water first. Just as I reached the pump I heard my aunt's voice. The amusement in her tones, coupled with grandmother's assenting, "I think a couple of hours in the hot sun will be enough, especially when the rest of the children start for the woods," it was all that was necessary to rouse the spirit of "I will not give up" in me. Straight back to those currants I went and though the sun shone hotter and hotter, though my knees were cramped and sore, my fingers tired and scratched, though the perspiration trickled down my back,—and worst of all, —I knew that under the shadow of my old straw hat a few tears had left a trail on my dusty freckled cheeks, I picked currants. Though at dinner time the peck measure was more than filled, when grandmother went back to the currant patch I went too. Not one word did grandmother say about quitting and it was some years before I discovered that she had seen me as I left the well and understood my desire not to be thought a quitter. I was too tired to want any supper and was glad to have my aunt lift me up in the old-fashioned high bed; yet there was satisfaction in my heart when she said, "you worked too long in that hot sun, I hope you won't be sick." "Well anyhow I didn't quit if you did think I would," was my triumphant answer. Aunt looked at me for a moment, "Well if you don't beat all the stubborn young ones I ever see." Oh dear, why did they always have to say that to me. Every bit of my pleasure was gone. Why should this boy's father and my aunt call us stubborn.

I couldn't understand them, and though I'm considerably older I cannot understand yet why we should be called stubborn. I helped pick the currants. I learned a lesson that has helped me all through life. You can do things if you make up your mind to, even if you don't like the job. Some times I think the more obstacles there are, the surer I am to win out.

I'm sure this boy who is sticking to the job he took, even though he may wish some times he could go and play basketball, or some of the many other things the rest of the boys are doing, is learning a lesson that will prove invaluable whether he chooses to be a farmer or lawyer. I'm for the stubborn disposition every time, when it comes to stick-to-it-ivness.

And don't you tell this editor man, but writing this afternoon is a good deal like picking those currants. But I wouldn't quit, and there are no tears either. Because I learned better in my grandmother's garden. Hope you will all have a Merry Christmas and Happy New Year. Hope to see you all at the midwinter meeting. I'm just about as interested in conventions as I am in State Fair. I'm in hopes to go early and stay late. You see I'm hoping to get some new ideas for I'm getting a little bit like the man who said, gracious, I haint got an ideer left.

Good bye,

Johnnie.

Federation of Horticultural Industries

At the recent convention of the American Pomological Society held in Columbus, Ohio, there was perfected an organization which will exert a profound influence on the fruit business of the country, producers and consumers alike.

The federated horticultural industries are to be merged into the enlarged American Pomological Society, which is to be a clearing house of all the industries interested and allied with horticulture, including representation of big fruit exchanges; marketing organizations; fruit growers from all the states and Canada; spray machinery manufacturers; spray material manufacturers; orchard fertilizer companies; fruit package manufacturers; nurserymen and others.

It is planned to have a Washington representative, and an executive officer located in Chicago. Both the public and the fruit-growers will be greatly benefited thru plans for improved distribution, better transportation, better grading and packing.

Educational work will be undertaken to increase domestic consumption of fruit and fruit products.

Development of export trade, particularly European, South American and Australian.

One of the primary objects of this federated horticultural board is to maintain a Washington office to insure proper recognition and protection of the vast American Horticultural resources. The Chicago business office will handle matters pertaining to distribution, transportation, such as freight rates, securing sufficient cars to move the crop, and general direction of all matters except those pertaining to legislation.

It is planned to co-operate closely with the American Federation of Farm Bureaus in all matters affecting legislation. These new activities are added to the functions of the American Pomological Society, which for 75 years has been the supreme court of all amateur and scientific horticulture, affecting the United States and Canada.

The scientific and amateur horticulturists will continue to conduct this work as they have done for the past 75 years, but the Industrial Departments of this giant organization will be in the hands of the leading practical orchardists and business men of the horticultural world. Such activities will be directed by the officers and an executive committee composed of the leading fruit men of the country. The president is Professor L. H. Bailey, of Ithaca, N. Y., the most noted authority in the horticultural world. First Vice President, C. J. Tyson of Floradale, Pa., one of the managers of American Fruit Growers, Inc., the largest and most extensive fruit producing and marketing company in the United States. Canadian Vice President Professor W. T. Macoun, director of the Dominion Experiment Farms, Ottawa, Canada. The executive committee comprises H. H. Hardie of Hudson, Mich., representing manufacturers of spray-pumps, G. M. Minnich, Cleveland, representing Insecticide manufactures, Paul Stark of Louisiana, Mo., representing nurserymen, J. L. Dumas, Waitesburg, Washington, representing western apple-growers, Dr. C. A. Bingham, Ohio, representing middle-west apple-growers, A. J. Evans, Fort Valley, Georgia, representing southern peach growers, Frederic Cranefield, Madison, Wis., representing State Horticultural Societies.

Professor R. B. Cruikshank of the Ohio State University, will act as Secretary until the general offices are located, and a permanent executive secretary employed.

Butternuts were a good crop in some sections this year. Why not plant more trees to raise more nuts? They will do well in the windbreak, pasture or on a sheltered part of the yard. The nutmeats are much used in making bread, cakes or cookies.

California fruit growers are reported as spending $5,000,000 a year to get rid of 12 insects in orchards covering about 1,000,000 acres.

AS WE WERE

Wisconsin Horticulture

Official Organ of the Wisconsin State Horticultural Society

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Published Monthly by the
Wisconsin State Horticultural Society
12 N. Carroll St.
Official organ of the Society.

FREDERIC CRANEFIELD, Editor.
Secretary W. S. H. S., Madison, Wis.

Enter d at the postoffice at Madison, Wisconsin, as s cond class matter. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of Oct. 3, 1917, authoriz d July 15, 1918.

Advertising rates made known on application.

Wisconsin State Horticultural Society

Annual membership fee, one dollar, which includes fifty cents, subscription price to Wisconsin Horticulture. Send one dollar to Frederic Cranefield, Editor, Madison, Wis.

Remit by Postal or Express Money Order. A dollar bill may be sent safely if wrapped or attached to a card. Personal checks accepted.

Postage stamps not accepted.

A New Face

A new cover greets you this month. Do you like it? The design used until this month first appeared December 1912 but with solid or black lettering. After a few months a subscriber in Milwaukee wrote: "Your cover design is **almost** pretty; will you permit me to redraw it with open letters?" Why certainly, pleased indeed, and so it has appeared until this new year.

This cover was designed by a student in art at the University of Wisconsin and selected by the editor from a group of fourteen submitted in a contest. Six others have been retained and will be used later. Was the student a boy or girl? You may guess.

Are Your Debts Paid

In the coin of everyday life, yes. It is taken for granted that you have paid all you owe in dollas and cents. But is it not true that you also owe a debt to your neighbor, to your community? Do you value the tree or shrub that you have planted? Have you urged others to do likewise? You have a good garden: Have you helped your neighbor to improve his? The roadsides and the school grounds in your neighborhood may be ragged and unsightly: Have you enlisted the help of your neighbors to improve them? Have you paid your debts?

Exhibitions by Local Societies

The general executive committee at the January 1920 meeting authorized the Board of Managers to offer a bonus of $25.00 to each local society holding an exhibition of garden products, the amount to be expended for premiums. Four societies took advantage of the offer, Lake Geneva, Oshkosh, Bayfield and West Allis.

There was only one requirement; that a report should be submitted to the Secretary of the State Society giving the premium list, the prize awards and the estimated total attendance.

It is impractical to give these reports in full but in justice to these societies, to which great credit is due, a summary of each is given.

Lake Geneva Gardeners' and Foremens' Association — Prizes totaling $202.75. Under 30 prize numbers there were 120 exhibitors ranging from 9 contestants in 25 pods green beans and bunch parsley to one each in leeks, parsnips and apples. The show was held August 25, the attendance exceeding one thousand.

Oshkosh Horticultural Society —total prizes offered $33.00 of which $7.50 was for vegetables, $4.75 for strawberries and the balance for flowers largely peonies. There were seven prize winners. The show was held Thursday and Friday, June 18th and 19th. Attendance not reported.

West Allis Horticultural Society—prize money $35.75 divided equally between flowers and vegetables with a preponderance of prizes for childrens' gardens. Meeting opened by mayor with 200 people present. Many books were offered as prizes. Total attendance estimated at 600.

Bayfield Peninsula Horticultural Society—Exhibit in Bayfield Sept. 29th and 30th. Total prizes offered amounted to $116.50. Number of exhibitors 63. Estimated attendance 300.

These formal reports do not divulge the real spirit of the movement, do not tell of the keen rivalry amongst the youngsters, the pleasure and deep sense of satisfaction felt by those who planned and executed the work. These things cannot be expressed in terms of dollars and cents or "total attendance." There is also the community spirit strengthened, the good fellowship, the "camaraderie" that comes from association and friendly competition that cannot be measured. Let's do it again next year and let the other locals be heard from.

I Shall Pass This Way But Once

The extremely early date on which copy was needed for this issue may account for lack of word from our many pilgrims. At least none has sent the pilgrim editor a message. Perhaps it is the busy holiday season, or perhaps our readers do not care to give, only to receive. One month more will decide. Here is a chance, fellow members, to make the world just a wee bit better, for the world is made up of people and the better the people the better the world.

Will you turn aside for a moment to help make life just a trifle better? Perhaps you think it a silly or an idle thing to do, this printing of little stories and verses, but if you do it is only because you cannot realize the far reaching, the tremendous effect of the printed or spoken word. There are all too many harsh words spoken and written in this world, all too many on the absorbing topic of how to get on in the world, in accumulating riches and, alas, too few that breathe kindness. There is a verse running thru my head which laggard Memory refuses exact expression but it goes like this:

"Kind words are more than coronets
And simple faith than Norman blood."

If not quoted correctly will someone please set me aright.

I fear "grown-ups," all of us, reckon too lightly the influence that a kind word or two may exert on the boy or girl. Here is an example: A country boy, aged 9 or 10, perhaps, the youngest of the family, who had been trained to believe that he didn't amount to anything at all, a mere infant who must always and under all circumstances, be seen but not heard, was playing around the farmyard one winter day when a neighbor drove up to a gate and called out to this "submerged tenth", "Young man will you please open that gate for me?" Did he do it? With one jump he reached the gate and swung it open and afterwards carefully closed it. Not only that but it was one of the turning points in his life. YOUNG MAN! Do you get that? No longer an infant but a **young man** for in this boy's heart were the same aspirations, the same longings to be a grown up, a man, as throb in every boy's heart. From that day he held his head a little higher for was he not now a young man and not "boy" or "kid." His hair is grizzled now, and very unruly, and Uncle Will has long since gone to the just reward which was surely his but "young man" has never forgotten that day.

Well, what have you to tell, surely something. It's almost your last chance.

Pilgrim Editor.

Time to Organize Local Horticultural Societies

This is the season of the year to **organize.** Cooperation and organization among farmers is in the air these days and wonderful results have been accomplished particularly thru the Farm Bureau Federation.

Horticulturists, whether amateur or professional do not need the kind of organizations mentioned as much as a simpler form, a club or gathering of those having common interests and desires.

In almost every city and smaller town it should be easy to organize a horticultural society or garden club which, for best results should be composed of both city and country people. Meetings can be held during the winter to discuss garden problems and during the summer and fall meetings Saturday afternoon tours of gardens, comparing notes, etc., and ending with a lawn party followed by garden talks. This is just the plan followed by some of the most successful of the local societies. Why not in your neighborhood?

Auxiliary to State Society

The local societies are all affiliated with the State Society, special provision being made in the constitution for their admission as auxiliary societies.

While the fee for annual membership in this Society is one dollar, for members of locals it is but fifty cents.

The State Society also agrees to send an expert gardener to the local once or oftener each year to answer questions or give instruction to amateur or professional gardeners. Each local society is entitled to a delegate to the annual convention of the State Society who has voting power in selecting members of the General Executive Committee.

How to Organize

Organization is a simple matter. Two or three people who

have the firm conviction that such a society is needed can "put across" the whole thing very easily. The main thing is advertising; use every possible means to get people out for the first meeting. If after all your efforts only a dozen people come you may be sure that every one of the dozen means business so don't be discouraged. Select a chairman, adopt the briefest possible constitution and by-laws, elect officers, fix a date for the next meeting and then go out and do more advertising. After the first good program others will come flocking in and success is certain.

For the use of local societies the following constitution is suggested. It has been adopted by every local society organized during the past ten years. By-laws consistent with local needs may be adopted as occasion requires.

CONSTITUTION FOR A LOCAL SOCIETY

Article I. This Society shall be known as the ——— ——— Society.

Article II. Its object shall be the advancement of the art and science of horticulture.

Article III. Its officers shall consist of a President, Vice President, Secretary, Treasurer and an Executive Committee consisting of the foregoing officers and three additional members of whom four shall constitute a quorum at any of its meetings. All of the above named officers shall be elected by ballot at the annual meeting of the Society and hold office one year or until their successors are elected.

Article IV. The Society shall hold its annual meeting on the ——— and such other meetings as the executive committee may direct.

Article V. The fee for annual membership shall be One Dollar of which fifty cents shall be for membership in the State Horticutural Society as provided by the Constitution of the State Society.

Remember someone must start the ball rolling, the rest will follow easily. Little money but considerable energy is needed to maintain an active organization and **you** are the one who must do it. Any community in the state that will call a meeting and give reasonable assurance that a society or club can be formed with at least 15 charter members the secretary will send some one from the state society to help in organizing and give an address on horticulture if two weeks' notice is given.

Here We Have Another Suggestion

A Milwaukee florist who is even worse than Mr. Joker referred to on p. 73 of the December number writes: "I don't know what they do in Madison but in Milwaukee we do not call dahlia roots "bulbs" but if you must then why not include cannas?"

That's a very good idea and covers the point raised. Not with the thought of closing the incident but merely to learn the facts the editor has written to the writer of the original note who lives in Minnesota to solve the riddle. No doubt they have some things in Minnesota foreign both to Madison and Milwaukee.

Our latest recruit is the La Crosse County Horticultural Society, organized Dec. 10th with sixteen charter members. Four village or community societies are to be organized in the county auxiliary to the county society.

Raising Cyclamen for Seed

"I am writing for information in caring for Cyclamen. I have four very small plants which I am trying to grow, having planted the seed early last spring.

I would like to know under what conditions they grow best, if a plenty of water and a south window and what kind of soil?"

Ans. Only highly skilled florists, specialists, can grow fine specimen plants of Cyclamen from seed.

The large plants common at Christmas, since the exclusion of Azaleas and Rhododendrons, are grown from seed planted in July or August of the **preceding** year and very carefully tended every day. A light soil, filled with humus (decaying vegetable matter), plenty of light, careful watering, the prompt removal of every disease affected leaf, these are a few of the things specialists will tell you are essential to success. There is much else that he cannot tell you, a "knack" that neither he nor anyone else can explain for plants speak a language that only those who know them well can understand and it is not translatable into words.

The amateur will get most satisfaction from Cyclamen by buying a partly grown plant from the florist in August or September. After blooming the top will die and the bulb (corm) should be kept dormant for a few weeks when it may be potted and will give a few flowers the following November or December.

Origin of Tall Bearded Irises

By Walter Stager, (Illinois)

[Written expressly for The Flower Grower, Calcium, N. Y.]

The name "German Irises" has been given to a group of species of the bearded Irises, and it came about in this way:

Linnaeus, the Swedish naturalist, regarded as the father of modern botany, in considering the subject of botanical nomenclature settled upon the plan of giving each known plant two names: a genus-name consisting of a single word, and a species name consisting of a single word expressing some obvious character of the species. In 1753 he issued his Species Plantarum, and in it, for one form of the genus Iris, he adopted the name "Iris Germanica"—founding the species of that name—with the remark that it is an inhabitant of Germany. The descriptive text is: "Iris corrolis barbatis, caule folius longiore multifloro."* In this species the beard is confined to the midrib of the falls. In time this bearded Iris came to be regarded as the type of a group of species of tall, bearded Irises—tall as compared with the pumilae and other dwarf species—in which the beard is confined to the midrib, and so the name "German," derived from the name of the species named "germanica," was applied to the group.

"German," as applied to the so-called group of Irises, is a misnomer. No species included in the group has ever been known to be native to Germany—not even any of the varieties of the species botanically called "germanica."

Of late, especially in the United States, there has been a growing inclination to substitute some other name for this group. "Germanica" will probably be retained as the name of the species so named by Linnaeus, for strictly botanical names are seldom changed—certainly not for merely sentimental reasons. For the retention of "German," however, as applied to the group, there seems to be less reason, especially in view of the number of species included in the group, and the names being inaccurate and misleading as to each of them.

As the beard of Iris germanica is the principal characteristic that causes this species to be regarded as the type of tall bearded species similarly bearded, "Tall Bearded Irises" seems to be an appropriate substitute for "German Irises," especially as it conforms to Linnaeus' plan of naming plants—adopting a name expressing an obvious characteristic.

There is a specimen in Linnaeus' herbarium, which is now in the possession of the Linnaean Society, in London, labelled "Iris Germanica," but neither it—the label having been written by Linnaeus' son—nor his description of "Iris Germanica," in his Species Plantarum, is sufficient to enable one to identify any one of the varieties now generally listed, by plantsmen, in the division "Iris Germanica," as the type of the species founded by Linnaeus.*

The common blue form is probably the one that has been taken, by modern monographers, as the type of the germanica division.

*Iris with bearded little crown, and with many-flowered stem longer than the leaves.

*This information received through courtesy of Dr. L. H. Bailey, Professor at Cornell University.

Magnolia Grandiflora

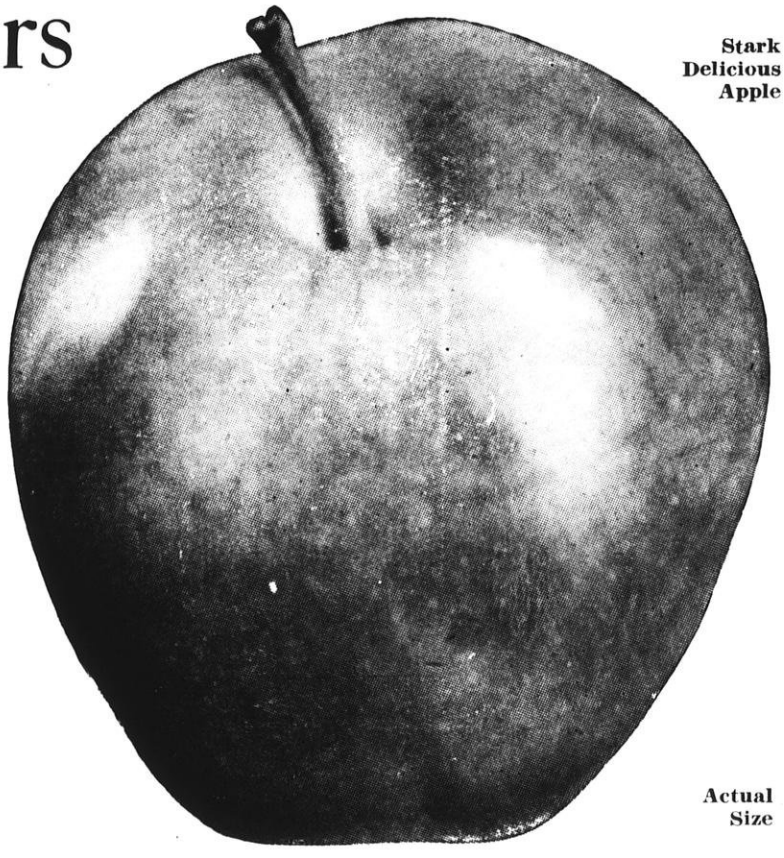
Nurtured in the low lands and river valleys of the South, there is to be found a tree, which, if it had chosen to abide along the Riviera and picked its home in the balmy lands of Southern France and Italy, it would have found its place in fable, song and story and been known the world around. But, like many things worth while, it has sought no advertisement, and is contented with the place it holds in the moss-covered forests of a fair south land, and in the hearts of those who love it best. Surrounded by the giant live oaks festooned with hoary moss, the Magnolia is contented to bloom and laden with heavy-sweetness the dreamy southern atmosphere, and mingle its perfume with the air that is pregnant with the melodies of our greatest feathered choirester, the Mocking bird.

From the top-most tip of the great flowered Magnolia, whose heavily scented blooms reflect the mellow moonlight, then is poured forth, a song of greatest ecstasies from the bursting throat of the southern song bird, who chants his love melodies to the moon beams as they smooth out all of nature's harshness and make the southern evenings the joy of lovers, who see the future in all its beauty and grandeur, who have no thoughts of life's trials and sorrows.

Known by name to some the world over, by sight to many in the southland, but loved, rever-

Continued on page 93

The Tree of Good Fortune for Growers



Stark Delicious Apple

Actual Size

The Stark Delicious has triumphantly proven all our profit-crop claims. Growers in every state are pouring in upon us reports of wonderfully rich money harvests due to their Stark Delicious trees.

These big, radiant red, exquisitely flavored apples are the glory of the fruit stand—the high-price king of the city markets—the fortune maker for fruit growers everywhere. The tree is a young and steady bearer, extremely hardy and renowned for its resistance against tree diseases and rust.

The Prize-Price Apple All Over America

introduced to the world by Stark Bro's Nurseries, Louisiana, Mo.

Buck Bros., Elverfield, Ind., orchardists, write that they marketed a huge crop of top-market-price apples. They say: "We got $4.00 per bushel for Stark Delicious when we got only $2.00 per bushel for other varieties—$12.00 a barrel against $6.00. If we were planting another orchard, we would plant a great many more **Stark** Delicious, because it is such a **wonderful long-keeping apple!"**

Richard Bros., famous Winchester, Va., orchardists, say: "We got our highest figure for Stark Delicious—$8.50 per barrel. We figure the value of our entire 1920 crop of apples at $250,000.00 and we know that this same land couldn't raise over $10,000.00 worth of agricultural crops."

Geo. Rofkar, R. I., Port Clinton, O., writes: "I sold my Stark Delicious for $9.00 per barrel—got only $6.00 for best grade of other apples."

"My Stark Delicious (9 years old) helped me get $3,600.00 crop from my 11-acre orchard," declares Harry Carroll, successful orchardist near Clarksville, Mo.

STARK TREES BEAR FRUIT

Trade Mark Reg. U. S. Pat. Off.

Stark Delicious

STARK TREES

Reg. U. S. Pat. office

Stark Trees Have Made Cheap Land Worth $1,000.00 An Acre

C. F. Caldwell & Son, owners of an 800-acre orchard at Griggsville, Ill., bought 160 additional acres, which they will plant to Stark trees. As Mr. Caldwell said: "It may be just bare, run-down land now, but when it has a Stark tree orchard growing on it, I will refuse $1,000.00 per acre for it. Why, the crops I have taken off in the past several years have totaled over $2,000.00 per acre. Just last year, I got over 10,000 barrels (net market price of No. 1 apples was $9.00 to $15.00 per barrel) from 50 acres!"

Why plant trees that bear low-price apples when you can get Stark Delicious to plant? Get our 1921 catalog and see for yourself. That catalog is simply crammed with proof that **your** big-profit opportunity is in planting Stark Delicious. If you are planning just a home orchard, plant some Stark Delicious by all means, for it is the king of red apples.

Learn about Golden Delicious too---Send for free catalog

Read about this wonderful long-keeping yellow apple—50% to 75% larger than Grimes Golden—that **bore on two-year-old tres in 23 different states this year!** It is the talk of the country—the famous $5,000 yellow apple. Write today for catalog—just put your name and address on the coupon or postcard and mail to us.

Stark Seed Catalog Free

A select **Stark Seed catalog**—a de luxe edition—all in colors—and presenting only the best seeds of their class and season. A great Stark Seed book—well worth your writing for. Use coupon or send Post Card.

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STARK BRO'S

Nurserymen and Seedsmen

at LOUISIANA, MO. since 1816

Stark Bro's Nurseries, Box 22, Louisiana, Mo.

Send me Free Copy of your 1921 Fruit Tree Catalog at once.

☐ If you also want us to send you a copy of our 1921 Vegetable and Flower Seeds Catalog put X in square at left

Name.....

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Postoffice.....

State.....

MAGNOLIA GRANDIFIORA

Continued from page 91

enced and honored by a few who recognize it as the most typical and greatest, southern broad-leafed evergreen, the Magnolia grandiflora is worthy of a place in the hall of fame of America's greatest trees.

It is well adapted to all sections south of the latitude of Atlanta in the east and Memphis in the west. It should find its place upon lawns and along driveways of the south. It should so mark our landscape, that those, who travel in our midst, could not fail to carry away the memory of the gorgeous flower, the glistening of its leaves and the sweetness of its perfume, and when the south is mentioned, in the minds of arboral lovers, it should spell the name of Magnolia grandiflora.

T. H. McHatton,
Horticulturist.

The Golden Delicious Apple

The Golden Delicious is certainly a remarkable apple both as to color and quality but more particularly as to its habit of bearing. It bears, apparently in a wholly impartial way, both from lateral and terminal buds as well as from spurs. This at least was true in the case of the top grafts on an old tree in the grounds of Mr. Lloyd Stark of Stark Bros., the introducers. The (four?) year tree in the test orchard showed the same tendency as to bearing from terminal buds and in a lesser, but still pronounced, degree from lateral buds, that is, of the previous year's growth.

Numerous unsolicited testimonials and photographs in the offices of Stark Bros., testify to the very early bearing habit of this variety, trees at two years bearing a dozen or more fruits. Trees of this age were too young, of course, to have formed spurs and must have borne from lateral buds.

If this apparent tendency holds under varying conditions of soil and treatment then we have a new apple of very great merit.

So far as Wisconsin is concerned it must be tested thoroly for hardiness before it can be recommended for planting in commercial orchards.

In the case of the amateur, however, the question is different. No one who has seen this beautiful apple can resist its appeal and will hasten at once to find a square rod of ground wherein he can plant a tree of Golden Delicious whether he lives in Missouri or Saskatchewan.

The Juneberry, highbush cranberry, wild grape, buffalo berry and sandcherry are both ornamental and useful for fruit, especially in districts where standard fruits are hard to grow. Why not try some of them?

Make a study now of vegetables and fruits which will do well in your community and plan to use them next year. Know varieties and order them from responsible seeds men.

Keep chrysanthemum stock plants cool and do not encourage growth till January or February. March is plenty early enough to take cuttings.

Is Banding Injurious?

A writer in one of the leading agricultural papers states: "It is poor policy to band trees with sticky or greasy substances to prevent insects going up. While it prevents the insects climbing, it seems to be only a question of time when the material kills the tree, especially thin barked trees."

This question was referred to Dr. E. B. Fracker, state entomologist, who says:

Banding trees with sticky substances has long been recommended for the control of climbing insects, such as cankerworms, tussock moths, gipsy and browntail moths, and ants which may carry plant lice.

Two forms of these bands are recommended by park superintendents and tree surgeons as being harmless to trees. One is Tree Tanglefoot, made by the O. & W. Thum Company, Grand Rapids, Michigan. The other is "Raupenleim" which the owner can mix for himself and which is used extensively in gipsy moth control in Massachusetts and New Hampshire.

Too much confidence should not be placed in banding as it is useful only for the insects named, but for them it is a valuable control measure. The writer has never heard of the two substances described above injuring trees. Perhaps the writer is referring to tar, printer's ink, and some other compounds which are unquestionably harmful

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Pruning may be done at odd times on warm days and in fact all through the winter.

The Farm Orchard

There are many good and well kept orchards in Wisconsin, but as one drives over the state he also discovers many ill kept orchards, trees full of dead limbs, untrimmed, ill shaped, diseased and unsprayed. And, too, more often than otherwise, the soil has not been touched for years, is sod bound, needs plowing up, fertilizing and cropping.

Many of the old orchards are producing seedlings of doubtful quality, and as no spraying is indulged in what apples are produced are more or less scabby and inferior.

The Editor has traveled many miles in Wisconsin this year by auto and as the apple crop is generally good in yield, he has taken more than ordinary notice of orchards, the kinds of apples growing, condition of trees, soil, etc., and in many instances has been very favorably impressed.

We have observed many young orchards well in bearing and of up-to-date varieties and have noticed that many such orchards have been sprayed and that the fruit is perfect and the trees heavily loaded. But on the very next farm perhaps we have found exactly opposite conditions.

All of which shows that the fault lies with the owner. The soil is practically the same in many cases, every condition is favorable to the production of fine apples in abundance, but one farmer has failed while his neighbor has an orchard of which any man might well be proud. So it is up to the owner of the farm and orchard to wake up and produce good apples sufficient for his family needs at least.

Some farmers say, "Oh, I haven't time to bother with an orchard." Why not? It requires time and is a bother to grow potatoes, to milk cows or do any kind of work on the farm and while it pays, of course, to grow potatoes, or to do general farm work, so it pays to grow good apples. Possibly it doesn't pay in dollars and cents to produce potatoes or apples, but it pays in good health, satisfaction and real enjoyment, and yes, if apples aid digestion and add to good health, then it pays in dollars and cents to provide them.

And there is no fruit produced on earth the equal of good apples; no fruit so healthy, so long keeping, and that can be used by the housewife in so many excellent ways.

We all like other kinds of fruit, but we soon tire of other kinds, but never of the apple. It is the long time, the all the year round, the great American favorite fruit.

Wisconin conditions are all right for the growing of fine apples. We now have the tried and proven varieties for this state. We know how, when and with what to spray for all of the diseases and insects that are troublesome to both trees and fruit.

All that is lacking for general excellent results such as may be noted many, many times by the traveler, is the proper disposition and determination to have a good orchard, take proper care of it and grow good apples, plenty for his own use and some to spare.

If no orchard exists lose no time in setting one out. Do it next spring without fail and then take care of it. When it is once in bearing you would not take any price for it.—C. H. Everett, Editor Wis. Agriculturist.

Send for catalogs and make up the garden plan and garden list for next year.

AMONG WISCONSIN BEEKEEPERS

Devoted to The Interests of The Wisconsin State Beekeepers' Association
H. F. Wilson, Editor

OFFICERS OF THE WIS. STATE BEEKEEPERS' ASSN.

Pres. L. C. Jorgensen Green Bay. **Treas.** C. W. Aeppler, Oconomowoc.
Vice-Pres. A. C. F. Bartz, Jim Falls. **Secy.** H. F. Wilson, Madison.

Annual Membership Fee $1.00.
Remit to H. F. Wilson, Secretary, Madison, Wis.

HONEY THE HEALTH FOOD

Are you as a Beekeeper doing your share to make known to the world the value of honey as food and are you helping to advertise our product?—or are you permitting your neighbor beekeeper to do all the advertising and then you come in and undersell him?

BEEKEEPERS' SHORT COURSE

University of Wisconsin,

February 7 to March 17, 1921.

A complete course for practical beekeepers with an opportunity to take courses in Horticulture, poultry and agronomy.

42ND ANNUAL CONVENTION, WISCONSIN STATE BEEKEEPERS' CONVENTION

Madison, December 2 and 3, 1920.

The annual meeting of the Board of Managers was called at 2 p. m. Wednesday, December 1, at the Senate Chamber, State Capitol. The president appointed the following committee on credentials, Mr. Stelling, Mr. Matzke, and Mr. Hassinger. The following counties were represented:

1. A. C. F. Bartz—Chippewa Valley Beekeepers' Ass'n.
2. Geo. Breitrick—Fox River Valley Bee Ass'n.
3. L. C. Jorgenson—Brown Co. Beekeepers' Ass'n.
4. John Kneser—Milwaukee County Beekeepers' Ass'n.
5. F. F. Stelling—N. E. Wisconsin Beekeepers' Ass'n.
6. J. G. McKerlie—Grant Co. Beekeepers' Ass'n.
7. Sam Post—Dane County Beekeepers' Ass'n.
8. A. H. Seefeldt — Washington County Beekeepers' Ass'n.
9. C. Kruse—Sauk County Beekeepers' Ass'n.
10. F. E. Matzke—Green County Beekeepers' Ass'n.
11. Chas. Schroeder—Door County Beekeepers' Ass'n.
12. L. T. Bishop—Sheboygan County Beekeepers' Ass'n.
13. J. J. Angel—Jefferson County Beekeepers' Ass'n.
14. Henry Hograbe—Waukesha Co. Beekeepers' Ass'n.

Later Mr. E. S. Hildemann, Shawano County Beekeepers' Association, and Mr. James Cherf, Northern Wisconsin Beekeepers' Association, were present and acted on the Board of Managers, making a total of 16 affiliated associations represented on the Board of Directors.

A report of last year's meeting was read by the secretary and approved by the Board. The secretary then read his financial report which was also approved. A letter from Mr. Putnam, secretary of the Chippewa Falls Commercial Association, inviting the State Beekeepers' Ass'n. to hold its summer meeting at Chippewa Falls was read by the secretary. After much discussion Mr. Badtz made a motion to have a summer meeting of the state association held in connection with the University Beekeepers' Conference and Chautauqua which is to be held August 15 to 20. This was seconded by Mr. Jorgensen and passed by the Board. After further discussion Mr. Seefeldt moved that the summer meeting be held at Chippewa Falls. This motion was seconded and carried.

The secretary recommended to the Board of Directors that the beekeepers in this convention ask a grant from the state of $1,000 for the purpose of holding annual meetings, publication of reports and papers containing practical information concerning beekeeping and to promote the industry in Wisconsin.

Following a discussion, Mr. Jorgenson moved that a committee of three be appointed with the secretary to act as chairman to draw up resolutions asking for an appropriation of $3,000 for the purpose of promoting the bee industry of the state of Wisconsin, also to draft or amend the laws as are now on the statutes to protect the bee industry, which was carried. The committee appointed was Mr. Wilson, Mr. Jorgensen, and Mr. Hassinger.

The secretary brought up the matter of the American Honey Producers' League and told of a plan whereby those members of the association who so desired, could join, while those who did not wish to do so would not be compelled to join. Mr. Parks then explained the league, its object and value.

Mr. Jorgensen moved that a committee of three be appointed to investigate to the best of their ability the membership of the League and report to the state convention. This motion was passed, and the committee was appointed consisting of Mr. Bartz, Mr. Bishop, and Mr. Matzke.

Mr. Bartz moved that we continue the contract with Wisconsin Horticulture at the increased rate of 50 cents per member, and this motion was carried.

A motion by Mr. Hassinger that a committee of three be appointed to consider the grading law was passed and Mr. Bartz, Mr. Kneser, and Mr. Stelling were appointed to act on the committee.

Mr. Wilson moved that the Legislative Committee be given authority to work in conjunction with the officers of the State Department of Agriculture and to secure an increased

THE WISCONSIN HONEY PRODUCERS' COOPERATIVE ASSOCIATION

An organization composed entirely of producers has been formed among Wisconsin beekeepers for the purpose of **marketing** and distributing honey. Corporation papers were filed on December ninth and the office established at Madison. It is not expected that we will be able to accomplish a great deal for the 1920 crop but we hope to be able to do something for the members of the association in 1921. Every beekeeper with more than twenty colonies of bees should belong to this association.

The purpose of this association is to secure a fair and reasonable price for honey and every **beekeeper should support it by taking out at least one share of stock.** The par value is $10 a share. Write to the temporary secretary for details and a subscription blank.

H. F. Wilson,
Secretary-Treasurer.

appropriation for the inspection work.

The meeting of the Board of Directors adjourned at 5:45 p. m.

The convention was called to order at 9:15 a. m. Thursday, December 2 at the Senate Chamber, State Capitol. The minutes of the last convention were read by the secretary and approved by the convention. The report of the Board of Managers was read by the secretary and the following recommendations presented to the convention for their consideration.

(Recommendations)

The Board of Directors make the following recommendations to the state association:

1. That a summer meeting of the state association to be held in connection with the Beekeepers' School and Chautauqua which is to be held the third week in August.

2. That the summer meeting be held at Chippewa Falls.

3. That a resolution be adopted by the State Association requesting the Legislature to appropriate the sum of $3,000 for the purpose of promoting and protecting the bee industry of the State of Wisconsin. The resolution is presented as follows:

(a) Whereas, the beekeeping industry is now recognized as tenth in importance among Wisconsin industries by the Wisconsin Manufacturers' association, and

(b) Whereas, the honey production in the state can be increased hundreds of tons from natural resources already present, namely, the clovers, basswood trees, dandelion, buckwheat, berries, and fruit bloom, and

(c) Whereas, it is generally known that bees aid greatly in the cross pollination of these plants and cause an increased production of seed and fruit, and

(c) Whereas, the beekeeping industry has received no financial aid from the state for the promotion and building up of the industry, and

Whereas, financial aid is now being given to help promote the interests of other agricultural and horticultural industries.

Be it resolved, that we, the Wisconsin State Beekeepers' Association, respectfully request an appropriation of $3,000 to be expended through the Wisconsin Beekeepers' Association in promoting and advancing the beekeeping industry by means of bee and honey displays, state beekeepers' convention, annual reports and other publications including monthly market and crop reports.

4. A committee was appointed to investigate membership in the National Honey Producers' League and to submit a report to the convention this morning. The report of this committee was as follows :

"Your committee appointed by the Board of Managers to investigate the advisability of the Wisconsin State Beekeepers' Association affiliating with the National Honey Producers' League beg to report as follows:

That after careful investigation and consideration, we find that if 100 individual members of the Wisconsin Beekeepers' Association will join the National Honey Producers' League, at a minimum cost or fee of $100 each and $1 fee for each additional member, our association may become affiliated and your committee would recommend that the association affiliate with the National Honey Producers' League on the above specified conditions."

Respectfully submitted,
A. C. F. Bartz.
F. E. Matzke.
L. T. Bishop.

5. That the contract with Wisconsin Horticulture be continued through the coming year.

6. A committee appointed to report on the grading law offered the following recommendations:

"We, the committee oppointed by the Board of Managers for the purpose of revising the present honey grading law, after a careful investigation of same, have arrived at the conclusion that it would be best under the present conditions to have a permanent committee of three appointed to further consider the advisability of changes in the now existing grading laws. For the reason that there is a possibility of this association to affiliate with the Honey Producers League, which might make further important changes necessary, such a committee is to report at the next annual convention of the Wisconsin State Beekeepers' Association."

Respectfully,
A. C. F. Bartz.
F. F. Stelling,
John Kneser.

7. That the Legislative Committee be authorized to aid the State Department of Agriculture in securing an increased appropriation for apiary inspection work.

A motion was made and carried that each of the recommendations be taken up separately.

Recommendation 1. Since Resolutions 1 and 2 both referred to the summer meeting, they were included in one motion. Mr. Bartz moved that these two recommendations be approved by the convention as read and the motion was carried.

Recommendation 3. This recommendation was discussed to considerable length. Mr. H. L. McMurry suggested that the amount be amended to read $1,000 because of a possible conflict with inspection work and Mr. Fracker then made a motion that the phrase "except for the prevention of bee diseases" be added to Section D of this recommendation. This was carried and the resolution as amended was:

That a resolution be adopted by the State Association requesting the Legislature to appropriate the sum of $1,000 for the purpose of promoting and protecting the bee industry of the State of Wisconsin. The resolution is presented as follows:

(a) Whereas, the beekeeping industry is now recognized as tenth in importance among Wisconsin industries by the Wisconsin Manufacturers' Association and

(b) Whereas, the honey production in the state can be increased hundreds of tons from natural resources already present, namely, the clovers, basswood trees, dandelion, buchwheat, berries, and fruit bloom, and

(c) Whereas, it is generally known that bees aid greatly in the cross pollination of these plants and cause an increased production of seed and fruit, and

(d) Whereas, the beekeeping industry has received no financial aid from the state for the promotion and building up of the industry and except for the prevention of bee diseases; and

Whereas, financial aid is now being given to help promote the interests of other agricultural and horticultural industries,

Be it resolved, that we, the Wisconsin State Beekeepers' Association, respectfully request an appropriation of $3,000 to be expended through the Wisconsin Beekeepers' Association in promoting and advancing the beekeeping industry by means of bee and honey displays, state beekeepers' convention, annual reports, and other publications including monthly market and crop reports.

Recommendation 4. At this time Mr. Parks again explained the American Honey Producers' League and its value to the beekeeping industry and following a short discussion by him a recess was called by the President to permit Mr. Blumenfeld to explain his grader.

After a recess of 15 minutes, the convention was again called to order to consider the recommendation on the American Honey Producers' League and the discussion was continued. Mr. Parks was asked regarding the number of associations affiliated with the American Honey Producers' League and replied that there were 24.

Mr. Stelling made a motion that Recommendation No. 4 regarding the National Honey Producers' League be adopted, which was corried unanimously.

Recommendation 5. Mr. Stelling moved that Recommendation No. 5 of the Board of Managers regarding Wisconsin Horticulture be adopted. This motion was carried.

Recommendation 6. A motion was made that the report of the committee on the Grading Law as read be adopted and this motion was carried.

Recommendation 7. A motion was made by Mr. Cherf that the state association authorize its Legislative Committee to ask for an appropriation of $15,000 instead of $10,000 as asked for in the budget of Department of Agriculture.

After a lengthy discussion this motion was carried.

The secretary's report for the past year was read and the financial part referred to the Auditing Committee.

Mr. Stelling made a motion that the secretary be authorized to receive the money for the American Honey Producers' League and later turn it over to the Secretary of that League. This motion was carried.

Mr. Stelling made a motion that the dues be increased to $1.00 and this motion was carried.

The invitation from the Northern Wisconsin Beekeepers' Association in regard to the summer meeting being held at Antigo was read by the secretary but no action was taken as it had been previously voted to hold this meeting at Chippewa Falls.

The report of the treasurer was read by Mr. Allen and referred to the Auditing Committee.

The president then appointed Mr. Bartz, Mr. Duax and Mr. White as the Auditing Committee.

A recess until 1:30 p. m. was called by the president.

Thursday Afternoon

The meeting was called to order at 1:45 p. m.

The following committees were appointed by the president:

Committee on Resolutions—Mr. Hassinger, Mr. Tavs, and Mr. Swahn.

Committee on Legislation—Mr. McKerlie, Mr. Matzke, Mr. Seefeldt, Mr. France and Mr. Breitrick.

The President's Address (this will be printed in Wis. Horticulture). Mr. Runke not being quite ready with his paper, Mr. Hassinger led a discussion on satisfactory honey containers.

Mr. Runke's paper, "Bees, Animals and Other Things," brought forth some excellent ideas along the lines of marketing and advertising. Some pertinent facts from Mr. Runke's paper are quoted.

"Honey is a **household necessity** not a household luxury."

"Honey Habit Helps Health."

"Wisconsin farmers will have to wake up to the fact that they must take interest in products other than their own. There is no substitute for butter and there is no substitute for honey. We must reeducate the American consumer. We are missing one point and that is the education of American people to TRUE values. We could not produce enough to fill the demand in the next ten years if we did this. We need not worry about over production if we advertise. The possibilities in the honey marketing game are unlimited and we are just about ready to start now."

The secretary suggested to the convention that this might be an opportune time for the organization of a cooperative marketing association and all of those interested in such an undertaking were requested to meet at the end of the session to discuss the problem.

Mr. Bartz's paper, "Improving the Demand for Honey," was then read and Mr. Bartz stated that advertising was the only medium by which the demand for honey could be improved. (His paper will be printed in Wisconsin Horticulture.)

Mr. Stelling's paper, "Is the Present Honey Grading Law a Benefit to Wisconsin Beekeepers?" was then read. (This paper will also be printed in Wisconsin Horticulture.)

Mr. Adams then gave his paper, "How the Honey Grading Law is Affecting the Honey Industry." (This paper will be printed in Wisconsin Horticulture.)

The president allowed a recess of 10 minutes during which time the cooperative marketing association was taken up.

The meeting was then called to order and a motion to adjourn was carried at 4:30 p. m.

An informal meeting was held between 4:30 and 6 o'clock for the discussion of plans for a cooperative marketing association.

Evening Meeting

Mr. Hambleton gave an illustrated lecture on "Facts About Bees We Should Know." This talk was received with much interest by the beekeepers. The evening meeting closed at 8:45 p. m.

Friday Morning Session

The Nominating Committee being ready to report, a motion was made and carried that the election of officers take place at that time instead of at the business meeting in the afternoon .

Following officers were nominated by the Nominating Committee:

President:: J. E. Cooke, L. E. Jorgensen.

Vice President: A. C. F. Bartz, F. F. Stelling.

Treasurer: C. W. Aeppler, J. G. McKerlie.

Secretary: H. F. Wilson, J. I. Hambleton.

The following officers by a majority of vote were declared elected for the ensuing year: President, L. C. Jorgensen, Green Bay; Vice-President, A. C. Bartz, Jim Falls; Treasurer, C. W. Aeppler, Oconomowoc; Secretary, H. F. Wilson, Madison.

The report of the State Apiary Inspector was given by Dr. Fracker.

"The State Department of Agriculture and Apiary Inspection" was the title of a speech made by Mr. C. P. Norgord.

Mr. Norgord explained the various duties of the State Department of Agriculture and told the beekeepers that the Department would do all they could for the beekeeping interests. He explained how the State Fair, Marketing Division and Apiary Inspection work helped the beekeepers and that the State Fair was an educational institution, publicity institution, and marketing institution.

The next paper, "The Beekeepers' Folly," was given by Mr. Swahn. (This will be printed in an early issue of Wisconsin Horticulture and every beekeeper should read this paper.)

Mr. Aeppler's talk "How the U. S. Weather Bureau Has Helped Me in Successful Wintering" proved to be a very interesting talk and contained points of value to all of our beekeepers.

The morning session closed at 12:30.

Friday Afternoon

The afternoon session was called to order at 1:40 p. m.

"Producing the Maximum Honey Crop Following Treatment for American Foulbrood" was the title of a paper given by E. W. Atkins of the G. B. Lewis Company. (This paper will be printed in Wisconsin Horticulture.)

Mr. Cooke led the discussion, "Beekeeping On a Large Scale."

Discussion on "How to Market the Honey Crop and Prices for 1921" was led by H. F. Wilson.

The report of the Resolution Committee was as follows:

1. "Whereas, our retiring President, Mr. Dittmer, has given us his best services in the past and during the present year, therefore be it resolved that a rising vote of thanks be extended to Mr. Dittmer in appreciation of his splendid service.

2. "Whereas, Mrs. Hildreth, assistant secretary, has received very little compensation for her services, be it resolved that an additional sum of $40 be paid her for her past services.

3. "Whereas, it is understood that the Wisconsin Highway Commission is considering the planting of shade trees along all the state highways, and whereas,

"Basswood trees are recognized as hardy shade and whereas said trees would serve a double purpose by increasing the honey crop in the future.

"Therefore, be it resolved that: The Wisconsin State Highway Commission be respectfully reminded that they

would be working for the interests of the general public by designating that basswood trees be planted as shade trees along the trunk lines in Wisconsin.

4. "Be it further resolved that the secretary be instructed to send a copy of the resolution to the Highway Commission."

Respectfully submitted,
Committee, Edw. Hassinger, Jr.,
A. Swahn.

A motion was made and carried to consider each resolution separately. Each resolution was considered separately and adopted by the convention except that Resolution No. 4 was amended to read, "Be it further resolved that a committee be appointed to take up this matter with the Highway commission."

The committee appointed by the president to take up this matter with the Highway Commission was Mr. McMurry, Mr. Adams, and Mr. Hambleton.

The Auditing committee reported that the Treasurer's and Secretary's books were found to be correct.

It was moved that the report of the Auditing Committee be adopted. The report was adopted.

The proposed Budget for next year was then read by the secretary.

Mr. McMurry moved that we pay Mrs. White $5 for last year's services at the State Fair and that we allow Mrs. Kneser $25 for this year's work in preparing honey cookies, honey cakes, etc., to be exhibited at the State Fair. This motion was carried.

Mr. Kruse moved that the budget be adopted as read by the secretary and that $150 be set aside for the secretary's service.

This motion was seconded by Dr. Siebecker and carried.

After some discussion it was decided that a marketing committee was not necessary.

The report of the Grading Committee was as follows:

"We, the committee, appointed by the Board of Managers for the purpose of revising the present honey grading law after a careful investigation of same have arrived at the conclusion that it would be best under the present conditions to have a permanent committee of three appointed to further consider the advisability of changes in the now existing grading laws.

For the reason that there is a possibility of this association to affiliate with the Honey Producers' League which might make further important changes necessary, such a committee to report at the next annual meeting of the Wisconsin State Beekeepers' Association."

Signed:
A. C. F. Bartz, Chr.,
F. F. Stelling,
John Kneser.

The report of the Grading Committee was then adopted by the Convention and the president appointed the same committee to act on the permanent committee for the year of 1921.

A motion that the retiring treasurer be given a rising vote of thanks for his splendid services was then made and seconded; and a rising vote of thanks was given Mr. Allen.

Mr. Stelling moved that a committee of three be appointed to look into conditions in connection with the beekeeping department at the University with the idea of assisting them in securing funds and space for their work and that this committee should report to the convention at its next meeting.

Mr. Hildeman seconded the motion; it was carried. The president appointed the following committee: Mr. Stelling, Mr. Cooke, and Mr. Aeppler.

The following motion was then made:

"Whereas, a great amount of instruction and benefit has been derived from the interest and assistance given us by the Dean of the College of Agriculture and his staff, the Beekeeping Department and extension workers, State Department of Agriculture, Dr. Fracker, Mr. McMurry, and foulbrood inspectors.

Be it therefore resolved that the Wisconsin State Beekeepers' Association assembled in convention on this day, extend a vote of thanks to the above men and their departments for their services.

This motion was unanimously carried.

The meeting then adjourned at 4:15 p. m.

Honey Production

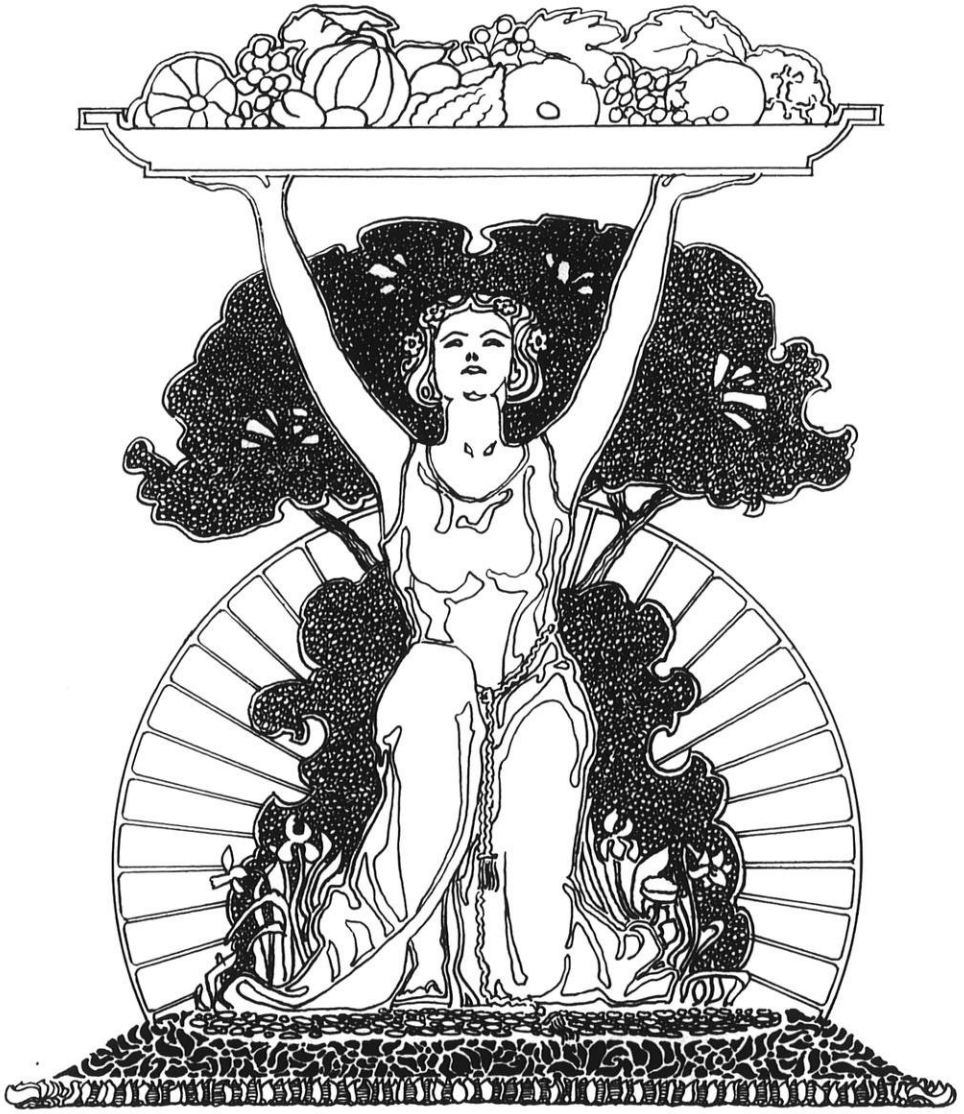
In the November issue of the Monthly Crop Report of the United States Department of Agriculture, comparisons of the honey crop for 1920 are made for the various honey producing states and a comparison is made between other years.

HONEY PRODUCTION, 1920, WITH COMPARISONS

States	Usual per cent of United States crop	Average yield per colony			Form						Disposal, outside markets		
					Comb		Extracted		Bulk				
		1920	1919	1913 to 1918	1920	1919	1920	1919	1920	1919	1920	1919	1918
		Lbs.	Lbs.	Lbs.	%	%	%	%	%	%	%	%	%
Maine	(1)	26	34	37	75	74	13	18	12	8	10	7	2
New Hampshire	(1)	39	40	36	90	73	10	27	0	0	4	12	7
Vermont	(1)	42	45	37	64	70	36	24	0	6	25	26	31
Massachusetts	(1)	46	35	30	39	47	60	49	1	1	2	3	6
Rhode Island	(1)	20	40	41	5	10	95	90	0	0	0	.....	.....
Connecticut	(1)	80	35	35	.....	47	.....	45	.....	8	2	8	13
New York	4	70	60	52	36	37	60	63	4	0	38	44	35
New Jersey	(1)	55	30	38	37	38	62	60	1	2	20	16	18
Pennsylvania	3	57	33	44	51	62	45	38	4	0	25	22	18
Delaware	(1)	20	44	27	.....	17	.....	33	.....	50	0	22	3
Maryland	(1)	45	47	38	52	53	41	33	7	14	21	19	24
Virginia	2	45	52	38	52	53	17	22	31	25	13	14	2
West Virginia	1	37	32	27	49	43	15	20	36	37	7	16	....
North Carolina	2	35	45	28	33	38	29	1	38	61	5	6	....
South Carolina	1	28	22	27	43	50	21	16	36	34	7	26	14
Georgia	3	32	41	37	28	33	39	44	33	23	25	35	17
Florida	3	37	60	67	22	23	78	76	0	1	35	51	75
Ohio	3	61	38	40	47	65	18	33	5	2	20	32	26
Indiana	3	35	27	44	51	49	47	38	2	13	6	5	4
Illinois	4	42	47	40	30	35	65	62	5	3	16	15	18
Michigan	4	69	34	50	20	29	78	71	2	0	27	25	37
Wisconsin	4	85	55	52	31	20	68	78	1	2	18	28	25
Minnesota	3	78	58	49	29	26	71	74	0	0	18	20	16
Iowa	6	75	97	52	38	41	57	58	5	1	20	20	13
Missouri	3	67	50	31	38	32	44	53	18	15	9	12	10
North Dakota	(1)	.....	90	62	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Dakota	(1)	97	95	56	33	41	67	49	0	10	39	13	....
Nebraska	1	71	42	53	48	48	41	44	11	8	16	8	12
Kansas	1	43	27	34	52	53	43	31	5	16	20	13	5
Kentucky	2	30	38	43	18	12	68	71	14	17	29	36	29
Tennessee	2	17	30	29	42	34	53	33	5	33	6	12	8
Alabama	2	32	20	40	.....	34	.....	44	.....	22	5	14	20
Mississippi	1	25	27	36	50	41	27	31	23	28	12	25	13
Lousiana	1	61	45	36	15	.....	64	.....	21	.....	54	33	....
Texas	7	70	72	31	5	11	74	64	21	25	46	60	57
Oklahoma	(1)	43	25	32	23	38	36	43	41	19	2	4	3
Arkansas	1	25	23	25	29	48	40	34	31	18	13	15	13
Montana	1	83	104	77	53	38	30	58	7	4	37	36	43
Wyoming	(1)	85	100	73	38	44	62	56	0	0	.....	65	....
Colorado	3	52	72	52	48	43	52	55	0	2	76	69	55
New Mexico	(1)	55	45	47	.....	33	.....	53	.....	14	85	62	54
Arizona	2	92	58	61	13	6	75	93	12	1	39	75	....
Utah	1	108	78	69	4	10	92	88	4	2	43	40	76
Nevada	(1)	83	75	64	57	.....	43	.....	0	.....	68	.....	.....
Idaho	1	97	87	68	25	15	75	85	0	0	64	68	70
Washington	1	60	58	51	12	37	88	62	0	1	36	45	....
Oregon	1	65	65	43	58	37	42	58	.....	5	36	42	....
California	15	93	52	62	2	3	96	97	2	.....	71	85	93
United States	100	59.1	50.0	42.2	30.4	36.5	57.3	60.1	12.3	9.4	28.4	34.3	32.9

[1] Less than 1 per cent.

WISCONSIN HORTICULTURE



OFFICIAL ORGAN OF WISCONSIN STATE HO RTICULTURAL SOCIETY

Volume XI Madison, Wisconsin, February, 1921 Number 6

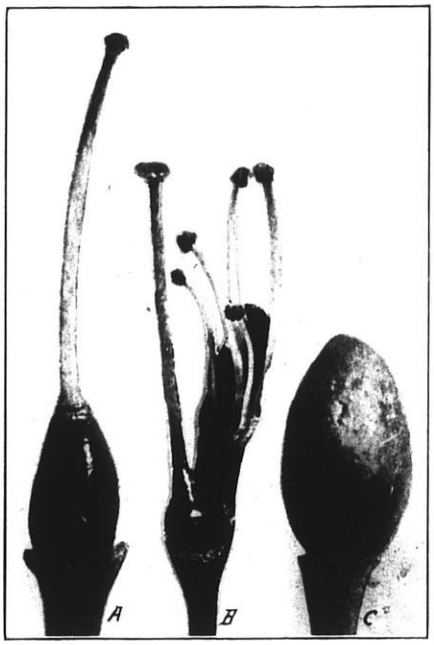
Why the Plum Fails to Set Fruit

Dr. M. J. Dorsey, University Farm, St. Paul

From Minnesota Horticulturist

One of the characteristics of the plum in Minnesota is the heavy crop of bloom produced each year. One would think that with such a heavy bloom that annual crops would be a certainty. Every plum grower, however, knows that this is not the case. What, then, are the factors entering into the failure of plums to set fruit when flowers are produced so regularly?

It is well known that the fruit buds produced in late summer and fall bear the rudimentary flower buds which bloom the following spring. Then if any flowers are lost before they bloom, it will be clear that they should be lost between the period of dormancy in winter and during early growth in the spring. Each fruit bud contains three to five flower buds. An examination of the fruit buds during early spring in a large number of varieties at the Fruit-Breeding Farm shows that in the tender varieties all the flower buds may be killed and that in the semi-hardy varieties only a part may be killed. In the hardier varieties, like Assiniboine, none of the flower buds are ever killed. Where a portion of the flower buds have been killed, only one or two flowers will come from each fruit bud and in some cases the fruit buds produce no flowers at all. Careful counts made during early winter show that 10 to 50% of the flower buds may be killed, with practically no noticeable effects upon the mass of flowers at bloom. A large plum tree may produce 30,000 or more flowers and 10,000 or 15,000 can be killed by winter without showing any appreciable loss when in full bloom. If each flower were to develop into a fruit, some of the fruit spurs would have to bear three quarts or more of plums. That such production is physically impossible is readily evident. The killing, therefore, of flower buds during winter up to a certain point serves as a thinning process, but beyond that a point is soon reached, especially in the tender or semi-hardy varieties during the severest winters, when there is a great reduction in the crop. Winter-killing alone can account in certain varieties, for the loss of all, or practically all, of the flowers, but in others



only a fraction, or none at all may be lost. Only in exceptional seasons, therefore, with the semi-hardy and tender varieties does winter-killing account for the failure of fruit to set. What happens to the flowers which bloom but from which no fruit is developed?

A study of plum flowers shows that those which come into full bloom may be lost in three separate, but distinct, periods of dropping. These are so different, both as to the time of occurrence and the stage of development, that they can be set apart into definite "drops."

Those flowers which fall at the time of bloom are known as the **first drop.** In some varieties none of the flowers fall immediately after bloom, but in many instances, all of them drop soon after opening. This happened in Wolf two years in succession after the heavy crop in 1914 and appears to be related to exhaustion caused by over production or a lack of food supply. An examination of the flowers which fall at blooming time shows that in each one the pistil is aborted. Goff, in Wisconsin, thought that these aborted pistils might be caused by winter killing. However this may be, it should be stated that they reach a stage of development before dying larger than that reached in the fall before dormancy, therefore it appears that some other cause, such as early abortion in the young embryo, may be acting more directly. Like winter-killing then, the first drop, due to aborted pistils, may include all of the flowers or it may effect none. Flowers with aborted pistils are prevalent, however, in all plum varieties, but generally only about five or ten out of each 100 blossoms fall because the pistils are aborted. So far we have considered, then, two important causes, winter killing and aborted pistils, which may or may not subtract from the sum total of the flowers produced on each plum tree.

The question now arises, what happens with the great number of plum flowers or pistils, as the case may be, which are not winter-killed and in which the pistil forms normally? Many fruit growers are well acquainted with the fact that during the third week following the bloom there is always a heavy drop of rudimentary plums about the size of small peas. This is known as the **second drop** and may consist of a small percentage of the total flowers remaining or it may include all of them. What are the causes of this second drop? It is at this point that the success or failure of the crop is definitely determined.

The second drop is due to the fact that fertilization has not taken place. Pollen may be present in abundance upon the stigmas, but it should be remembered that, in order that fertilization may take place the pollen tube must grow the entire length of the style and reach the rudimentary stage of the seed at the base of the pistil. This process is called fertilization and since fertilization determines definitely whether or not there will be a crop, it will be of considerable interest to growers generally to analyze the reasons which cause a failure in fertilization.

The causes of non-fertilizaton can be sought primarily in the conditions of the weather at bloom. How can the weather effect the plum crop to this extent? Let us, first, state briefly the processes involved and then it can be made clear why weather has such a direct bearing upon it. There are two structures concerned in the process of fertilization. These are well known to fruit growers. First, it is necessary for normal pollen to be produced and disseminated. The American and Japanese varieties of plums are all self sterile and it is necessary for pollen to come from other varieties bearing visible pollen which bloom at the same time. Secondly, after pollen has reached the stigma the pollen tube must grow down the style and fuse with a special cell at the point where the rudimentary seed is forming. These are delicate structures and intricate processes.

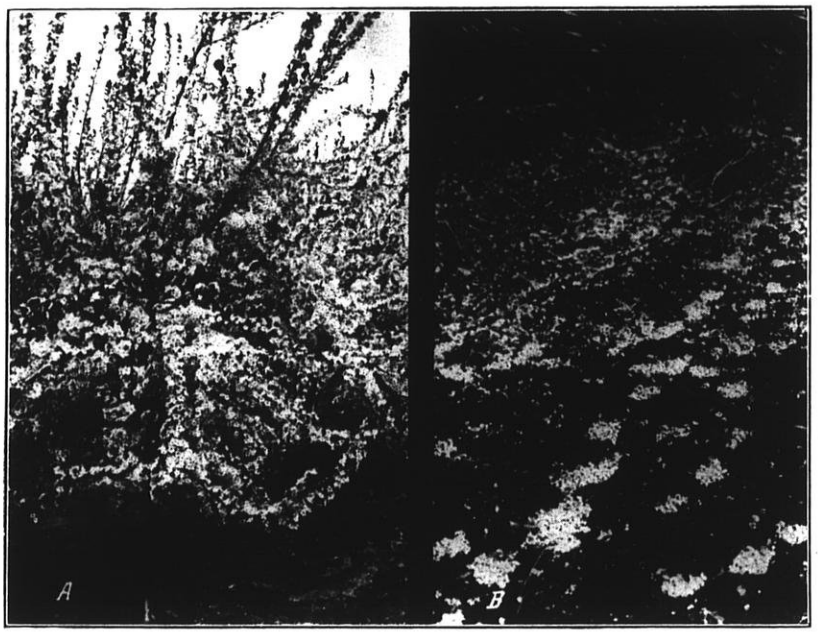
Weather can be analyzed from the standpoint of wind, rain, sunshine and temperature. By way of contrast it may be stated that the conditions at bloom most favorable for the setting of fruit are warm, clear days with low wind velocity but with a relatively high temperature. These conditions favor the work of the honey bee, or the wild bees, which are the most active agents in carrying plum pollen. If cold, rainy, windy weather, with a low temperature prevails for any considerable time, especially during the early days of bloom, bee flight is interfered with or prevented completely at certain times. Consequently, there is a lack of pollination and pollen may reach only a few pistils upon each tree. If, however, the early days of bloom are favorable for bee flight and pollination is complete, the question then arises, are there any weather conditions which will prevent fertilization taking place, since the setting of fruit is dependent upon fertilization? The opinion has generally prevailed among fruit growers that rain washes pollen from the stigma or that it bursts the pollen when once shed from the anther. A study of this condition shows that in the plum this is not necessarily true. Stigmas which have been through three days of rain have held as high as thirty pollen grains. A stigma, on which a mass of pollen had been placed, had seventy pollen grains adhering to it after it had been stirred in water for ten minutes. That plum pollen is not burst by rain or by being placed in water is shown by the fact that successful crosses have been made by pollen so treated. It appears then that plum pollen is not destroyed by rain and that injury from this source is greatly lessened by the fact that plum anthers actually closed during rain even if they have been open for some time. The greater quantity of pollen disappears from the anthers the first few hours after they open. This is particularly true in those varieties which have the dry pollen, as contrasted with some of the Japanese-Americana crosses where the pollen is more or less sticky. This fact no doubt has led to general belief that pollen is washed away.

With the action of rain and wind and sunshine in mind, let us see what influence low temperature may have upon the processes involved in fertilization. Temperatures sufficiently low to kill plum flowers outright seldom occur, likewise frosts have not injured plums seriously although some of the flowers may have been injured. It appears certain, therefore, that fertilization may take place at relatively low temperatures, even though the growth process may be more or less retarded.

The question arises, after pollen once reaches the stigma in ample quantities and from varie-

ties known to be fertile, can pollination be prevented by weather conditions? The influence from here on must be sought in the effect low temperatures have upon the growth or formation of the pollen tube.

The plum pistil remains receptive three to six days. Fruit has been found to set in crosses made six days after bloom. There is a relatively short time then, a maximum of six days, that pollination can take place because the stigma begins to die and unless pollinated before it dies pollen tubes cannot be formed. Figure 3, A.



Growth is relatively slow in the pollen tube of the plum. Under favorable conditions in the greenhouse Surprise pollen took as long as six days to grow a pollen tube the full length of the style. It is clear, therefore, that since the style drops off, twelve to fifteen days after bloom, that there cannot be any great delay in the pollen tube reaching the style. Goff found that tubes were not formed at temperatures below 41 degrees F. This being the case, it will be seen that cool weather may actually prevent pollination, or since the temperatures are low for considerable periods during the early spring days, especially at nights, it can be seen that low temperatures alone, even following ample pollination, can render fertilization uncertain or prevent it completely. When adverse weather prevails at bloom, only one or two plums out of several hundred were found to be brought about.

All of this proves that the weather has a very direct bearing on the processes involved in the setting of fruit. There yet remains one other group of plums falling at a size larger than the second drop to be considered. This drop is known as the **third,** or the "June Drop," and without going into great detail, it may be stated that when plums fall at the size of a small marble they do so after fertilization has taken place because the seed fails to develop. In some cases of the crosses where extreme combinations have been made, like Compass x Yellow Egg, 1327 flowers were pollinated, 652 set and only 8 matured, as contrasted with Compass x Burbank, in which 175 flowers were pollinated, 116 set and 114 matured.

The plum grower is directly interested in the weather conditions which prevail during bloom. It is unfortunate that conditions which affect so intimately the setting of fruit are so far beyond control. An attempt to control the conditions during bloom has suggested itself to many. In the West smudges are burned in the orchards and these are effective primarily in preventing frosts where relatively narrow temperature ranges are concerned. The greatest influence upon the setting of fruits in the plum comes from temperatures above the frost point which retard pollen tube growth. Warm spring showers apparently have very little detrimental influence upon the setting of fruit. In contrast to showers prolonged rains have greater influence because in Minnesota they are usually accompanied by conditions unfavorable for the dissemination of pollen, pollen germination or tube growth. In the last seven years there has been as much as a month's difference in the time plums have bloomed but neither the earlier or the later blooming periods have apparently escaped unfavorable weather. It is clear then, that, since the conditions which prevent the setting of fruit are so far reaching in their effect and so difficult to control except within a very limited range that pollenizers for particular varieties ties should be sought among those which show the fastest tube growth at low temperaures. This phase of the subject is still under investigation. It takes years of painstaking labor to work out these intricate problems. They are fundamental to a full understanding of the reason why fruit is not produced regularly.

Send for catalogs and make up the seed and nursery list for next year. It will soon be time to plant many of the flower and vegetable seeds for early use.

Let's Be Friendly

Oak Holler, Wis.

Dear friends: Wonder what you've been thinking about since you got back from the convention?

I've been thinking of what my Mother used to tell me the last minute before I started out to Grandfather's in vacation. After the usual ordeal of getting my neck scrubbed, my hair brushed and being sent back several times to scrub my hands a little cleaner (never could see the sense of all that fussing then) Mother would say, "Now Johnnie don't forget to say 'how do you do' to Grandma and Grandpa right away—shake hands and tell them Mother sends her love; then shake hands and say 'how do you do' to your uncles and aunts and mind every word they say. Be nice to your cousins—don't get angry if they do say things you don't like—just forget it. Now be a good boy. H'm! I knew that by heart. Could say it backwards and forwards—upside down and thru the middle. Am quite sure I always remembered the part about shaking hands and Mother sending her love. Always tried hard to mind my aunts and uncles because—oh well, what's the use of bringing up painful memories, the most of you know what was liable to happen—for a shingle and the woodshed was real handy those days.

But when it came to not fighting with my cousins—that was different. I really tried to be as good as I could. Think perhaps they did too—but there's a limit—every boy knows that—girls too for that matter. We sure scrapped and fought, but there was no bitterness then. And when the day was over we all gathered together in the big room and told stories and sang all the songs we knew—and like as not we two who had fought the most during the day sat together in Grandmother's big rocking chair with our arms around each other and sang the loudest. Do you know as I wandered round 'mongst you out there I thot a lot of other boy's Mothers must have told them just about what my Mother told me. I can not help but think the early training we received comes to the surface—for surely the spirit of our childhood is growing in our Conventions. The friendly greetings, the warm clasp of the hand. The spirit of tolerance even though we may not agree — we are friends. Aren't we glad we had Mothers who told us over and over to be friends—to forget the little things—just remember that the spirit of friendliness is the greatest thing in the world—aren't we really beginning to forget "who's who" and holding out our hands in friendly greeting to all? There really isn't so much difference in us after all when we become acquainted.

Have you ever tried holding out your hands in warm greeting to some one you think doesn't care anything about being friends with you? Try it once. You will be surprised to see how really interested and friendly most folks are. That's the way our society grows—from one end of the state to the other—even from the neighboring states they come—and as we hold out our hands in friendly greeting each year this friendship grows stronger.

Those who do not come to these meetings, are missing more than they think. Pointed words cannot tell of the inspiration received there. The earnest desire to give the best there is in us to help each other. There is another meeting in the summer—don't you think you'd better plan on going? This feeling of get-together and help some body is growing. Don't you want to get into the circle—am sure you will be glad you went—your only regret, the fact that you didn't go before. Here's hoping this spirit of friendship grows until we can do as our Scot friends do—join hands and sing the old songs together.

Johnnie.

The Supplement

The annual garden supplement is mailed with this issue. Members, who through long experience in gardening do not need it are requested to pass it along to some less fortunate neighbor. In case none such can be found members are asked to return unused copies to the secretary. Printing costs have mounted so high that only a small edition has been printed while requests for it continue throughout the year.

Put out food for the birds. They especially need it on stormy cold days, when tree buds or fruits are hard to find.

Cornstalks or hay wound around tender shrubs or smooth barked trees often saves them from winter injury.

Flowers for Everybody's Garden

Mrs. C. E. Strong at Annual Convention.

I do not know if Mr. and Mrs. Everybody are here or not—if they are I want to say to them, that I think they gave me a pretty hard task.

I started out asking different people what they liked best—I failed to find two who agreed. So I decided to answer the questions as well as I could—if Everybody wasn't satisfied, why there are many other flower growers here, who no doubt would be glad to help them. These are the questions I have been asked to answer: The Everybody family own a home; they are very much interested in flowers and would like a list of bulbs, annuals and perennials that are easy to grow. They haven't very much money to spend but they want a lot of flowers the whole season, both for show in the garden and to cut. They intend to learn about the culture later.

Pretty plain questions, covers the ground. There's just one thing left to my imagination and that's the size of the garden. I decided the only thing I could do, was to give a large enough list so no one could feel slighted. I am quite sure of one thing, the Everybody family is starting out right in asking for a list early, so they can order the seeds and plants. This will save them a great many disappointments. Was also glad to know they intended to find out how to take care of this garden. For no matter how good the list may be, everybody is going to be disappointed, unless the seeds and plants are cared for properly. From my own experience in gardening I have found it is not necessary to spend a large amount of money for flowers as a great many of the best perennials are easily raised from seed.

Any or all of the following list sown early in the spring will grow readily and many will bloom the first year: Arabis Alpina, Saxatile Allysum, Sweet Rocket, Sweet William, Longspurred Columbine, Lychins, Gold Medal Hybrid Delphiniums, Fox Gloves, Gaillardias, Pyrethrums, Shasta Daisies, Oriental Poppies, Myosotis Pallustris Semperflorens. I wouldn't advise Everybody to plant all of these at once. The best way would be to read up the descriptions in the seed catalogues, then pick out five or six they think they would like best. If they are careful about following directions about sowing and caring for them, they will soon be ready for all the rest. There is one perennial not given in this list I wish Everybody would try raising from seed. Perennial Phlox is one of the most satisfactory showy plants grown in a garden and one of the easiest grown from seed. I have a large bed of these plants that in my estimation equals if it does not exceed in beauty any other collection I have ever seen—it was grown from fifty cents worth of seed. I think its the best advertisement for the nurseries in West Allis, for everybody who sees them proceeds to order some phlox plants. I wish to tell Everybody they can do likewise but its not done in one year nor without considerable work. They need careful weeding out of some sort or your phlox bed will be ruined. If I should try to tell you at this time how I found out all I have about Phlox nobody would ever hear the rest of this paper. Everybody here knows the reason, fifteen minutes the limit. This much I can tell you though, get your seed is October and sow it immediately— it needs the freezing for perfect germination.

There are a few things I would advise everybody to buy,—bulbs of course. Tulips, Narcissus, Daffodils are the indispensables in Everybody's garden. I prefer double tulips because they are more lasting—also very fine for cutting. Salvator Rosa, Courrone Dor, Tournesoll, Ball of Snow, are the best I think. Narcissus Alba Plena Odorata for double and Narcissus Poeticus, single. For Daffodils the old Von Sion is a stand by. Right here I want to tell Everybody something I know Somebody will disagree with. Dig up your bulbs only about once in three or four years, and sow the seeds of annuals amongst them early in the spring, such as Nigellas, Clarkia, Godetia, Dianthus, Candytuft, Verbenas, Gypsophila. These give you later a plentiful supply of cut flowers and shade the ground so the hot sun will not hurt your bulbs. Iris—you will want some of the early Pumila, whose buds show early in the spring. Then Iris Siberica, white and violet blue. When you get to the Tall Bearded Iris, you can spend much or little for after this beautiful flower has gotten into your garden, she will make you reckless, you will forget you cannot afford to spend money for flowers. However no matter how much or little you spend, the

charm of this flower is the same, each opening blossom gives you a new thrill. These should be planted surely, Florentine Alba, Madam Cherau, Mrs. H. Darwin, Pallida Dalmatia, Plumeri, Sherwin Wright.

Do not be afraid to try a few of the gorgeous Japanese—all they need is a heavy covering of cornstalks as they are not quite hardy everywhere.

Does Everybody want Peonies? If they are anything like myself they do. Here are six, none costing over a dollar, very free blooming—Festiva Maxima, Golden Harvest, Mons Jules Elie, Felix Crousse, Queen Victoria, Delachi. You need not envy the possessors of the more aristocratic members of this family, there may be many just as beautiful but none more satisfactory. To help out in that lots of cut flowers—sow some more annuals in your Peony bed. Tall branching larkspur, calliopsis, bachelor's buttons or centaurea if we give them their proper name, snap dragon. Gladiolus — the only trouble with these are the more you have the more you want. To me they are about the last word in cut flowers. I shall not attempt to give you a list of the best ones, do not believe I'm equal to this. However I know a garden wouldn't seem complete without America, Panama, Chief Oshkosh, Peace and Schwaben.

Almost all catalogues paint alluring pictures of great clumps of lilies—easily grown, perhaps they are by professionals but not by the average amateur. Lilium Elegans and Lilium Tigrinum are easily grown, soon forming good sized clumps, while Lilium Candidum or Madonna Lily is perhaps the most beautiful and yet can be grown by everybody. I am sure Everybody will be glad to know how to secure a large clump of these lilies in a few years at a very small expense. Take one or two bulbs—carefully break off the outer petals, I'm calling them this for want of an easier name, as the bulbs look as tho they were composed of numerous fleshy petals. Plant them where you want your clump of lilies to be, cover with about two inches of ground then plant a double row of Chinese Delphinium around them as closely as you can—in three years you will have a fine show of Lilies. Don't attempt to grow the lilies without the Delphiniums, there's a charm there, if you break it, you will be disappointed.

Everybody should have at least one plant of Clematis Recta in their garden; it is a wonderfully attractive plant with its masses of creamy white fragrant blossoms. So are the Goat's beard or Meadow sweet—properly named Spirea. If you have a damp spot in your garden a clump of the rose and white feathery plumes of the Meadow Sweet will delight you for several weeks.

I wonder if Everybody forgot to mention Roses—am sure they didn't leave them out on purpose —for whoever heard of a garden without Roses. Everybody plant a few anyway — Frau Karl Drushki, General Jack, Mrs. J. H. Laing, Hermosa, with Dorothy Perkins and Flower of Fairfield for climbers. Just to make sure there are flowers for Everybody I hope they will plant a few of the old fashioned June Roses, the kind that only bloom once a year, but the kind that you pick armsful of pink and white roses to give to somebody who is homesick for a sight of real roses once more—and still have plenty to look at.

By the time Everybody has planted all these flowers Nobody will remember me and this list. Everybody will be busy either working in their own garden or helping Somebody start a new one. Everybody will be happy—and so will I.

Poinsettias that are through flowering may be cut back and just given enough water to keep them alive for a few months, when they may be started into growth again and cuttings taken for next Christmas crop of flowers.

Delphinium, columbine and other slow growing perennials should be sown in the house early and transplanted once, if possible, before they go into the garden. They often are sown in March and transplanted directly to the garden.

The Minnesota Garden Flower Society for several years has placed flowers once a week in every hospital ward in the Twin Cities where there are sick soldiers. This was begun at Fort Snelling, but is now carried on in both Minneapolis and St. Paul. In summer the flowers are regularly collected from the members' gardens for the purpose and in winter are purchased.—Le Roy Cady, associate horticulturist, University Farm, St. Paul.

Wisconsin Horticulture

Published Monthly by the Wisconsin State Horticultural Society

12 N. Carroll St.

Official organ of the Society.

FREDERIC CRANEFIELD, Editor.
Secretary W. S. H. S., Madison, Wis.

Entered at the postoffice at Madison, Wisconsin, as second class matter. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of Oct. 3, 1917, authorized July 15, 1918.

Advertising rates made known on application.

Wisconsin State Horticultural Society

Annual membership fee, one dollar, which includes fifty cents, subscription price to Wisconsin Horticulture. Send one dollar to Frederic Cranefield, Editor, Madison, Wis.

Remit by Postal or Express Money Order. A dollar bill may be sent safely if wrapped or attached to a card. Personal checks accepted.

Postage stamps not accepted.

Something New

By action of the executive committee in session Jan. 10, the society undertakes a new line of endeavor in some respects similar to the trial orchard work.

We will try to build up the small fruit industry in Wisconsin as we have built up the orchard industry.

We discovered, after our small fruit survey two years ago, that there were practically no raspberry growers in the state, about 42 acres grown for market or less than a berry apiece for each man and woman in the state and none whatsoever for the children. We all spent two years deploring the fact and waiting for something to turn up. As neither deploring nor waiting got us anywhere it was thought best to do something.

The plan adopted is founded on the assumption that a great many people in the state would engage in the raising of berries if they knew how and could be convinced that it is profitable.

To the end that a considerable number of people may be shown, not merely told but convinced by seeing, five demonstration plats of one acre, or more, each will be planted this spring in as many counties. So far as possible these plats will be by the roadside on state trunk highways and in charge of a man who is in sympathy with the work.

There will be a contract for a term of years between the Society and the owner of the land favorable to and protecting both parties.

Raspberries and strawberries, mostly raspberries, will be planted and cared for according to directions laid down by the most successful growers in the state. Immediate supervision of the work in each county throughout the season will be in the hands of the County Agricultural Agent who will also arrange for meetings of farmers and others interested during the season. In this way we have the very valuable co-operation of the county agent organization. Further: the demonstration, while primarily intended to encourage those who are fruit inclined to plant for market, will be a direct aid and encouragement to farmers who want to plant for home use. There is only one way to raise a good raspberry or strawberry and that way is as applicable to the home garden as to the ten acre plantation.

Full details of the plan have not yet been worked out but the five counties have been pretty positively located. Announcement will be made of the exact location of each plat as soon as determined.

If the plan works out as expected other plats will be established next year until fifty or one hundred are located. The Board of Managers thru the Secretary will be pleased to receive suggestions both as to the general plan as well as offers of sites for future plats.

Success is certain if we all get behind the movement. Don't be backward about coming forward with suggestions. Don't let George do it all.

Important Change in Constitution

On Thursday afternoon of the Convention the Society adopted an amendment to the constitution more important than any other amendment since the 1905 revision.

The amendment provides that the members of the executive committee shall be elected by the members present at the annual convention in open meeting as the president and vice president are elected.

Heretofore, as the older members know, members have been selected from congressional districts and by the local societies in such districts. Now, if the members present at the annual meeting so decide, all of the members may be from one district.

Every member has a copy of the Constitution and By-Laws, a

little pamphlet with brown paper cover prepared and mailed to every member in 1919 and to every new member since. If members will look up their copies and mark the change it will save the expense of having new copies printed. Mark as follows:

Page 5, Article 5, beginning at "and" fifth line change so as to read, "and eleven additional members, a majority of whom shall constitute a quorum." Strike out all of Article 7, page 7, and all of Article 8, page 8, and number articles 9, 10 and 11 to read 7, 8 and 9.

Premiums Awarded at Annual Convention

Fruit

H. H. Harris, Warrens

Collection Apples 2nd; **plates:** Fameuse 2nd, Newell 3d, Plumb Cider 1st, Salome 1st, Scott 3d, Wealthy 3d.

Single Tray: Fameuse 1st, N. W. Greening 4th.

L. B. Irish, Baraboo.

Plates: Gano 2nd, Newell 2nd, Scott 2nd; **Single Tray:** Scott 2nd.

Ralph A. Irwin, Lancaster.

Plates: Fameuse 3d, N. W. Greening 4th, Salome 3d, Windsor 1st; **Single tray:** Fameuse 4th, N. W. Greening 1st.

F. B. Sherman, Edgerton.

25 plates, 5 commercial varieties: 2nd, collection 3d; **Plates:** Fameuse 4th, Golden Russett 3d, Grimes Golden 2nd, McIntosh 4th, McMahan 1st, Spy 1st, Pewaukee 2nd, Salome 4th, Seek 3d, Scott 4th, Tolman 4th, Utter 2nd, Wagener 1st, Wolf River 3d, Windsor 2nd; **Single tray:** Fameuse 3d, Grimes Golden 1st, McIntosh 2nd, McMahan 1st, Salome 2nd, Tolman 2nd, Windsor 1st.

L. E. Birmingham, Sturgeon Bay.

Plates: Grimes Golden 1st, McIntosh 2nd, Newell 4th, Tolman 2nd, Wealthy 2nd.

Kickapoo Development Co.

Plates: Ben Davis 3d, Golden Russett 2nd, Jonathan 3d, McIntosh 1st, N. W. Greening 3d, Tolman 3d, Wealthy 1st, Windsor 4th; **Single tray:** Jonathan 1st, McIntosh 1st, N. W. Greening 2nd, Wealthy 1st; **5 trays:** McIntosh 1st, N. W. Greening 1st, Wealthy 1st; **Ten trays:** McIntosh 1st, N. W. Greening 1st, Wealthy 1st.

A. K. Bassett, Baraboo.

25 plates, 5 commercial varieties: 1st collection 1st; **Plates:** Ben Davis 2nd, Fameuse 1st, Gano 1st, Golden Russett 1st, Jonathan 1st, Newell 1st, N. W. Greening 2nd, Pewaukee 3rd, Salome 2nd, Seek 1st, Scott 1st, Tolman 1st, Utter 1st, Windsor 3d, Wolf River 1st; **Single tray:** Ben Davis 1st, Fameuse 2nd, Gano 1st, Jonathan 2nd, McIntosh 3d, N. W. Greening 3rd, Pewaukee 1st, Salome 1st, Seek 1st, Scott 1st, Tolman 1st, Windsor 2nd, Wolf River 1st; **5 trays:** N. W. Greening 2nd, Tolman 1st, Gano 1st, Salome 1st; **Ten trays:** N. W. Greening 2nd, Tolman 1st, Wolf River 1st, Fameuse 1st, Salome 1st, Seek 1st, Windsor 2nd.

N. A. Rasmussen, Oshkosh.

Plates: McIntosh 3d, Wolf River 2nd; **Single tray:** Wolf River 2nd.

A. M. TenEyck, Brodhead.

Collection apples: 4th; **Plates:** Jonathan 2nd, McMahan 2nd, N. W. Greening 1st; **5 trays:** N. W. Greening 3d.

Mrs. J. H. Cooper, West Allis.

Plates: Ben Davis 1st, Spys 2nd, Pewaukee 1st.

Vegetables

Wm. Toole Sr., Baraboo

Short Horn Carrots 1st, Yellow Danvers Onion 3d, Salsify 1st, Leek 1st, Collection Nuts 1st.

Walter R. Brunka, Oshkosh

Collection: 2nd, Blood Turnip Beets 1st, Chantenay Carrots 1st, Short Horn Carrots 3d, Winter Cabbage 2nd, Pop Corn 2nd, Red Onions 1st, White Onions 1st, Parsnips 1st, Hubbard Squash 2nd, Celery 1st, large onions 2nd.

Albert Gilley, Stoughton.

Red onions, 3d.

H. C. Christensen, Oshkosh.

Blood Turnip Beets 2nd, Chantenay Carrots 2nd, Chicory 1st, Celery 2nd.

Mrs. E. E. Schneider, Madison.

Short Horn Carrots 2nd, Hubbard Squash 3d, Salsify 3d.

N. A. Rassmussen, Oshkosh.

White turnips 1st, Yellow turnips 1st, Rutabagas 1st, Chantenay carrots 3d, Winter cabbage 1st, Chicory 2nd, Pop Corn 1st, Yellow Danvers onion 1st, large onions 1st, Parsnips 3d, Peppers 1st, Hubbard Squash 1st, Chinese cabbage 1st, Salsify 2nd, Collection 1st.

J. W. Roe, Oshkosh.

Red onions 2nd, Yellow Danvers onions 2nd, Parsnips 2nd.

THE INSECT PAGE

Conducted by the Department of Economic Entomology College of Agriculture

How did you like the story on cockroaches in the December paper? From time to time there will appear in this department articles treating with the more important pests which sometime or another gain entrance into all houses. These will be written by one who has tested and understands the most up-to-date methods which are used against such pests. Read them and keep them on file as the time is sure to come when you will want to know how to control one or more of these pests. This page is your page and if we do not answer all your insect troubles, write us and we will be glad to help you out.

Sparrows—A Nuisance to Most Farmers

Never before have we received so many inquiries regarding the bets methods to rid premises of sparrows. If granaries are at all accessible, these little birds soon find entrances and very quickly become not only a nuisance but a costly liability. At this time of the year, they are easily killed with a poison and without much danger to other birds which are protected by law.

The best method we know of at present is the use of a poison consisting of strychnine. Proceed as follows:

Select a suitable feeding place inaccessible to or unfrequented by other birds or animals. Attract the English sparrows to this place by daily feeding of clean wheat or bird seed. As soon as the sparrows gather in large flocks, for feeding, substitute the poison food which is made as follows:

Place 1/8 ounce of powdered strychnine sulphate (strychnine) in 3 ounces of hot water. Add 1½ teaspoonful of flour or starch moistened with a little cold water and heat, stirring gently until the mixture thickens. Pour the hot poisoned paste over one quart of wheat in a pail or other suitable container. Then stir or shake thoroughly until all the grains are coated with the mixture. Spread out in a safe place until the grain is thoroughly dry. It is then ready for use.

Be careful in the use of the poison grain as the killing of other certain birds is punishable by fine or imprisonment. Also keep the poison away from other animals or children as it is dangerous to all life.

Don't forget to watch your beans for presence of the bean weevil. If the beans are in warm storage, this little pest if present will soon eat them full of holes. The beans should be put into a tight container and fumigated with carbon bisulphide. Afterwards, place the seed in a tight container and put in a cool place so that if there are any weevils not killed, they will be unable to develop. Remember carbon bisulphide is explosive, when mixed with air. Keep all sparks away.

L. C. F.

Grubs in Cherries

Wormy cherries are known to almost everyone, especially where spraying is not practiced regularly. There are several species that cause the grubs in the fruit but in Wisconsin most of them are the larvae of the plum curculio. Now and then there is also noticed a worm in ripe cherries which does not look quite like the plum curculio grub. This other worm is a true maggot coming from a prettily marked fly while the curculio is the larva of a snout beetle.

The curculio makes a cresent shaped cut on the fruit around the point where the egg is laid under the skin. This protects it from the growing tissue. As soon as the egg hatches the grub bores into the flesh of the fruit making it unfit for food. The grub of the curculio is quite similar to the maggots of the fruit flies. The latter however are more slender, somewhat semi-transparent, and taper quite prominently at the head end. The curculio on the other hand is somewhat plumper, more opaque, not so tapering, and when at a resting position the body assumes a crescent shape somewhat like a quarter-moon.

Quite unfortunately there is very little external evidence of the presence of the fruit fly larvae in the cherries at picking time "and often the fairest-looking fruits contain maggots which the housewife may discover at canning time or in the bottom of a dish of luscious cherries left over from a previous meal."

Fortunately, on the other hand, the fruit flies are not very important pests of cherries in Wis-

consin, the curculio being the main offender of this crop.

Both are checked by the same method, spraying with lead arsenate, 1½ pounds in 50 gallons of water. This is best applied right after blossoming time and again in a week or ten days.

L. C. F.

Peas and Beans for Everybody's Garden

Wm. Longland, Lake Geneva

(At Annual Convention)

Fresh peas in June picked from your own garden are generally acknowledged by all to be one of the best of vegetables. We are all generally hungry for them. Although they are one of the easiest crops to grow, it is sometimes very hard to keep a good succession, where they want and expect fresh peas two and three times a day as long as the season lasts. I have never yet found when I could depend on three varieties to do this as a spell of real hot weather will stop growth on a later planting of a variety and practically bring them to maturity the same day with a half crop of peas.

The ground I use for peas I have fertilized and spaded in the fall the soil thrown up as rough as possible. This allows one to get in his crop earlier in the spring, the soil drying out quicker. If the ground is dry enough the latter part of March, I put in my first crop, or as soon afterwards as possible. I cultivate the ground, break up the large lumps but do not rake it fine. I plant in a shallow trench, thrown out with a spade about 3 inches deep and loosened at the bottom with a cultivator hoe, thus the seeds are two inches deep when covered.

At this time I plant Gradus for 1st, Marvellous for 2nd, and Sutton's Excelsior for 3rd. I do not plant again until I see the peas bursting out of the ground. Then I plant Grains, Early and Late, Senator and Dwarf Telephone. In about 7 to 10 days I plant Stratagem, Senator, Advancer and Everbearing. It depends on the weather conditions whether or not I plant again as our garden is in the woods and does not get the winds like an open garden. I do not grow the June type of pea such as Alaska, Maud S., etc., because they are only about two days earlier and have not the flavor of the wrinkled varieties or Marrowfat. All the peas are grown on chicken wire built on a trellis made of stakes driven in the ground eight feet apart with a pole fastened at the top. I use binding twine to keep them to the wire as they grow very vigorous in our rich soil. We cultivate between the rows as often as possible as they like plenty of cultivation. I change the location every year. Peas planted early will generally do well in anybody's garden.

Beans for Everybody's Garden

French Beans or Stringless Beans as they are generally called are I think one of our easiest vegetables to grow and keep in succession. The three best varieties that I know to be prolific and very long bearing are 1st, "Cook's Prolific," long, stringless, round green pod; 2nd, "Sutton's Masterpiece," stringless, long flat, green pod; 3rd, "Farquahar's White Wax."

The ground is prepared as for peas. I generally plant the first crop of beans the latter part of April or as soon as the weather permits. I draw a wide drill with a hoe and sow all along the row, allowing 20 to 24 inches between rows. I plant these three varieties at the same time. These start to bear as numbered. For succession I plant every ten days till September. While they are bearing I never pick them when they are wet, always picking them in the afternoon as it prevents rust. Then I always pick what is ready to pick as they will bear very much longer that way.

Sometimes in midsummer the bean hopper will do damage just as they make their first leaves by sucking all of the juices out of the leaves. I take white mosquito netting in long strips and lay it over the beans until they get larger. Then take it off and put it over the next succeeding crop, this way they are not hurt as it is in the young stage when the damage is done. Cultivate well but never in the morning when the dew is on the beans, wait till they are dry.

Lima Beans

The ground is prepared as for peas and beans. As a rule there are many complaints about lima beans rotting in the ground. Generally the reason for this is a cold wet spell just after the beans are planted. For the past 17 years I have not had any trouble that way. This way takes a little longer but it is sure. Chop out a hole with a hoe every foot, drop in a handful of sand, push three or four beans in the sand edgeways and cover up lightly with soil. This way they will not

rot or break their necks in coming up, which the large varieties are apt to do.

Bush Lima

I plant Bush Limas 15 inches in a row 3 feet between varieties. 1st, Henderson's Bush Lima, 2nd, any variety you fancy. Follow with Tall Lima. 1st, Early Leaviathan, 2nd, King of the Garden.

Pole Limas

Plant Pole Limas one foot in a row five feet between varieties. Drive poles in the ground 10 feet apart and staple a wire on the top and about one foot off the ground. Tie binding twine between the two wires at intervals of one foot. They climb this very easily. Cultivate the same as peas and beans.

Good News!

For years we have been urging farmers to do one of two things, take care of their orchards or dig them out. For a long time it appeared as if our preaching had no effect but here comes the first glad note from the Appleton Post-Crescent of Jan. 13th, 1921.

"Outagamie county is a poor place to raise apples and try to sell them at a profit, thinks Fred Brockmann, farmer living in the town of Freedom. Mr. Brockmann had two acres of prolific apple trees but is clearing the entire tract except for a few trees near his house which he will use for shade and for a home supply of apples.

The apple crop this year was unusually heavy and there appeared to be no sale for them. Wisconsin apples do not keep all winter and most people buy the eastern product instead. Mr. Brockmann believes his land will

produce greater profit if planted with something else.

The farm originally had five acres of apple trees, but Mr. Brockmann removed the majority several years ago. It appears when there is a big apple crop, there is no sale for the fruit, and when the crop is small, nobody has enough to sell so there always is a disadvantage in raising apples."

Here is one farmer who would not take care of his orchard so as to produce merchantable fruit yet had sense enough to get out of the game. May his tribe increase. When these neglected farm orchards which produce only culls that ruin the market for decent fruit are all gone a few real apple men will have the courage to plant real orchards in Outagamie county that will produce real apples. There will be no trouble in selling them, people will wear a deep rut to the orchard to buy these good apples. He didn't know, likely there was no one to tell him, that he might better have put his time on the original 5 acres of orchard and let the rest of his farm go. It would have paid better, assuming the orchard consisted of standard kinds.

Watch for rabbit work. Either protect the trees or get the rabbits.

Send to the U. S. Department of Agriculture, Washington, D. C., for Farmers' Bulletin No. 1057 on "Planting Farmsteads." This is a good time of year for studying it.

Grass For Shady Places and Fertilizer For Shrubs

A member asks the familiar question: "What lawn grass, if any, will grow in shaded places and under large trees." Prof. Aust of the Agricultural College says: "Here on the campus we find Old Shady Mixture exceedingly satisfactory for shady situations. The member also inquires about fertilizer for shrubs and Aust says:

"Pertaining to fertilizers it is difficult to give directions without knowing more of the type of soil for which it is to be used. In my experience on the campus I use sheep manure and nitrate of soda throwing this directly around the shrubs during May and June. For trees eight inches in diameter I use two pounds, putting it on at intervals of two or three weeks, one-half pound to the application, spreading this around the tree.

Something to Think About

The recent convention proved that we have arrived at a point in our affairs where a change must be made in order to accommodate all the different interests and still confine ourselves to the limitations of time and money that can be expended on the convention.

The amateurs complained this year that so little time was available for discussion and their point was well taken. The commercial fruit growers entered an equally well founded protest. The small fruit men pointed out that they were entirely overlooked while one-half day would be too short a time to present the topics of

most interest to them. Market gardening received but scant recognition and the professional florist interests were represented by zero. On top of all this comes the nuts! We hasten to state that nut growers are meant. Nut fiends are the worst ever but their claims are all well founded and demand recognition on our program: rural planning was mentioned incidentally while an entire day could have been profitably devoted to this subject. Aside from ten or a dozen minor subjects these were the only ones missed.

On top of this is another big outstanding fact: the increased interest in the papers and discussions. There were few or no loiterers this year in the rotunda during the sessions. As soon as the meeting was announced everyone made a bee line for the hall and stuck until the last word was spoken and left disappointed that they were not given opportunity to ask questions. Such a condition is wrong and must be remedied.

It is true that the secretary, who has much to do in arranging the program, can cut down the number of topics but is this wanted? Plainly from this year's experience it is not wanted.

The overcrowding of the program this year may be accounted for in part by the fact that there was only one person absent out of the forty-one on the program while twenty per cent is the allowance usually made.

The following three plans have been offered as a solution: The organization of a commercial fruit growers society which might be auxiliary to the state society but holding a separate convention or conventions. This, in the opinion of the editor, would be the beginning of the end of the usefulness of the state society. Our strength and influence lies in the fact that every horticultural interest in the state is united in one body. If the orchard men split off other interests are likely to follow until only a skeleton will be left. No, the place for the large orchardists is in the state society and provision must be made for them.

The second plan proposed is to adopt the one followed by medical societies and many other large societies viz., to hold sectional half-day meetings. Under this plan the forenoon is devoted to topics of general interest and attended by all; in the afternoon three or more sectional meetings in as many rooms. In one of these meetings a program for commercial fruit men, spraying pruning, orchard culture, etc.; another program for vegetable growers; another for back yard gardeners, etc., etc.

The third plan is to extend the time to four or five days and the program divided into parts as now but all in one auditorium or room.

There may be other plans equally good and the editor invites suggestion and comment. This is a matter that must be adjusted before the next convention and demands careful consideration. Send your ideas to the editor who will give them space in our magazine.

Cooperative marketing pays in more ways than one. It is cheaper and more effective in advertising products and saves the individual grower's time.

House plants will not thrive in gas, dust or high temperatures. Good ventilation and moist air are needed both for plants and humans.

AMONG WISCONSIN BEEKEEPERS

Devoted to The Interests of The Wisconsin State Beekeepers' Association
H. F. Wilson, Editor

OFFICERS OF THE WIS. STATE BEEKEEPERS' ASSN.

Pres. L. C. Jorgensen Green Bay. **Treas.** C. W. Aeppler, Oconomowoc.
Vice-Pres. A. C. F. Bartz, Jim Falls. **Secy.** H. F. Wilson, Madison.

Annual Membership Fee $1.00.
Remit to H. F. Wilson, Serretary, Madison, Wis.

Honey the Health Food

Every time you write a letter, tell your friends about honey.

Wisconsin State Beekeepers' Association

There are nearly 1,000 members in the State Association at this time and we are said to have one of the best organizations of its kind in the United States. Such an organization can only thrive through the full cooperation of the beekeepers. Every member of the State Association should make an attempt to secure an additional member this year, and if you do not already belong to one of the local associations, arrange for membership at once. Why not strive to increase the membership to at least 1500 members by the time of the next annual Convention?

Wisconsin Honey Producers' Cooperative Association

The response of our beekeepers to the request for membership in this organization has been very gratifying and with the present showing there seems we have every reason to expect that by the time of the next annual meeting of the stockholders, we will be able to increase the capitalization to $25,000. No attempt has so far been made to place honey now held by our beekeepers' because the market is very slow, and the price is too low. An organized plan is now under way to get in touch with every large dealer in the United States with the hope that during February and March we will be able to dispose of a part if not all of the crop now on hand. Should we be unable to do this, it will be no fault of the organization, but due rather to the fact that the buyers are not taking any more honey at this time than is absolutely necessary to run their business.

Before we can expect to do any great work along this line we must have sufficient funds to enable us to advertise. These funds can only be secured through a larger organization. If you have not already done so, be sure and send in your subscription for at least one share of stock. A number of beekeepers have already subscribed for ten shares at ten dollars a share. We will be glad to furnish you any information desired concerning the association.

National Honey Producers' League

A meeting of the officers of the National Honey Producers' League will be held at Indianapolis on February 15 to 17, 1921. Every beekeeper is welcome to attend the meetings and to listen to the discussion. Any beekeeper who has the time and money to attend will be well paid for the effort.

Wisconsin State Fair

At the time of the State Convention every beekeeper who exhibited at the Fair in 1920 had made application for space in 1921. At that time there was only room for eight more exhibitors. If you have not already applied for space, do so at once. Let everyone strive to make the 1921 Fair greater than ever. We now have the largest premium list of any state fair of the United States and should have by all means the largest and best exhibits.

Beekeepers' Chautauqua and Summer Meeting of The State Beekeepers' Association

Arrangements have been made with the Association of Commerce of Chippewa Falls to hold a meeting at Chippewa Falls from August 15th to 20th. A large park with an auditorium is available, and a camp site will be ready for those who desire to camp out. A number of prominent speakers will be present and special attention will be given to marketing the 1921 honey crop. For more particulars, write this office.

Beekeepers' Short Course

University of Wisconsin

February 7 to March 17, 1921

Do not fail to send in for a catalog of our short course for practical beekeepers. No matter how long you may have been keeping bees, there will be some new information which will more than pay for the expense of the trip.

Bees and Alsike Seed

A seven acre field of alsike, stand medium to good, threshed 39 bushels of seed, machine measure. There were fifty colonies of bees within one-quarter mile. This farmer has faith in bees to help produce a crop of alsike seed. Next year there will be another still larger field near the first one.

Ivan Whiting,
Plymouth, Wisconsin.

President's Address

Gus Dittmer, Augusta

At this our 42nd annual convention, I am privileged to greet the beekeepers assembled here, as a State Association representing approximately 1,000 members.

A year ago, the association consisted of about 600 members, and when we stop to think that only a few years ago, it was less than 200, our growth seems phenomenal, and certainly exceeds the record of any other state.

This phenomenal growth is of course largely due to the organizing of about 35 County and Local Associations, of whom over 30 are associated with the State Association. This work is of course largely due, directly and indirectly to the extension work of the University and the Department of Agriculture, and will be persisted in, until every county is organized. Especial credit should be given to our Secretary, Prof. Wilson, who with the consent of Dean Russell, and the aid of the Agriculural College, has been untiring and persistent in his work for Wisconsin Beekeeping.

Our work at the Agricultural College, has now reached the point, where the necessity for more room and better facilities are in absolute demand, and the University will no doubt provide for this need at the earliest possible moment. Sufficient provision should be made in the next budget, to meet this necessity of the

beekeeping section of the College, with the view to place it eventually on a par with Dairy and other departments. I was much impressed on meeting at the Chautauqua last August, a young Chinaman from Peking, and found that he was taking the Beekeeping course at the Agricultural College. This shows the importance to which Wisconsin Beekeeping has attained, and the necessity of the state to spend some money on it.

That the beekeepers comprising this association, have awakened to the importance of Wisconsin Beekeeping, is evidenced by the fact, that at a time, when the membership was about 700, they by an almost unanimous vote, raised the annual dues from 50c to $1.00.

If the members almost unanimously voted to raise the dues to $1.00, it must have been with a definite object, realizing the importance of strong organization, and trusting to the action of this convention to do something effective.

Something has already been done in the way of bringing WISCONSIN HORTICULTURE with four pages exclusively for beekeepers, to each of us every month. This however after paying for it and our ordinary expenses, will still leave us a margin, which should be used for other vital purposes.

We certainly can have no object in accumulating money in our treasury, and keep it there, as we are not an insurance or indemnity society.

What the members have a right to expect, is substantial benefit in the matter of buying supplies, and easy facilities to dispose of their honey without glutting the market, at a reasonably fair and uniform price, so far as it is possible for this Association to do anything in the matter.

Initial steps should at once be taken, to take this matter under advisement, and a committee appointed to consider it, and report at this session. I recommend that the matter be referred to the board of directors to consider and make recommendations.

In the past I have often been asked the question, what is the benefit to me, in being a member of the State Association? and I must confess that I was never able to give a satisfactory answer. When we were few in number, it seemed more like a social club, where beekeeping was the favorite subject for talk and discussion, for mutual information and benefit. It certainly was a great benefit to me and helped me to acquire what little I know about beekeeping. Going to the conventions year after year was of course expensive, and as all the members did not attend, they lost such benefits as I received, consequently the questionable benefit to them.

Now he receives all these and many other benefits, through the medium of WISCONSIN HORTICULTURE, which is worth more than the annual dues he pays. This however is only a beginning, and we must keep right on to increase the membership in the association and making it indispensible to every beekeeper of any consequence in the state.

Some plan of disposing of our honey by co-operation, assuring us of ready sale, where now many beekeepers dispose of their honey at ruinous prices, just because they don't know how or where to sell, and receive uniform prices, should be possible, and is certainly worth considering while we are all assembled, even if we have to drop part of our regular program.

I now wish to speak about the Bee & Honey Department at the last State Fair. Our deparment was a perfect success the last time. Every foot of space was not only occupied but crowded. If more exhibits had entered, we would have been overcrowded, and dissatisfaction would have resulted.

$865.00 was awarded as against $270.00 last year, or more than three and one-half times as much. The number of exhibits we had proved to be just about right for the room at our disposal, approximately 3,500 feet.

For the number of exhibits we expected, we had figured to limit space to about 8 feet for each, but as we were disappointed by several, not less than 12 feet was given, and the exhibitors could have used more. It is therefor evident, that what seemed a disappoinment, proved to be fortunate.

If we remain in the old building, changes will be made, so that about eight more exhibits can be accommodated, or a total of about twenty, as against twelve last time, and each exhibit limited to twelve feet.

As all of last year exhibitors are coming back, they will of course have the first preference, and the eight additional for making it twenty, will have the preference in the order of their entries or applications.

There is however a probability of our being moved to a larger building. This however is subject to the action of the Legislature, making appropriation for a new dairy building and other buildings.

If such a change is brought about, there will be no limit to the number of exhibits, or the space required by each.

I am extremely anxious that such a change will result, and am confident that we will be able to make a proper showing in a larger building, in fact I know that we can put up the most attractive show on the grounds.

The premium list has been again revised, to conform to the growing needs of this department.

Especial attention has been given to Class 124, or County Association exhibits.

Class 122 covers individual large exhibits in numbers 1 to 5, and offers $283.00 awards.

Class 123 covers individual entries in charge of the Superintendent, numbers 6 to 39 and offers $762.00 awards.

Class 124 covers County association exhibits, in numbers 40 to 52, and offers $1,200.00 awards.

Class 124 does not offer direct premiums, but awards will be made according to the score, on the basis of $75.00 for each exhibit. If ten County exhibits qualify, $750.00 will be divided pro rata, but no one association to draw more than $125.00. In the scoring, mileage will be considered to the maximum of 250 miles or 500 points.

The State Fair wished to make County exhibits the special feature of this department, and for this reason is making offers specially attractive as an inducement.

Our first attempt at County exhibits was a perfect success, as every one of them placed large and well arranged exhibits, that made all of the old veteran exhibitors stand up and take notice, so much so, that next year, there will be a healthy and fraternal competition, as all of them will return, each with the object of placing the largest and most attractive exhibit.

The County Associations that participated are, Baraboo Valley, Dane county, Grant county and Marathon county.

Six other County Associations had decided to participate and had engaged space, but either failed to appear or flatly backed out.

Among the visitors were members from ten different associations, that were not represented with an exhibit. Every one of them were impressed with the exhibits, and we will have no trouble whatever to get the additional eight exhibits for the next State Fair.

Considering the importance to which the Bee and Honey Department has attained, thanks to the cooperation of all the exhibitors at the last fair, it would seem not only advisable, but the proper and right thing to do for this association, to at once make the State Fair a part of our regular business, by creating a standing committee on Bee and

Honey Exhibit at the State Fair. Especially is this advisable in view of the probability of our being moved to larger quarters.

There are several things that might be considered for a start. First of all, headquarters for the association, with the Secretary or an assistant on duty all the week. In connection with this, a Rest Room for beekeepers and their families. An exhibit should also be planned by the association, as a strictly State Association Exhibit, in charge of a competent beekeeper, and at the expense of the association.

It would be a good idea to have a lady for this purpose, to distribute suitable literature and give lectures or talks on the use of honey or any other subject of interest to the general public.

I hope hat I have not wearied you by my constant talk about the Bee & Honey Department, but I am profoundly interested in its success.

I have as I believe, the support and backing of the State Fair management, at any rate, they have given me all I have asked for, without stint or question. There is just one more thing I ask, and that is, the wholehearted support and co-operation of the State Beekeepers' Association, and in time we will have practically every County Association lined up, and when that time comes, we will have the largest exhibit at the State Fair.

Objects and Benefits of the American Honey Producers' League

The basic idea of the League is an organization of representatives of associations of beekeepers and honey producers. These associations primarily are the members of the League, but act through their representatives. Others as individuals may and are desired to join, and these also get the benefits and services of the League, but have no vote at the meetings, although they may join in discussions.

The object of the League is "The Furtherance and protection of the interests, activities and rights of beekeepers in all lines in any manner not inconsistent with public policy."

In carrying out this clause of the constitution it is proposed to give "Service," the present day slogan. This service is to be given to the individual beekeeper, along certain lines already decided upon, and others as they may appear from time to time.

Among these may be mentioned:

(1) "To foster and promote better methods and systems of marketing." In doing this there will be an attempt to secure a standard classification of different grades of honey, and standard types of packages. This will give a basis for comparison of prices, making the product more uniformly saleable, also assist in packing for shipment in ways that will be satisfactory to the transportation companies, thus making for lower freight rates.

It is contemplated to keep the members regularly informed as to prices and supplies of honey at the principal marketing centers. In this way if one market has all it can reasonably handle and another is short of honey, shipments may be made or delivered to the latter, relieving the shortage, and preventing flooding of the first. This service can be made of **very great** benefit to the producer.

The League could also inform the members of crop conditions and prices more effectively than the Government is now doing and thus assist the producer in arriving at a just price for his product.

(2) "To assist in the standardization of bees and equipment."

We have no authoritative standard of races and strains of bees, and one is needed.

As for equipment, the supply manufacturers and dealers have to carry a much larger stock, at present, than should be necessary. As some of them do not carry a very large stock the beekeeper is apt to order some equipment that cannot be secured except from the factory at extra freight cost and long delay. For instance, in the past it was impossible to get foundation locally other than for Langstroth brood frames and super foundation for sections, which would not fit shallow frames. We all know the multiplicity of sizes of hive supers and sections. If these only affected the dealer and manufacturer the beekeeper might not kick so hard, but when it is recalled how the dealer must carry a great deal of dead stock, which costs money which has to be covered by increased prices on other articles, it comes home. "Jones pays the freight." So any reduction in the types of equipment made and sold will result in lower prices. There should be only one size comb honey section box, one size or depth of super, the types of brood chamber could be materially reduced, and so on down the line. Especially, **kill** the "Excelsior" cover.

(3) "To provide legal aid to beekeepers and affiliated organizations, and to assist in the passage of reasonable and necessary legislation."

This would assist in protection against unjust laws and regulations. There should also be made an effort to make more uniform laws relating to diseases, and inspection and shipment of bees, queens, honey, etc.

(4) Along the lines last mentioned might also apply "Broader education in apiculture, and research along lines of general interest to beekeepers."

Assist in getting liberal appropriations for national and state experiments and solving of beekeepers' problems, such as Dr. Phillips and Mr. Demuth have been conducting in Washington, and others in state colleges, etc.

The above are only a few of the many real benefits that can and will be secured by the American Honey Producers' League, if (that little word) the beekeepers will get behind it by forming State associations and having such associations affiliate with the League. Let each one do his part. Don't sit back and "let George do it" thinking you will get the benefit anyhow. No one will get any benefit if everybody sits back.

W. E. Joor.

Disposal of Honey and Brood From Diseased Colonies

If only one, two, or three, colonies in a yard are found diseased, it is better to destroy the brood at once by burning in a closed space of some kind. If a whole yard is to be treated so called "hospital colonies" may be made by stocking the combs from four or five colonies on top of a slightly diseased colony above a queen excluder until the brood is hatched out. Then the "hospital colonies" are treated and the brood combs from them melted down or destroyed.

Hospital colonies kept around a yard are extremely dangerous and are likely to be a continual source of reinfection no matter how carefully they may be looked after.

Honey from such colonies should be extracted and bottled as soon as taken from the hive. All combs, including those with brood from the lower hive body of each colony should be melted down and the wax extracted at once.

Hospital colonies should not be allowed to run longer than 21 days before treatment. The bees should be removed from the upper stories by means of a bee escape and the hive bodies removed and carried into the storeroom before treating the bottom part.

Hospital colonies should be set at some distance from the main yard and all hive bodies must be bee tight except for the entrance.

Annual Report of the Treasurer of the Wisconsin State Beekeepers' Association from December 4, 1919 to December 2, 1920

Dec. 4	To balance on hand		$401.43	
Dec. 19	By the Print Shop, Erwin H. Koch, Mgr. 200 badges, $15.00; 250 programs, $10.00			$25.00
Dec. 19	By Mrs. M. Hildreth, Asst. Secretary, for work 1919			25.00
1920				
Feb. 21	To H. F. Wilson			
	256 members at $.50 each	$128.00		
	3 members at $1.00 each	3.00		
	3 Assns. affiliated, $5.00	15.00		
			146.00	
Feb. 23	By Wisconsin Hort'l. Soc., 294 memberships in same which include a subscription to Wisconsin Horticulture for each member			73.50
Feb. 23	By H. F. Wilson for Sec. expense fund			25.00
Feb. 23	By A. L. Kleeber for expenses attending meeting of marketing board to establish honey grades			5.67
Feb. 23	By Asst. Sec. Mrs. M. Hildreth, salary for January and February			10.00
Feb. 25	By N. E. France for expenses attending meeting of marketing board to establish honey grades			7.60
Mar. 19	By Democrat Printing Company for printing 1500 Directories			105.00
Apr. 23	By Asst. Secretary salary, March and April			10.00
May 4	By H. F. Wilson, Sec. expense fund			37.78
June 7	By Asst. Sec. salary for May			5.00
July 14	By Asst. Sec. salary for June			5.00
July 22	By Democrat Printing Company			
	500 stickers.. $4.35			
	2000 receipts.. 12.75			
	Disc. 1% ten days on the latter			16.87
July 22	To H. F. Wilson			
	182 members at 50c each	$91.00		
	14 members at 1.00 each	14.00		
	4 aff. Association $5.00	20.00	$125.00	
Aug. 10	By Asst. Sec. salary July			5.00
Sept. 3	By three negatives of state fair Honey Exhibit, $2.50	$7.50		
	Three photos, 50c	1.50		9.00
Oct. 1	By Asst. Sec. salary August and September			10.00
Nov. 22	To H. F. Wilson			
	191 members at 50c	$95.50		
	120 members at 1.00	120.00		
	1 member at 1.50	1.50		
	1 member at 2.00	2.00		
	Asso. Affil. 5.00	5.00	224.00	
Dec. 2	By H. F. Wilson, Sec. Exp.			41.89
Dec. 2	By balance on hand			479.12
			$896.43	$896.43

Financial Report of the Secretary for 1920

Received dues from	
629 members at 50c each	$314.50
137 members at $1 each	137.00
1 member at $1.50 each	1.50
1 member at $2 each	2.00
8 Associations affi'iated at $5 each	40.00
	$495.00
Paid to A. C. Allen, Treasurer	
February 20	$146.00
July 13	125.00
November 27	224.00
	$495.00
Received from A. C. Allen for expenses	$37.78
Balance due Secretary	41.89
	$79.67

Expenses

Postage	$36.07
1 Record Book	1.20
Envelopes and Cards	18.70
Carfare	2.40
Wis. Hort. Acct.	.65
Telephone Calls	1.80
Telegram	.60
(Extra) Clerical Work	4.55
Mimeographing	3.70
(Extra) Clerical Work	10.00
	$79.67
Received	37.78
Balance Due	$41.89
Paid up Members	848
Unpaid Members	106
Total	954
No. of Members last year	528
Increase of	426
No. of Affiliated Assns.	25
Members paid for 1921	119

Opportunity

They do me wrong who say I come no more
When once I knock and fail to find you in;
For, every day I stand outside your door,
And bid you wake and rise to fight and win.

Wail not for precious chances passed away,
Weep not for golden ages on the wane;
Each night I burn the records of the day,
At sunrise every soul is born again.

Laugh like a boy at splendors that have sped,
To vanished joys be blind and deaf and dumb;
My judgments seal the dead past with its dead,
But never bind a moment yet to come.

Though deep in mire, wring not your hands and weep,
I lend my arm to all who say, "I can."
No shamefaced outcast ever sank so deep
But he might rise and be again a man.

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

Volume XI | Madison, Wisconsin, February, 1921 | Number 6

SUPPLEMENT TO REGULAR EDITION

HELPFUL HINTS FOR THE BEGINNER IN GARDENING AND FRUIT GROWING

The aim in preparing the articles in this supplement has been to make them as brief as possible consistent with accuracy. They are not intended so much for the **experienced** gardener as for the **beginner.**

Hundreds, perhaps thousands, of people each year write to the Department of Horticulture of the University and to this Society asking about the best varieties of small fruits to plant, how far apart to set the plants, etc., as well as questions covering the whole of gardening. It is confidently believed that a **careful** reading of the following articles will furnish answers to many such questions.

These articles were written in 1918 by Prof. J. G. Moore and L. G. Gentner of the College of Agriculture; N. A. Rasmussen, H. C. Christensen and the Secretary of this Society aided by the advice and counsel of numerous practical growers.

Answers to questions about the culture of fruits, flowers or vegetables will be furnished by the Secretary of the State Horticultural Society, Madison, without charge.

Supplement to No. 6, Vol. XI, February, 1921
WISCONSIN HORTICULTURE
A copy of this supplement may be had free by any resident of Wisconsin on application to Secretary.
State Horticultural Society, Madison

SUPPLEMENT
Wisconsin Horticulture

Volume XI | Madison, Wisconsin, February, 1921 | Number 6

GETTING READY FOR THE GARDEN

Most folks think February a poor gardening month but the fact is that the work done in February and March may largely determine the success of the garden. It is time now to begin to make definite plans for the garden work which is to be done later on. The planting season will be here before we know it.

Don't waste your effort next summer in gardening in competition with trees and shade. It can't be done successfully. Hoeing, watering and fertilizing cannot make up for lack of sunlight. Many gardeners try to make this substitution and fail. Good garden tracts may be spoiled by worthless, often self-planted, trees or shrubs. Cut them out so your vegetables will not have to compete with them for sunlight, food, and water. You will probably find, also, that your back yard looks better without them.

If it is impractical to remove the offending plants, or if buildings shade your garden for the greater part of the day begin at once to make arrangements for a suitable garden tract. Ask the aid of the local organization which is helping to get gardeners and the garden tracts together.

That Garden Plan

What kind of a house would a carpenter build without a plan? How would a garden which was planned, row by row, while the planting was being done compare with one carefully planned in advance of planting? The professional gardener finds a plan necessary for best results. A definite plan is of even more importance for the small garden if the best results are to be secured. Haphazard, hit-or-miss garden planting usually results in poor use of the soil and lessened production. A good plan saves much valuable time at planting because the gardener doesn't have to stand around and figure out where things are to go.

As soon as you know where your garden is to be, measure your tract and then plan your garden on paper. A good working plan should show:

1. Location of the different crops.
2. Distances between rows.
3. If more than one crop is to occupy the same area during the season.
4. Approximate dates for making different plantings of lettuce, peas, radishes or other vegetables of which more than one planting is made.

Use heavy paper and ink so that your plan will stand a season's use in the garden.

It is well to use a definite and fairly large scale in showing distance between rows. For a small garden one-fourth or one-half inch on the plan to every foot in the garden is a convenient scale. The more carefully your plan is made the greater will be the returns from your garden.

In making a garden there are certain things to remember.

1. **Make every foot of land work all the time.** As soon as one crop is harvested another should take its place if there is room for its proper growth. Practically all of the garden should grow two crops and part of it ought to produce three. Warm season crops such as beans and tomatoes, and late seeded crops like turnips may follow early cool season crops such as lettuce, spinach, radishes and onion sets.
2. **Vegetables which can be stored for winter use should be considered first.** The vegetables will be more appreciated when the supply is low and the price is high.
3. **First plan for the long season crops—the short season crops will take care of themselves.** Grow short season crops (lettuce, radishes, spinach) between the rows of long season crops. Globe radishes may be grown in the rows of carrots, parsnips and beets. Small, early-maturing vegetables can be grown between the young plants of cabbage, tomatoes, or corn in hills.
4. **If your garden is small you cannot afford to grow crops requiring lots of space.** Potatoes, corn, and vine crops should usually be left out of the small garden. If these are grown the smaller, quick-growing crops should occupy the space until it is needed by the permanent crop.
5. **Foliage crops (lettuce, spinach) are likely to do better in partial shade than the fruit crops (tomatoes, beans).**
6. **Do not plant high-growing plants (corn, tomatoes to be staked) where they will shade sun-loving plants.** The difficulties arising from shading can be greatly lessened by having the rows run north and south.
7. **Unless you have had previous experience do not waste much time on cauliflower, peppers, egg plant or other crops that are hard to grow or of doubtful value.** These crops so often fail due to weather conditions or slight errors in culture that it is usually advisable to give their space to more certain crops.
8. **Remember that in a small garden there is plenty of space "up and down" but it is limited sidewise.** Tomatoes should

be trained to trellises or stakes. Tall growing peas trellised and planted between rows of smaller vegetables require no more space than dwarf varieties and usually produce larger crops. If you think you must grow cucumbers try the trellis method.

9. **"Variety is the spice of life."** Provide for as large a variety of vegetables as practical. You might get tired of a steady diet of one kind.
10. **Leave sufficient space between the rows to provide for good tillage.** It is better to have slightly too much than too little space. The beginner will need a wider space between the rows than the experienced gardener. Be on the safe side.

Space Needed for Various Vegetables

The distance between the rows will vary with the method of cultivation, the size of the variety, and the fertility of the soil. The distances given below are for hand or wheel-hoe cultivation and average fertile soil.

8– 9 inches—Peas when planted in double rows.
9–12 inches—Radish.
12 inches—Cress.
12–15 inches—Beets, carrots, lettuce, onion, spinach.
15–18 inches—Bush beans, endive, parsley, rutabaga, salsify, turnip.
18–20 inches—Parsnips, pepper.
18–24 inches—Cabbage (early), chard, kohlrabi.
24–30 inches—Cabbage (late), peas, tomatoes (staked).
30–36 inches — Egg-plant, potaoes, sweet corn.
30–48 inches—Celery (depends largely on method of blanching).
42–48 inches—Squash (bush), tomatoes (unstaked).
4– 6 feet—Cucumber.
5– 6 feet—Muskmelon.
7–9 feet—Squash (running).
8–10 feet—Pumpkin.

When vegetables of different kinds are planted in adjoining rows the distance between the rows should be approximately one-half of the total distance allowed for the crops. For example, if celery, for which is allowed 4 feet between rows, and cabbage, for which a distance of 2 feet is allowed, occupy adjoining rows the distance between the rows should be about 3 feet.

Time Crops Occupy Land

The length of time between starting the crop in the garden and that at which it is ready to use and the time it will occupy the land are important factors in garden planning. Seasonal conditions and the variety will greatly modify the time required for vegetables to be ready for use.

The following list shows the average time needed to grow the different vegetables In planning for crops to follow early vegetables or which will occupy the space used by an early crop, add to the time given in the table below the probable length of time required to use the early crop or the length of time required for it to become unfit for use.

The dates given are the approximate dates of planting at Madison. For the central part of the state the dates would be from 10 to 12 days later, and for upper Wisconsin 18 to 20 days later.

In the table which follows, * placed before the name of a crop indicates that other plantings may be made; ** indicates that the crop occupies the land until the end of the season. In case of *** other plantings may be made as the crop is used, but the winter crop occupies the land until the end of the season. Early cabbage will occupy the land until August 15 or later.

Crop	Approximate date of planting at Madison	Ready for use (weeks)
* Bean (bush) snap.	May 10-15	7 to 8
** Bean (bush) dry	May 10-15	.....
** Bean (pole)	May 10-15	8 to 9
*** Beets	April 15-20	8 to 9
Cabbage (early, plants)	April 25-30	12 to 13
** Cabbage (late, plants)	June 25	.....
*** Carrots	April 15-20	9 to 11
** Celery (plants)	June 20	7 to 8
* Corn (early)	May 5-10	9 to 10
** Corn (late)	May 15, June 10	.....
Cress	April 15-20	4 to 5
** Cucumber	May 15-20	.....
** Egg plant	June 5-10	.....
*** Kohlrabi	April 20-25	9 to 10
* Lettuce (seed)	April 15-20	6 to 8
* Lettuce (plants)	April 20	4 to 6
** Muskmelon	June 1 (set out plants started nuder glass)	.....
** Onions (seed)	April 15-20	.....
** Onions (sets)	April 15-20	9 to 10
* Parsley	April 15-20	12 to 14
** Parsnip	April 15-20	.....
* Peas	April 15-20	8 to 10
** Peppers	June 5-10	.....
Potato (early)	May 1-5	10 to 12
** Potato (late)	June 1-10	.....
** Pumpkin	May 15-20	.....
* Radish	April 15-20	4 to 6
** Radish (winter)	July 15	.....
** Rutabaga	July 1	.....
** Salsify	April 15-20	.....
* Spinach	April 10-15	4 to 6
** Squash (bush)	May 15-20	.....
** Squash (runner)	May 15-20	.....
** Tomato (plants)	May 15-20	.....
Turnips (spring)	April 15-20	8 to 10
** Turnips (late)	July 20	.....

HINTS FOR THE HOME GARDENER

The beginner in gardening is apt to attempt too much. **A small garden well tilled is better than a larger one neglected.**

Amateur or home gardens may be divided into two classes: the small back lot gardens ranging in size from 6 x 10 feet to those of as many yards, and the gardens of the more ambitious amateurs occupying an entire lot or even more.

To Plant or Not to Plant

In the small garden confine the list to kinds requiring but little room such as:

Bean, beet, cabbage, carrot, lettuce, onion, parsnips, pea, radish, spinach and tomato. Not much more should be attempted except that late turnips or rutabagas may be grown as succession crops.

These Demand Much Elbow Room—Sweet corn, cucumber, squash and pumpkin require much room and with potatoes should be attempted only where plenty of land is available.

These Are Too Fancy—Brussels sprouts, cauliflower, endive, egg plant, peppers and lima beans are kinds that require rather more skill to grow than the average amateur is apt to possess and should not be included in the beginners' list.

Soil conditions and the taste of the gardener are factors that should be considered.

The beginner is usually very ambitious and is apt to try everything named in the catalog The old-timer confines his efforts to a few kinds, the ones most in demand in the kitchen.

The "Best" Varieties

Ask each of a dozen expert gardeners to make a list of "best" varieties and the result will be a dozen different lists, for each has his favorites, but on discussion it will usually be found that their distinctions are too slight to be considered seriously. All the important garden vegetables are classified by the expert as to types such as the round radishes and the long radishes, round beets and flat beets, etc. Each seedsman has varieties which he exploits as the "best" of these types.

The following lists may not include the best kinds in the opinion of many expert gardeners but all are standard, reliable and thoroughly tested and at least plenty good enough for anybody:

Bean, Dwarf: Refuge wax; Refugee 1000 to 1 (green pod). **Pole or climbing:** Cranberry or Horticultural; Kentucky Wonder. The last two varieties are climbing or pole beans and are recommended where space is very limited. The Cranberry a climbing or pole variety, is very prolific and partly matured beans shelled are as good as Lima Beans.

Beet: Detroit dark red or Crosby's Egyptian. The first named is round, the second, flat or turnip shaped.

Cabbage: For early cabbage Charleston Wakefield, for late Danish ball head and Copenhagen market.

Carrott: Chantenay: This is a half-long carrot and better adapted to home gardens either for summer use or cellar storage than the Oxheart or other large types.

Kohl Rabi: White Vienna.

Lettuce: For early "leaf" lettuce either Curled Simpson or Grand Rapids. The Grand Rapids is rather better in quality than the Simpson but does not grow as rapidly nor stand as much hardship. The Grand Rapids is ideal for hot-bed culture.

For first crop head lettuce plant only May King; for late season California Cream Butter.

Onion: Yellow Globe Danvers or Southport Red Globe.

Parsnip: Hollow Crown.

Pea: Laxtonian: This is one of the best of the large podded, early dwarf peas and may be sown in succession. Little Marvel is a good early. For a late maturing variety plant Champion of England, Telephone or Stratagem. The latter are tall growing kinds and require support.

Radish: Early scarlet globe or any early round or turnip shaped variety sown in succession. For a later variety Crimson Giant; does not get "pithy" in hot weather..

Rutabaga: American Purple Top.

Spinach: Bloomsdale Savoy.

Tomato: Chalk's Early Jewel; Bonnie Best; Late Stone.

Turnip: Purple Top White Globe: the Yellow Globe is a large late maturing yellow flesh variety, closely resembling rutabaga and of better quality.

Plants or Sets

For early onions plant onion sets. For early cabbage and tomato buy plants; plants for late cabbage may be easily grown in the garden; plant a packet of seed at the time of sowing early vegetables.

For the Gardener Who Has Plenty of Room and Time

Cauliflower: Early Snow Ball.
Celery: White Plume.
Cucumber: Improved Long Green.
Sweet Corn: Golden Bantam.
Egg Plant: Black Beauty.
Lima Beans: Burpee's Bush Lima, or Henderson's Bush Lima.
Muskmelon: Milwaukee Market.
Parsley: Champion Moss Curled; (Six plants enough).
Peppers: Crimson Giant (sweet).

How to Buy

Buy seeds only from reliable seedsmen. They advertise in reliable papers. Avoid "bargains" in seeds, the best is the cheapest. The cost of seed is not a big item considering the returns. Penny packets and department store bargains are to be avoided.

Quantity of Seed Required

The problem of how much seed to buy is one beset with many difficulties and not easily solved.

If we were certain that every seed we buy would germinate and produce a vigorous plant under the adverse conditions of soil and climate commonly encountered, we would need to buy but very little seed.

Carrots, for instance should be spaced at least two inches apart in the row for best results. A package of carrot seeds contains about 5000 seeds which spaced at two inches would be enough to plant over 800 feet of row. In practice an average packet is enough to plant a little less than 40 feet of row. Why use so much seed? Firstly, because not all seeds will germinate and as all the poor seeds may fall in one place we must allow enough to insure a good stand.

Secondly: conditions in the garden are never perfect for germination and growth and many of the plants perish before reaching daylight.

Thirdly: Seeds must be covered with earth, which is a dead weight that must be lifted by the plantlets. We must, therefore, plant seeds enough to afford lifting power to break the surface crust.

Fewer seeds are required when sowing later in the season than for earlier sowings. as the ground is then more mellow and seeds come up easier.

As amateur gardeners are interested only in small areas, ounces and quarts may be left out of consideration and attention directed mainly to packets of seed. In order to learn something of the actual size or contents of "packets" offered by reliable seedsmen on Jan. 1918, 31 packets of seed were purchased from four seed firms and the seeds in each counted. The results follow:

Seedsman	Onion	Carrot	Beet	Bean	Pea	Radish	Spinach	Parsnip
A	1210	5427	335	156	257	1032	777	1126
B	1016	.....	500	265	394	1408	990	850
C	910	3720	356	258	340	1108	440	700
D	1690	.....	585	94	169	790	782	1892
Av	1206+	5473+	444	193+	290	1084+	747+	1142

Combining these figures with the experience of skilled gardeners as to the proper number of seeds to plant per inch or foot, one packet of onion seed will plant 10 feet of row, carrot 40 feet, beet 29 feet, bean 20 feet, pea 25 feet, radish 10 feet.

Summing up it may be said that for the average family garden one packet of seed is enough of any of the kinds named except possibly peas and beans. By careful sowing one packet of most of the vegetables named is more than enough for the first planting and some may be saved for later planting.

EARLY PLANTS

It is possible to have a garden without starting part of it indoors, but it is usually more expensive or less satisfactory.

Of course if you are absolutely sure you are going to be able to buy good plants of the kinds you want, when you want them, then it may be best to let someone else grow them. But be very sure you won't be disappointed. Although it takes some work and space to grow good plants for setting out for early vegetables, the difficulties of growing them are often greatly magnified.

Lettuce, chard, cabbage, and kohlrabi can be easily matured if seed is planted in the garden after conditions have become favorable for their growth, but they may be had much earlier if started indoors or under glass. It is almost essential to start tomatoes, peppers, egg plant, and celery in this way if their production is to be such as to make it worth while to bother with them.

Methods of Growing Early Vegetables

Three methods are commonly used in producing plants for setting in the garden: hotbeds, cold-frames and window boxes. The difficulty of securing the proper material for heating the hotbed, and the attention necessary to operate it successfully, make it of questionable value to the man with a small garden or to the beginner.

Many city lot gardeners find the cold-frame more satisfactory. While plants cannot be secured quite so early as with the hotbed the cold-frame requires less attention and there is less danger of injury to the plants because of changing temperatures. It can be constructed without much expense by using storm sash. In addition to the plants for setting out, such crops as lettuce and radishes may be grown in it.

The backyard gardener will usually find that starting the plants indoors is the plan best adapted to his conditions. Comparatively little space will be required to start enough plants for the first crop of lettuce, early cabbage and tomatoes.

Provide Good Soil. Where no provision was made last fall the question of the soil will be the most troublesome. You may be able to secure it from a greenhouse. If not resort to your own garden. Get the snow off a small area so as to encourage thawing. Some warm day in early March get your soil. If it is still frozen get it anyway, and let it thaw out indoors. If possible, secure a little sand to mix with it and to serve as a top layer in the seed box. Before attempting to start your seed box let the soil warm up and dry until it does not pack in a hard lump when squeezed in the hand.

Shallow Seed Box. A shallow box is most satisfactory for starting the plants. Suitable ones can usually be secured at a grocery store. Cigar boxes 2¼ or 2½ inches deep are convenient, but somewhat deeper boxes are more desirable. Three or four will be sufficient to provide all the lettuce, cabbage, and tomatoes used in the average garden. If the box has a tight bottom make a few small holes in this to provide drainage.

Filling the Seed Box. Slightly more than enough soil to fill the box should be put in loosely and the surplus scraped off with a stick. This will leave the top smooth and level. Press the soil down, preferably using a small piece of board, being careful to leave the surface level. After it is pressed down, the top of the soil should be from one-fourth to one-half inch below the top of the box. If sand is to be had a better stand of plants will usually be secured if the last one-half inch of soil put into the box is sand. In this layer the seed may be sown.

Sowing the Seeds. With the finger or a dull pointed stick make a shallow trench about one-fourth of an inch deep, preferably crosswise of the box. Using the packet or thumb and forefinger, scatter the seed in the trench. The thickness of sowing the seed depends largely on its germination capacity. Do not sow too thickly as there is then more danger of the young plants rotting off. On the other hand, seeding should be thick enough to give a good stand. If the plants are too thick they should be thinned soon after they come above the surface. Press the seeds gently into the soil and cover them with a thin layer of soil. The distance between the rows depends somewhat on how long the plants are to be left before transplanting. Distances from 1¼ to 2 inches are usual and convenient.

Watering the Seeds. After sowing, water the seed box well, being careful not to wash the seed, paricularly if different varieties are to be grown in the same box. Enough water should be put on to moisten the whole body of soil in the box but not enough to cause it to become muddy.

One of the objections often raised to growing early plants indoors is the damage resulting to furniture and rugs from watering. This can be overcome by setting the seed boxes in the sink or some other receptacle until all excess water has drained off. Then if the boxes are set on oilcloth or heavy paper no damage should occur.

Now cover the seed box with a pane of glass or other cover, which will prevent the loss of moisture and set the box in a warm place. As soon as the young plants break the soil, remove the cover. If it is left on, the plans have a tendency to become spindly or "leggy," and are likely to rot off.

Care of Young Plants. The young plants will need careful attention as regards proper light, heat and water. Keep the seed box where it will get abundant light. Insufficient light results in spindly plants. It is better to have the temperature a little low than too high. High temperatures mean soft, spongy plants which are less likely to give good results when set out.

How to Water. More people fail in watering than in any other way. Some choke the plants, others drown them. Choking usually comes from applying small amounts at rather frequent intervals. Not enough water is applied to moisten the bottom soil, and the top is kept too wet, which encourages disease.

Drowning is less frequent, especially if the seed box is provided with drainage openings. Water applied frequenly in large amounts excludes air from the soil and the plants smother.

Proper watering consists in puting on enough water to moisten all the soil in the box and then waiting until the surface of the soil begins to appear lighter in color before making another application.

Giving the Seedlings Room. The young plants will soon begin to crowd each other and unless given more room will become long-stemmed or "leggy." To make good plants for setting out they must be either thinned or transplanted. The latter is the more common method. A box 12 inches square will hold 36 plants set 2 by 2 inches, or 64 when planted 1½ by 1½ inches. Four boxes of this size, one for tomatoes, peppers and egg plants (if either of the latter are grown), one for lettuce, one for cabbage and cauliflower, and one for celery would meet the demands of the average gardener. The celery may be planted 1 by 1 inch, lettuce, cabbage and cauliflower 1½

by 1½ inch, and tomatoes, egg plants and peppers 2 by 2 inches. The same general care should be given the plants after transplanting as when they were in the seed box. For two or three days after transplanting it is well not to give so high a temperaure nor so full light as before transplanting.

Hardening Off. Many have success in growing plants indoors but lose a large portion of them in setting into the garden. Anyone of a number of things may be responsible for such losses. One of the common ones is subjecting the plant to too sudden and great a change. A plant requires some time to adjust itself to new conditions. Because of this it should be accustomed to the conditions of the garden gradually. This process is known as "hardening-off." Ten days to two weeks or more before time for setting the plants in the garden begin to get them ready for the change. Begin by setting the box out in the sun at noon for a few minutes. Repeat from day to day when favorable until the plant can be left out continuously. Transplanting will then result in much less loss than if a sudden change is made.

Where plants which transplant with difficulty, such as cucumbers and melons, are started indoors, or when it is desired to have the plants unusually large before setting out, flower-pots are frequently used. Unless the gardener has a hotbed or cold-frame or the number of plants desired is small, this method is not practical because of the space required.

Instead of setting the plant from the seed box into a larger box it is put in a small flower-pot. It may remain in the pot until set in the field, or it may be moved to a larger pot. Various devices are used as substitutes for pots. Two of the more common are the bottomless strawberry box and a tin can with the bottom removed and the side split, so that it may be readily removed from around the plant. The strawberry box is better than the can for this purpose.

GARDEN SOILS AND GARDEN MAKING

The soils expert groups soils, with fine distinctions, into many classes. The farmer and the gardener call them "light" or "heavy," "rich" or "poor," "warm" or "cold" soils and make a "base hit" every time.

In the language of the farmer a light soil is one containing more sand than clay. It is easily worked either in spring or summer, and is also a warm soil for it absorbs heat more readily than a clay soil. But as a rule, sandy soils are lower in plant food elements than are the heavier soils.

The heavy soil is one having more clay than sand and in proportion as the clay predominates it is heavy and cold but it usually contains abundant plant food.

It is plain, then, that an ideal garden soil is one that is neither very light nor very heavy. It does not follow, however, that we should fail to have a garden even if the ideal soil is not available. Some very excellent gardens have been made on very unpromising sites. It's largely a matter of hard work.

Don't Disturb Much Subsoil:

Below the 4 to 8 inches of mellow, usually black, surface soil of tilled land lies a different kind of soil called the subsoil. It is **not** mellow because it has probably not been stirred for at least ten thousand years. It is usually red clay. Sometimes it is blue clay. Whatever its color gardeners should leave it undisturbed and not turn much of it up on the surface of the garden by too deep spading. An inch or two won't do any harm. It contains plant food but usually in a form that is not available until sunshine, rain and wind have acted on it for a few years. You can't afford to wait so leave the subsoil where it is; it will hold water for your plants next summer.

Make Haste Slowly:

No matter what kind of soil you have in your garden **it must not be worked when it is wet.** If it is it will be hard, lumpy and wholly intractable all season. You will lose and not gain by working soil before it is fit to work.

When is it fit? There is no hard and fast rule but here is a simple test that will answer all practical purposes.

Turn up a spadeful of soil, grab a handful and squeeze it. If it retains the shape of your hand and the finger marks, and is smooth and pasty-like to the touch, it is not fit. If you cannot squeeze the mass lightly without **breaking** it, if it crumbles in your hand, go ahead, there is no time to lose. Such a rough and ready, off-hand solution of so difficult a problem as this requires the application of common sense along with it but the writer feels perfectly safe in leaving it in just this way.

First Aids to the Gardener:

(1) If your garden is anywhere but on a side hill you can probably advance by several days the time when it will be fit to work by a little digging and ditching so as to carry off the surface water. This should be done as soon as the frost is out of the ground.

(2) Instead of spading or plowing the entire garden before it is fit, it is usually possible to find an odd corner somewhere on the premises, even if only 2 x 4 feet, that is higher and drier than the garden. Maybe it is the flower bed in the front yard or a border alongside the house. Dig and rake this and plant a little lettuce seed and a little radish seed, or mix them, and a few onion sets. This emergency garden will serve as a curb on your very natural impatience, give some early vegetables and will not interfere in the least with flower gardening later in the season.

(3) Or, cover a space in the back yard, 4 x 6 feet, with coal ashes a foot deep and on top of this 2 to 4 inches of soil. This quantity of dry soil can usually be found somewhere nearby, even if borrowed from a high spot in a neighboring lot or field. Build around this garden a rough frame of boards, sow seeds, and cover frame nights and on cold or rainy days with two storm windows or, lacking these, with cheese cloth. Whatever else you do keep out of the garden until the soil is fit to work.

Manures:

The soil of almost any garden is capable of producing satisfactory crops without manure of any kind if properly prepared in the spring and properly cultivated during the growing season.

The right kind of manure properly applied will certainly give increased yields but the wrong kind may be worse than none at all. The right kind is well-rotted stable manure; it is fine in texture and mixes readily with the soil. Also it is "pre-digested"; the plant food contained in it has been made ready, by the process of decay, for use by the plants.

The wrong kind is fresh stable manure containing much straw or litter. This must all be turned under so

deeply that the plant roots do not get to it until midsummer or it interferes with culivation. Being coarse it serves to "dry out" the soil by interfering with the movements of soil water. Better use none at all.

Commercial Fertilizers:

Of the mineral ferilizers, sodium nitrate and potash are best. The various stock-yards products including pulverized sheep manure, are quick acting fertilizers that may either be mixed with the soil when spading or plowing or used later as a top-dressing.

Mineral fertilizers must be applied with great caution to growing plants as in slight excess they may kill the plants outright.

These are all very expensive and seldom give adequate returns to the amateur for the money invested in them.

None of these statements should be construed as an argument against the use of fertilizers. The market gardener knows that he can make money by using extraordinary quantities of fertilizers; in fact he is not apt to make much money unless he does use a liberal amount. Your case is different; you are not so much concerned about making a profit on your land and time as in growing a respectable crop of vegetables. You can do it without any fertilizer if you handle your soil right.

Coal Ashes:

Heavy soils may be much improved by a liberal use of coal ashes. Unless much wood has been burned in the furnace in addition to the coal there is no danger in using too much. It is better to sift the ashes to remove clinkers which prove a source of annoyance when hoeing. Coal ashes contain little or no fertility.

Plowing:

Small plots, say 20 by 50 feet or even larger, may be spaded, but when the plot exceeds one-tenth of an acre and is so situated that a team can be used it will pay to have it plowed if it can be properly done.

A farmer knows how to plow, but the average city man who happens to own a plow, doesn't. He thinks he does, but he doesn't. If possible, get a farmer, or an ex-farmer to plow; you won't need to tell him how to do it; he knows more about it than you do. If you are so unfortunate as to get a city farmer to plow suggest to him that **all** of the soil ought to be turned over; that a plow that is made to cut only 10 or 12 inches cannot by any possibility **turn** 16 or 18 inches, the rest will merely be covered by the soil really plowed. This is the "cut and cover" trick, a money maker for the man who is plowing by the job but poor business for the gardener. Further suggest to him that it is a saving of horse-flesh to plow only 4 to 6 inches deep rather than to root around in the clay subsoil and turn it on top. This will please him and help you.

The Harrow:

If the garden-to-be is sod, plowing is not enough. The time and strength required to work down tough, sod-plowed land with hand-tools is really more than the crops that can be grown on it will be worth. A disk harrow will thoroughly pulverize and level the ground after plowing and is the best tool to use. In lieu of this a heavy spike-tooth harrow may be used but once is not enough. Five or six times will be much better.

Spading:

There is a knack to spading that can be acquired only by practice. It is quite as easy to cut and cover as in plowing. The spading fork with four flat tines is better than a spade for digging; it is lighter, penerates hard soil easier than a spade and is easier to keep clean and bright. A gardener who has had long experience in spading describes the process as follows:

"Strong shoes with good solid soles should be worn when spading or the feet will become sore."

"Start at one corner of the garden with the back toward the ground to be spaded. Shove the spade well into the ground using the ball of the foot to push the spade in. In solid ground, especially in sarting, several shoves may be necessary to send the spade well in. Lift out the spadeful of soil and throw it from you across the hole, turning it over as it is thrown out. If lumpy, as it is apt to be, hit it with the back of the spade. Move sideways the width of the spade and repeat the operation until the other side of the garden is reached. Then step back and work over to the starting side again, but throwing the dirt this time forward into he ditch made the first time across. Take as large a spadeful as may be sliced off quickly and easily."

Raking:

If spading is a knack, raking a freshly dug garden is a fine art. By a proper use of the rake lumps are broken and the surface leveled. Of this the expert quoted above says:

"Level the ground and make the soil fine with a hand rake. The use of a rake offers opportunity to develop considerable skill in moving dirt quickly from high spots and filling in low places in the operation of raking.

"If the garden is small and maximum results from the space are desired, further working of the soil will pay. If the soil is of a heavy clayey nature and the spading and raking fail to break up the lumps we usually 'tramp' the ground to further break the lumps. That is, we step back and forth over the garden with footsteps close together so as to pack the soil and crush lumps. A roller would do the work more quickly and easily. It is then raked over again, and, if necessary, we spade and rake it a second time.

"Even in the gardens that have been plowed with a horse it will often pay to spade up corners not well plowed or that have been heavily packed where the horses have turned.

"All of the garden will not be planted immediately following the first working of the soil and if the surface is packed with beating rains it must be worked over again before planting.

"It is very important that the soil be in the best possible condition before seeds and plants are put in.

"No amount of after cultivation will make up for careless work in the first preparation of the garden."

This cannot be emphasized too much especially in the case of the smaller seeds. The infant of the plant world is not unlike the infant of the animal world; it must be afforded the best possible opportunity for development.

SOWING THE SEED

Part I. The Art of Seed Sowing

Seed sowing usually proves a stumbling block to the beginner in gardening. He gets along very nicely after the plants are up but his trouble lies in getting them started.

There are apt to be many vacant rows in the beginner's garden, while he waits impatiently for the plants to appear and blames the seedsman for selling poor seeds. In most cases the seed is all right; the trouble lies with the planter. **More failures result from improper planting than from poor seeds.**

Making a Seed Bed:

For the best results the soil must be mellow, moist, and free from lumps. If the surface has dried since plowing or spading and is lumpy it will pay to turn over two or three inches of the surface soil with a spading fork so as to have a moist and mellow bed for the seeds. Then rake and rake again until the surface soil, for a depth of at least two inches, is fine and mellow. In this connection let us quote from Circular No. 4.

"It is very important that the soil be in the best possible condition before seeds and plants are put in. No amount of after cultivation will make up for careless work in the first preparation of the garden.

Have Straight Rows:

Rows should be straight, not alone for the sake of appearance but for convenience in cultivating. In small gardens the garden line is most practical. Hemp rope of clothesline size is excellent. Use strong stakes that can be driven with the back of the spade. With the line drawn taut make a furrow, deep or shallow according to size of seeds, using a pointed stick or end of hoe handle.

Dropping the Seed:

To sow seeds by hand evenly is an art that can be acquired only by considerable experience. If, in the beginning, the seeds are poured from the paper packet into a cup, both temper and seeds may be conserved. The cup is not apt to blow away and spill the seeds.

Grasp a pinch of seeds between the thumb and forefinger and scatter with a rolling motion. That's about all that can be set down in print about it; the rest must be learned from experience. The expert will space seeds by this method as evenly as a seed drill and without apparent effort.

The amount of seed to sow was briefly discussed in Circular No. 2. No hard and fast rule can be given. Better use too much seed than too little.

Cover the seeds with the back of the rake, pushing lumps aside when possible so as to cover only with fine soil. **Now press the soil firmly over the seeds** either by stepping lightly along the row, one foot only, or patting firmly with the back of the hoe. **This is held the most important step in seed sowing.** After firming the soil rake lightly to form a mulch.

Marking the Rows:

Set pegs or stakes at both ends of rows as soon as seeds are covered. In this way the space between the rows may be hoed or raked to keep down weeds before the plants appear. The best time to kill weeds is just before they appear and a light hoeing or raking within a week after seed sowing may save much backache later.

For information that will serve as a guide for operations another season the variety and the date of planting should be written heavily in pencil on the head stake of each row.

These directions and cautions as to careful preparation of soil have particular reference to small seeds like lettuce, radish, turnip, and onion, as these need a fine seed bed. Larger seeds such as beet and spinach will come through very well if the soil is not quite so fine, but they will appreciate the better treatment.

In making furrows for peas, beans and corn use a corner of the hoe. Practice counts here also.

Depth of Planting:

"Seeds should not be planted deeper than is necessary to insure the proper degree of moisture."—Goff. If we keep in mind that the reason we cover seeds with soil is to insure the moisture essential for germination it helps us greatly in determining the proper depth for planting.

The depth of planting may be regulated largely by the size of the seed. Large seeds may be planted deeper than small ones. (One important exception to be noted later.)

No definite rule can be given. Any table giving in inches or fractions of an inch the depths at which seeds should be planted is misleading, for much depends on the texture and tillage of the soil; the amount of moisture it contains, the date of planting and other variable factors. One rule, subject to many exceptions, is to cover seeds three to five times their diameter (thickness).

Small seeds like carrots, lettuce radish, cabbage and turnip ought to be covered with one-fourth to one-third inch of soil. If the soil is very light (sandy) they ought to be planted a little deeper to insure moisture sufficient for germination. Beet, spinach and parsnip may be covered deeper, one-half inch if the soil is not too heavy. Peas and corn should be covered with about two inches of soil, beans not over one inch. Beans lift the seed above ground and if planted too deep will break their necks in the effort to get through. For this reasan something is to be gained by planting in hills; that is, four to six seeds in a place, these a foot apart. If planted singly, space 1½ to 2 inches apart. Do not plant peas in "hills" but singly, about an inch apart.

Odds and Ends:

A "hill" in garden language does not mean an elevation but refers to a number of seeds planted in a group rather than singly in a row.

Cucumbers, melons, squash, and so forth, are commonly planted in hills by the market gardener for convenience in cultivation. There is no good reason for doing it in the small garden. Plant the seeds flatwise 1 to 2 inches apart, the plants to be thinned later, and cover one-half inch deep.

Seeds planted in midsummer for succession crops, should be covered somewhat deeper than when planted in the spring, in order to insure needed moisture. The soil will be more mellow and warmer than in the spring—both factors favoring germination.

Peas as well as corn and others of the "grass" family will push through greater depths of soil than beans and others that project the seed or seed leaves above the ground.

Germination (sprouting) of seeds may be hastened by soaking in water 24 to 36 hours before planting. Soaked seeds should not be allowed to become dry before planting.

The potato is not a seed and scarcely anything here written applies to it. Cut the potatoes into pieces, each having one or more "eyes" or buds, and plant the pieces singly 10 to 12 inches apart in furrows 4 to 6 inches deep.

Part II

Reasons for Some of the Operations Described in Part I

Every seed contains an embryo plant. In order to germinate (sprout) and produce a living plant three things are essential—moisture, warmth and air (oxygen). If any one of these is lacking, seeds will fail to germinate. If any one of these essentials is not present in sufficient amount, germination will be tardy. It is very important that seeds should germinate promptly or else decay will result.

Seeds absorb water promptly when placed in contact with it. In the soil the promptness and rapidity with which seeds absorb moisture will de-

pend upon the points of contact. If the soil is not pressed closely about the seed but few points are in contact with it and a long time will be required for it to germinate. Therefore, we tramp the soil over the seed with the foot or hoe. By this means we also increase the capability or water pulling power of the soil, for moisture passes readily through soil particles which are in close contact and less readily when the soil is loose.

The proper degree of warmth is essential. This varies with the species but the variation is not wide.

Seeds of the common garden vegetables will germinate readily at a temperatnre of 50 to 55 degrees. Lettuce and radish will germinate at a lower temperature, 45 to 50 degrees. Peas will germinate at 32 to 40 degrees. Cucumber and squash seed require 60 degrees.

These figures are close to the minimum or lowest temperature. The most favorable temperatures are 5 to 10 degrees higher in all cases. It is useless, therefore, to plant seeds in soil that is too cold.

Water drives air out of the soil. Working wet soil "puddles" it, shutting out air. Seeds will not germinate in soil that is too wet and will germinate very slowly in puddled soil.

INSURE YOUR HARVEST

The gardener's patriotism may be shown by the manner in which he tills his garden. The summer months are the critical ones in the garden. Though the gardener may feel less inclined to hoe and rake than he did earlier in the season, the plants demand even closer attention if the table is to be supplied during the summer and the cellar is to hold an abundant supply of vegetables next winter.

The gardener's motto at this time should be "Catch moisture, hold moisture." The demand for moisture as the plants grow and the warmer weather comes on constantly increases, moisture is needed for plant growth, and unless there is an abundant supply, growth ceases and the parts used for food fail to develop or are of such a nature as to be undesirable. Moisture, then, becomes the chief concern of the gardener at this time. Tillage is the chief means the average gardener has of insuring this essential of successful gardening.

But the demand for moisture is not the only one made by the plant at this time. An abundance of available plant food is necessary for good yields. The manure or commercial fertilizer which is applied in preparing the soil will be of no use to the plant unless it becomes changed in the soil. Tillage not only aids in this change but it also helps make the food material, originally held in the soil particles, suitable for use by the plant.

The old saying "Tillage is essentially manure" and **"The best garden fertilizer is the hoe"** indicate the value of tillage in giving the plant an abundant supply of available food.

Weeds cause many a garden convert to backslide. In the conflict with weeds tillage is of prime importance. Proper tillage makes weeds an unimportant factor in gardening. Under some conditions it may not do so the first season, but unless quack grass or some weed of similar character is the offender, the conflict is a comparatively easy one.

The importance of tillage makes the summer months the "Three T" period of gardening—the **thorough, timely, tillage period.**

Thorough Tillage

Conserving soil moisture, making plant food available, and keeping out weeds are the objects of tillage. Thorough tillage is that tillage which produces conditions best fitted to accomplish these results. The ideal way to accomplish them is to keep a **shallow layer of soil, as nearly dustlike as practical, over the entire surface of the soil at all times.** The method of securing this ideal matter little so long as the purpose is accomplished.

The first essential of success is proper preparation tillage early in the season. This should have been such as to create a large moisture-holding reservoir and to put the soil in a fine, fairly loose condition. If this was done, the following program is well adapted to maintain the desired mulch.

1. Till the area to be planted immediately preceding sowing or planting. This gives a good seed bed and removes the necessity of disturbing the seeds after planting.
2. Till the area between the rows immediately after planting. The object is to loosen the soil compacted by tramping during the planting operations.
3. Till the entire garden at least once a week if soil conditions permit. When vegetables planted close together cover the entire area between the rows tillage of these rows may cease.
4. Till after each shower of sufficient extent to pack the surface soil.

This tillage should be shallow. Deep tillage would destroy many roots and possibly do more harm than good.

Remember the object to be attained is a shallow layer of soil as nearly dustlike as practical over the entire surface.

Timely Tillage

"Don't put off till tomorrow what should be done today" pays big dividends if put into practice in gardening. "A stitch in time saves nine" when garden conditions are most favorable for tillage.

Aim to destroy weeds just as they appear above the surface. It will save hard work in getting rid of them later.

The soil mulch destroyed by a rain is restored much more easily by tillage before the surface becomes baked. A few hours' delay at this time means more work and usually less satisfactory results than if the work had been done on time.

Tillage may be untimely by working a soil which is too wet. Heavy loam or clay soils worked when too moist, cement or puddle and then bake. Their tilth is destroyed, and it becomes difficult or impossible to re-establish a good soil mulch. "Make haste slowly" on heavy soils after a rain. Timely tillage on such soils means not tilling too soon, as well as not delaying too long, after a rain.

If in doubt, take a handful of soil and squeeze it firmly. Tillage is safe if the soil falls apart or crumbles easily when the hand is opened. If the particles adhere tenaciously let it dry more before tilling.

Tillage Tools

The best tillage tools are the ones you can use most effectively in establishing and maintaining the soil mulch. Gardeners have their likes and dislikes regarding tools. What suits one does not suit another, but in any case the list does not need to be extensive.

The spading fork is better than the ordinary spade for use in preparing the soil and will often be found useful even on gardens that are plowed. The hoe and rake are the chief tillage implements in the average small garden. If they are of the proper kind and properly used no others are necessary. The Norcross type of cultivator saves much time and does efficient work if properly used, and there is less danger of doing poor work with it than with the hoe.

More than half the garden hoeing is less than half done. This is because most inexperienced and many experienced gardeners do not know how to use the hoe as a tillage implement. The aim in hoeing should be to leave the entire surface fine, loose and level; hoeing properly done stirs all the soil possible. Many gardeners fall short of this by pulling a quantity of soil on top of an undisturbed area. This leaves the surface in small hills and hollows. Then the hills are raked into the hollows and only about half the area is covered with an effective soil mulch. Operate the hoe not only so as to stir all the soil but also to leave it level and fine. In most hoeing the soil is moved too far.

Many a gardener becomes so intent in hoeing that he overlooks the pur-

pose of the hoeing. It does little good to establish a soil mulch and then to destroy it immediately by tramping the loosened soil. Aim to have as few foot prints visible after the hoeing is finished as practical. With this purpose in mind you will quickly devise ways of reducing the tramping with-loss of time or efficiency in tillage.

The small hoe and narrow rake are preferable to the larger sizes. They are easier to operate, can be used closer to the plants, and, if the soil is compact, better work can be done with less expenditure of energy. A three-cornered hoe with the handle attached at one corner (an onion hoe with a long handle) serves as both hoe and weeder, and does as good or better work with greater ease than the hoe with a large blade or the hand weeder.

The garden rake, is essentially a "preparation tillage" tool but can be substituted for the hoe when the rows are far enough apart to permit of its use. Used with a slight chopping motion it saves time in establishing a soil mulch. The straight rake with straight teeth is preferred.

The time saver in maintenance tillage is the Norcross type of hand cultivator. It is built on the plan of the wheel hoe or horse cultivator but is operated by hand with a motion similar to that used by most people in hoeing.

Resolve to make your garden investment pay maximum dividends by **thorough, timely tillage.**

PROTECT YOUR GARDEN

If it is worth while to plant a garden, it is worth while to protect it. Insects cause heavy losses to garden crops where no effort is made to control them, while a few simple measures applied at the right time will usually entirely prevent such losses.

One of the first things to do in the spring is to get the garden and fence corners free from weeds. At all times of the season gather up and destroy all old vines, stalks and refuse as soon as the crops are harvested. Refuse and weeds furnish food for insects and shelter them for the winter if left in the garden.

Do not let insects get a start. After they once become numerous on the plants it does not take long for them to do a large amount of injury, especially on young plants. Every insect that you let live through the spring season will produce many more later.

Where insects are few in number and are easily seen, they may be controlled by hand picking and destroying. But in most cases it is much more practical to spray the plants.

Liquid sprays may be applied with a small hand sprayer which can be bought at a small cost. Dust sprays may be dusted through a cloth sack, or perforated tin can or by means of a dust gun.

Use Poisons on These

Poison sprays, poison mashes, or contact sprays may be used to eradicate certain garden pests. Here are some of the most common insects, together with the poisons to use on each of them.

Chewing Insects. Insects that eat the leaves and tender parts of the plants may be controlled by spraying the plants with lead arsenate at the rate of 1 ounce (15 **level** teaspoons) to each gallon of water. When applied to plants with smooth foliage, such as cabbage, it is necessary to add an inch cube of common laundry soap to every gallon of spray to make it spread and stick better. Instead of using it as a spray, lead arsenate may be dusted on the plants early in the morning while they are still wet with dew. When used in this way it may be diluted with 3 to 5 times its weight of air-slaked lime or fine dust. Lead arsenate is preferable to Paris green because it remains on the foliage longer, is not so likely to burn the leaves, and is cheaper.

Cutworms cut off young plants near the surface of the soil and eat the foliage of older plants, feeding at night and hiding on the ground during the day. A small number of plants may be protected by cutting the tops and bottoms out of tin cans and placing them over the plants, pushing them well into the soil. Keeping down weeds and thorough cultivating of the soil is also of value. Larger areas may be protected by applying poison bran mash to the soil in the late afternoon or early evening. Either broadcast the material or place in little heaps near the bases of the plants. **Care should be taken to keep poultry and livestock away from it.**

To make up the poison bran mash mix 2 ounces Paris green or white arsenic or 4 ounces of arsenate of lead with 3 pounds of bran. Add 2 ounces of cheap syrup or molasses, ½ orange or lemon finely ground and a small quantity of water. Then mix all together, adding enough water to make a crumbly mash. One half teaspoon lemon extract may be used instead of fruit.

Grasshoppers may be controlled by poison bran mash made up as for cutworms. Tomatoes or melons may be substituted for oranges or lemons. The mash should be applied in the early morning so that it will not dry out before the insects feed on it. If the grasshoppers keep coming in from neighboring grass fields scatter the mash along the edge of the garden toward the field and renew from time to time.

Plant lice are small, soft-bodied insects which may be found massed together on the under sides of leaves and on tender shoots. They injure the plants by sucking the juices and for this reason cannot be controlled with arsenate of lead. They may be controlled by applying some contact spray, such as strong soap (preferably fish oil soap) at the rate of one-half pound to 4 gallons of water; or 40 per cent nicotine sulfate (Black Leaf 40), 1 teaspoon to 1 gallon of water with the addition of an inch cube of soap. The spray must actually cover the insects and should be forced well into curled leaves. If all are not killed by the first application, the spray should be repeated.

Be Careful of Poisons

Lead arsenate, white arsenic, and Paris green, recommended in this circular, are deadly poisons, and care should be taken to keep them away from children and domestic animals. Bean plants should not be sprayed after the pods have formed, nor tomatoes after the fruit is nearly full grown. There is no danger of poisoning to the consumer from eating sprayed cabbage because the cabbage head grows from the inside and the outer leaves are removed before cooking. The outer leaves, however, may have enough poison on them to kill domestic animals.

Kill These Directly

Some common garden insects cannot be reached or controlled by sprays, and must be removed by gathering the insects and destroying them, or by destroying their eggs.

Squash bugs cannot readily be controlled by means of sprays. They will collect under pieces of board or burlap and may be gathered and destroyed early in the morning. The reddish brown eggs are laid in clusters on the under sides of the leaves and may be gathered and destroyed.

Repellants Keep These Out

Many insects which cannot easily be poisoned or killed directly may be kept out of the garden to a greater or less extent by the use of repellants —which keep the insects away, even thought they do not kill them.

Root Maggots. The cabbage maggot may be controlled on cabbage and cauliflower plants by placing tarred felt discs about the stems of the plant at the surface of the soil, just as they are being set out. After the maggots have begun to work on the roots there is no practical remedy.

For maggots attacking onions, radish and turnips no satisfactory remedy has as yet been found. Infested plants should be pulled up and destroyed. Small beds of these may be grown under cheesecloth screens.

Tarnished Plant bugs, dull grayish to brownish pests about ¼ inch long, fly readily when disturbed and cannot be controlled with sprays. They may be driven from the garden by dusting the rows with wood ashes, working from one side to the other.

Flea Beetles. These little black jumping beetles are quite often serious on potatoes, tomatoes, cabbages, beans, and similar plants. Arsenate of lead seems to have little effect on them, but they can be kept away from the plants with Bordeaux mixture. This is made up as follows: 4 ounces bluestone, 4 ounces quicklime, 12 quarts water. Dissolve the bluestone in a wooden or earthenware vessel, using hot water, then add water to make 6 quarts. Slack the lime by adding water a little at a time. When slaked make up to 6 quarts. Pour the two solutions together through a strainer while stirring. The spray is then ready to apply. Both the upper and lower leaf surfaces should be covered. A combination of Bordeaux mixture and poison may be used.

Cucumber Beetles. These yellow and black striped or spotted beetles are also not easily affected by poison, but their food plants, such as cucumber, squash, and melons, can be made unattractive to them by dusting with a mixture of powdered lime and tobacco dust. Mix 1 pound of tobacco dust in 2 pounds of well-pulverized lime and dust the mixture onto the plants using a gunny sack or a tin can with small holes in the bottom. A small number of plants may be protected by placing cages over them. These cages may be made by cutting barrel hoops in two, nailing the halves together at right angles to each other, and covering with cheese cloth. Planting a large number of seeds per hill will help to get a better stand.

STRAWBERRIES AND RASPBERRIES FOR HOME AND MARKET

Raspberry Culture

Two kinds (species) of raspberries are commonly cultivated for home use and for market, the red and the black —the latter known as blackcaps or simply "caps."

These kinds, aside from their color, differ in the manner in which they are propagated.

Red raspberries are propagated by "suckers" which grow from the roots of the parent plant. In the black-caps plants grow from the tips of the branches when these are covered with soil or are held in place by a lump of earth or other means.

Soils: Raspberries thrive best on deep well drained soil, clay loam with clay subsoil or on gravely clay loam; in other words, well drained "cool" soils. Don't plant raspberries on thin, gravelly, or light sandy soil and expect to raise profitable crops.

For paying crops apply plenty of stable manure.

Red Raspberries

The culture of the red raspberry is influenced at every step by its habit of producing suckers or shoots from the roots. The first year of its growth a number of suckers will develop from the parent plant but not more than needed. The following year, however, and each succeeding year, innumerable suckers will spring up, not only close to the plants but between them and in fact wherever the roots extend. It is plain that this surplus growth of plants must be restricted or the field will soon become merely a brush patch, yielding little or no fruit.

Hills vs. Matted Row

Two methods of culture are in common use by growers, the hill and the matted row. Good paying crops may be grown by either method.

In the case of the **hill system** the plants are set **2 to 2½ feet apart** and the rows 6 feet apart. After the first season the suckers are confined to hills, 8 to 10 shoots or "canes" allowed to grow and all others removed.

In the **matted row** the plants are set **12 inches apart** in the row and the suckers allowed to form a matted row 12 to 15 inches wide and the canes 6 to 8 inches apart. The matted row usually yields more fruit than the hill system.

Setting the Plants

One method of planting is to plow shallow furrows for the rows, after the field has been plowed and harrowed, then set the plants the required distance and cover the roots, using a hoe or spade and tramping firmly about the roots. If the ground is mellow three to four inches of soil over the roots is enough and not too much.

If a large field is to be planted and a number of planters work systematically no doubt the furrow method will save time but the average planter will set by hand using a spade.

Cut back the tops at planting time leaving only short stubs. Where available a plant-setting machine commonly used for setting tobacco and cabbage plants, can be used successfully if a special, larger and deeper cutting hoe is used.

As the season advances a number of shoots or suckers will appear. These develop into plants which may produce a little fruit the following year.

Pinching

Some growers advise pinching the growing shoots the first season when about eighteen inches in height to encourage branching but this is not an important matter. Something may be gained by pinching but certainly no harm will result if it is not done. Cutting back the matured canes the following spring is a matter of the highest importance as will be shown later.

Cultivation and Intercropping

The ground should be kept clean and mellow all the season by frequent cultivation and hoeing. Vegetables may be grown between the rows the first season but don't plant strawberries between raspberry rows, as the strawberry plants will interfere with cultivation or mulching of the raspberries the following season when it is most needed. Number of plants required: Three thousand six hundred and thirty plants are required for an acre when planted 2 x 6 ft.

Black Caps

Black caps require rather more room than the reds. The reds are upright growers while the blacks are more spreading in habit. Three feet is close enough in the row and strong growing varieties ought to have even more room. The rows may be 7 feet

apart. An acre planted 3 x 6 ft. requires 2,420 plants.

In contrast to this, one successful grower plants black-caps eighteen inches apart in the rows and renews the plantation at the end of three years, taking only one full crop.

Planting

The "tip" plant of the black raspberry as received from the nursery is a flattened, compact bunch of fine roots with a single stem arising from the center. Around this stem are numerous buds that develop into other stems or "canes." If this bud cluster is covered too deep with heavy soil the buds will not push through. We are therefore confronted with the problem of covering the roots deep enough so they will not dry out and shallow enough to avoid smothering the buds. It can be done and the least difficulty will be experienced in soil that has been well prepared before planting.

Cultivation the first season is much the same as for the reds except that the black caps do not form suckers from the roots. The only canes or stems that grow will be from the bud cluster mentioned above. Usually there are not too many of these the first year, five or six, and are all retained.

As in the case of reds there is no objection to growing an annual crop between the rows the first season. Two rows of beans, one row of potatoes or other root crops, may be grown between each two rows of raspberries without serious detriment to the berry plant.

No fruit will be borne the year the plants are set out, either on reds or blacks but every effort should be made to secure a strong healthy growth of plants. Deep, rich soil and thorough cultivation will produce such plants. But little fruit will be borne the year following planting, the second growth year, but thorough cultivation must not be neglected for **starved plants will never bear profitable crops.** The second year after planting, third growth year, one-half a normal or full crop may be expected and a full crop the next succeeding years.

A raspberry plantation should yield profitable crops for four to six years. Many plantations are fruited for a longer period, eight to ten years or even longer, but in the opinion of many successful growers, the expense of cultivation in these older fields, the difficulty of securing a vigorous growth and the accumulation of insect and disease pests render it unprofitable to fruit raspberries longer than five or six years.

Trellis

It has been the universal practice in the past to build a trellis or support for raspberry plants both red and black but this is now rarely done. Growers have now learned that properly pruned plants require no trellis or other support. This subject of pruning will be discussed later but mention is made of it here as a matter of encouragement to beginners.

Varieties: As in the case of other fruits opinions of growers differ widely when it comes to selecting varieties. The following kinds are popular with Wisconsin growers:

Red: Marlboro, King, Cuthbert, in the order named.

Black: Plum Farmer, Cumberland, Gregg, as named.

Other Kinds

Purple Raspberries: The Columbian, Shaffers Colossal and perhaps other varieties, strong growing kinds sometimes producing canes twelve to fifteen feet in height and an inch or more in diameter, bearing purplish fruit, are hybrids produced by crossing the red and the black raspberry.

The purple or purple-cane raspberries are better adapted to the home garden than to growing for market They are not more productive than the red or the black, the rank growth interferes with proper cultivation and involves greater expense in picking. Also the very unattractive color of the fruit lessens its market value.

Everbearing Raspberries: The so-called everbearing raspberries are to be classified with the everbearing strawberries, interesting and attractive to the amateur but of little value to the commercial grower. The St. Regis is the best known of the everbearing type.

After the First Year

The suggestions so far given include only planting and care the first season.

Reds: During the first season the reds should make a growth of 18 inches to 2 feet. The following spring these young canes should be topped or cut back to a uniform height of about 18 inches. In the spring of the next and following years the canes should grow to a height of three to five feet and these should be cut back, in the spring, to a height of thirty inches. Weak and diseased canes should be removed.

Pruning improves the quality of the fruit. If all the buds are left more fruit will set than the plant can properly mature. If the plants are not pruned the fruit will be borne so high as to suffer from wind and will also increase the difficulty of picking it. It is also probable that the quantity of the fruit is increased by pruning.

As stated above the number of canes retained for fruiting should not be more than 8 to 10 if in hills or closer than 6 to 8 inches if in a matted row and the row 12 to 15 inches wide. This caution to cut out surplus plants of the red raspberry confining the growth for fruitage to a comparatively few canes and these severely cut back every spring cannot be too often repeated.

Black Caps: The black caps at the end of the first season should have two to five stout canes to each hill, more or less branched, two to three feet in height. After the first year the canes may attain a height of five feet, much branched and curving to the ground. These stems or canes should be pruned as in the case of the reds. The cutting should consist in shortening the branches which spring from the main stems one-half or more, or if not branched in cutting the canes back to a height of 24 to 30 inches.

Cultivation: Cultivation for the second and succeeding seasons should be the same as for the first season, clean, thoro cultivation to keep the soil stirred and to keep down weeds and grass.

Mulching: If stable manure in sufficient quantity is available or other coarse material it will pay to apply it heavily around the plants every year. This mulch will serve to keep down weeds, conserve moisture and add fertility.

Caution

The raising of raspberries for market in Wisconsin at the present time promises to be a profitable business and it is very unlikely that it will be overdone in the near future. At the present time the acreage has so far decreased as to be almost negligible.

While the policy of the Horticultural Society at the present time is to encourage the planting of berries, both to benefit growers and in order that there may be a plentiful supply of this delicious fruit, those who intend to plant are invited to carefully consider the following points:

Only those who have a natural aptitude for this kind of work or in lieu of this recognize the fact that gardening and fruit growing require vastly more work per acre and closer attention to details than farm crops and firmly determine on close application to these details, should engage in it. Given this aptitude or its equivalent in determination to succeed there are other essentials: suitable soil, proximity to market and available pickers.

The question of market should be considered relatively. If the ultimate market is one hundred miles distant and the berry field one-half mile from a shipping point it may be a nearer market than one requiring a haul of ten miles by team to a point where the berries go on sale.

Fifteen to twenty good pickers will be required for each acre of red raspberries in full bearing and it is a matter of first importance that these be available every day during the fruit picking season.

Now if these requirements seem formidable none are incapable of accomplishment.

Strawberry Culture

The purpose of this article is to help the beginner; it is not designed as a treatise on strawberry growing and no attempt will be made to distinguish between growing for home use and for market as the methods are the same in both cases.

Soils: Any soil that will produce a good crop of corn will produce a good crop of strawberries. Strawberries are grown for market in Wisconsin on light sandy, gravely loam, black prairie and light clay soils and successfully in all cases. The physical properties of the soil are of less importance than drainage and fertility.

Site: Level ground is best for strawberries or any other fruit crop. A few days in earliness may be gained by planting on a south slope or ripening may be retarded somewhat if the plantation is on a north slope but the difference is so slight that it rarely offsets the added expense and inconvenience of cultivation on sloping ground and the necessity of planting so as to avoid erosion. The mid-season varieties are the most profitable ones for Wisconsin growers.

The so-called early varieties are shy bearers and as a rule lack vigor. These varieties may yield a few early berries but rapidly fall off and cannot be depended on for the main crop.

Preparation of Soils: Don't plant strawberries on sod land, that is land on which grass was grown for two or more seasons as such soils are quite sure to be infested with the white grub which will feed on the roots of the strawberry plants.

Land intended for strawberries should be plowed in the fall and only lightly disked or harrowed in the spring just before planting, as newly set strawberry plants do not start well in soil that is very loose and mellow.

The choicest selection for a strawberry field is land that was heavily manured the previous season and planted to corn, potatoes or other cultivated crop and fall plowed. Under these conditions the manure is thoroly incorporated into the soil and weeds are sudbued to a large extent.

Manure: Strawberries require a soil rich in plant food in order to produce **paying** crops. It will be a waste of time to plant for market on thin, worn out soil without first manuring. If stable manure can be had apply 10 to 25 loads per acre.

It should not be inferred from this that **all** land **must** be heavily fertilized with stable manure before planting as an average farm or garden land that has been fairly treated as to fertilizers in former years will produce a good crop of plants the first year, if thoroly cultivated.

Plants and Planting: Runner plants of the preceding year's growth are the only ones that should be used. Plants that have once borne fruit are not suitable, scarcely worth planting. Nurserymen furnish only runner plants. If plants are received from the nursery packed tightly in bundles, open the bundles at once, separate the plants and either pack in boxes or baskets with damp moss, chaff or sawdust, separating the roots or else "heel-in" outdoors.

"Heeling-in" in briefest terms is temporary planting. Dig a trench just deep enough to admit the roots; lay the plants in side by side and cover the roots with earth leaving the crowns exposed.

Trimming: For convenience in planting the roots may be trimmed. In case of heavy root growth the roots may be shortened to four inches in length. Close trimming, to two inches or less, is to be avoided as these short roots will not reach moist soil. Remove all leaves but one or two before planting.

Strawberry plants may be set as close as 18 inches in the row and the rows four feet apart but for most varieties 24 inches in the row is better. At 2 by 4 feet 5,445 plants are required for an acre.

Plants are usually set by the spade method, two persons working in company.

The plant setting machine commonly used for setting tobacco and cabbage plants is also successfully employed in setting strawberry plants on a large scale.

One thing is highly important, viz., the proper depth of setting. If the plants are set too deep the "crown" or growing point is covered; if set too high the roots are exposed. In either case the plant may fail to grow. With a little practice the right way may be found.

Cultivation: Keep the soil loose, mellow and free from weeds throughout the season by frequent cultivation. An adjustable fine-tooth culivator is a good tool to use. Run close to the plants at first and as the runners stretch out into the space between the rows, close up the cultivator allowing the plants to set thickly in matted rows two feet wide, thus leaving a two-foot path between the rows. In case of too vigorous growth attach a rolling coulter to the culivator to remove the surplus runners. Care should be taken to keep the rows full of plants by training runners so as to fill vacant places.

This is what is known as the "matted row" system, the most practical plan for the average grower. Where there is a demand for very large berries, uniform in size, the single or double "hedge row" or hill system may be adopted.

If the ground is rich and the season favorable too many plants may set. In this case as the season advances remove the surplus until the plants in the row stand about four inches apart.

Remove all blossoms the first season as soon as they appear. All of the energies of the parent plants must be directed to plant making the first season and not wasted in the production of flowers and fruit.

Considerable hoeing and weeding will be needed the first season for the beds must be kept clean. Grass and weeds rob the strawberry plants of food and moisture. We should endeavor to secure a good stand of strong, vigorous, deeply rooted plants the first season; lacking this we cannot expect a profitable crop of fruit next year.

Perfect and Imperfect Flowers: Some varieties of strawberries produce only imperfect flowers. These flowers have no stamens and are therefore incapable of self-pollination. It is important to keep this fact in mind when selecting varieties, for if only imperfect-flowered varieties are selected no fruit will be borne. A part of the plantation at least must be of kinds bearing perfect flowers. Nurserymen indicate in their catalogues the imperfect varieties by the abbreviation "Imp."

Varieties to Plant: The amateur as well as the professional soon learns that in the selection of varieties he must be largely guided by local conditions of soil, climate, etc., and that no list can be given that will be satisfactory over the whole state. However, two varieties, Warfield and Dunlap, seem to give satisfaction over a wider range of soils and climate in Wisconsin than any other standard varieties. Some growers advocate planting only Dunlap.

Fall Bearing Or So-Called Everbearing Strawberries

Within a few years a new group of strawberries has appeared, the so-called "everbearers." These kinds do not, as the name indicates, bear throughout the whole season but produce a crop at the same season as the standard varieties and, after a short rest period, a second and often a third and even a fourth crop, frequently fruiting from June to November.

Enough berries, a straggling few, are borne between crops to partly justify the name "everbearing."

These kinds are most excellent for the home garden but the beginner

who is growing for market should not plant heavily of the everbearers but stick to the standard sorts. The experienced grower, especially if he has an irrigation plant, can usually grow them profitably. The most popular kinds are Americus, Progressive and Superb. Progressive seem to be the most prolific; Superb large fruit, and Americus more nearly an all season or everbearer.

Mr. M. S. Kellogg of Janesville who has grown the "everbearers" since the first commercial varieties appeared, sixteen years ago, has this to say of them:

"This class of fruit has passed the experimental stage and has become a necessity for the home garden and for the commercial grower when conditions of soil and market are favorable. In growing the Everbearers the following is the most approved method of culture. Plant as early in spring as the conditions of soil and weather will permit, keep all bloom removed from the plants until about one month before you wish the fruit to begin to ripen. Allow the plants to produce from four to eight runners and when these are rooted remove all other runners as soon as they appear. You will then have a hedge row or half matted row system and with clean culture and good fertile soil you will get lots of berries. If you want fruit do not let them make too many plants. A bed of Everbearers after having fruited the year of planting should be well covered and can be carried over to fruit the following June if desired or the fruit stem can be kept off the second season until July 15th and they will bear again in the fall. Right varieties, rich soil and good culture will win but the greatest of these is GOOD culture."

Winter Protection: Strawberry plants must be given winter protection, a light covering, not so much to prevent freezing as to prevent alternate freezing and thawing. Marsh hay is the ideal material for this purpose. Clean straw is also used but as it usually contains weed seeds hay is preferable. About two tons of hay will be required for an acre which is equivalent to a heavy crop of growing hay.

This covering should be left on until growth starts in the spring when about two-thirds of it should be raked into the spaces between the rows where it will serve to keep down weeds, retain moisture, keep the fruit clean and furnish a "carpet' for the pickers.

The balance of the mulching should be left on the plant row and the plants allowed to push through it. The more mulching left on the row the better so long as the plants are able to work through it as it serves the double purpose of keeping down weeds and retaining moisture.

It is not well to remove any part of the mulch too early in the spring as it serves to retard the growth of the plants and thus furnish security against late frosts. In fact care should be taken to leave the mulch on until the new leaves under the cover show white.

After the First Year

It is the practice of many growers to harvest but one crop of berries and at the end of the picking season plow under the plants and use the land for a crop of rutabaga, turnip or buckwheat. In favorable seasons late cabbages or the early maturing varieties of sweet corn may be planted.

If it is desired to carry the field over another year, after picking cut the plants close to the ground with a mower and after they have dried burn them.

In order to avoid injury to the roots by fire the mowed plants and mulching should be thoroly dried so as to burn quickly.

No cultivation is given the second season but any strong growing weeds which appear such as dock, thistle, etc., may be readily cut out by the use of a broad chisel attached to a fork handle. The plants are mulched in the fall the same as for the first year.

Strawberries when grown as here advised, by the matted row system, cannot be profitably cropped more than two years.

TREE FRUITS

Planning and Planting the Orchard

Soil and Site: Fruit trees require well drained soil. The character of the soil is of less importance than drainage. Much has been written about the right kind of soil for apples, cherries and plums, great stress being laid on the character of soil necessary to produce paying crops. Some of it is true but a little observation will show many very fine orchards in Wisconsin on wide ranges of soil. The very thin soils of Door county produce wonderful orchards, so also do the deep loamy soils of Crawford county while the very oldest apple trees in the state are growing in the black loams of Jefferson and Rock counties. Don't worry too much about the right kind of soil.

As a commercial proposition it is well to take account of the fact that trees on deep clay loam soil will require longer to come into profitable bearing than those on light, sandy or gravely soils,—and live longer.

For the home orchard of a dozen trees plant near the house regardless of the nature of the soil,—if it is well drained. Many people believe that an orchard should always be planted on sloping ground. This idea probably arises from the fact that our forefathers in Massachusetts and Virginia planted apples on hill sides but this was because it was found that trees would grow there, thus reserving the level land for corn or other crops which required cultivation. Level well drained land is preferable on account of ease of cultivation. If only sloping land is available choose a north slope rather than a south slope.

Air Drainage: This is also important. A free circulation of air thru the trees tops hinders the development of disease and insects. If trees are planted in a low spot where cold air settles the fruit buds may suffer from frost.

Causes of Failure: Many thousands of trees are set out every year in this state; some live, many die.

In some cases the nurseryman is at fault. More often the planter is at fault. The trees may arrive in good condition but in the rush of spring work the bundle is laid aside until a convenient time arrives to plant, or the trees may be improperly planted.

Trees and plants in small lots are packed in bundles at the nursery. If the work is well done the roots are packed in damp moss or excelsior and this covered with burlap. The tops should also be completely covered either with rye straw or burlap. This packing is usually sufficient to protect the plants from drying until they have arrived at their destination, **but is not intended to preserve them longer.**

Never under any circumstances leave the trees in the shipping package, even over night. If possible plant at once, otherwise open the bundle and "heel-in" the trees or plants.

"Heeling-in" is temporary planting. To do this dig a trench wide and deep enough to accommodate the roots and with one side sloping.

Open the bundle, lay the trees separately in the trench with tops resting on sloping bank. Cover the roots with moist earth sifting it well among the roots, tramping firmly. In addition a mulch of straw or manure

will help to preserve moisture. Treated in this manner trees may remain in the trench for several days if it is absolutely necessary to leave them there. If trees are shrivelled when received bend down the tops after heeling-in and cover them with moist earth. Often in two or three days they will be found to be plump and fresh

Planting: The ground should be deeply plowed and well cultivated before planting. Do not set fruit trees in sod. The grass roots will reach out and rob the trees of food and water. If you cannot devote a piece of land to trees alone and keep it in cultivation, do not attempt fruit growing as the results will be disappointing.

Dig holes large enough to accommodate the roots after these have been cut back to sound wood. Trim broken and crushed roots back to sound wood, do not cut off more. Don't worry about the fine, fibrous roots about which so much has been written,—these are dead anyway if the tree has been out of the ground more than a few hours,—take care of the larger roots for it is from these that growth starts.

The hole should be deep enough to admit setting the tree about two inches deeper than it stood in the nursery. Spread out the roots, sift fine earth about them and pack firmly with the feet. If the earth is moist and mellow it cannot be tramped too firmly. It must be in close contact with the roots in order to enable them to take up the water it contains.

Pruning:—The tree is now safely anchored in the ground but the work is not finished. At this point arises the most common cause of failure: some of the branches must be removed or the tree is apt to perish.

Before removal from the nursery the tree had sufficient roots to supply all of its buds with water. In digging, most of the roots have been (necessarily) removed, but the buds are left. When growth begins every healthy bud will push out and call on the roots for water to feed its newborn leaves. The very limited supply that the reduced root system can pump up will be distributed equally and as a result none may have enough to develop its leaves and without leaves the tree must perish. We must, therefore, reduce the number of these water pumps by removing **one-half to three-fourth of the buds.**

The drier the ground and weather the more we should cut off. The manner in which the cutting is done will depend to a great extent upon the kind of tree. In apples, plums, etc. we need to bear in mind the ultimate shape of the tree. The framework upon which the branch system is built is determined largely at this time. Remove crowding, crossing, and interfering branches. Aim to leave the main branches spirally about the stem rather than opposite. The lower opposite branches in fruit trees form bad forks that may split down later. Don't be afraid to cut; failure will result unless much cutting is done.

Distance to Plant:—Apple and crab trees should be planted 24 x 24 feet which will require seventy-five trees to the acre.

Plums and cherries may be planted as close as 16 x 20 feet but 20 x 20 feet is better. At 20 x 20 feet 108 trees are required for an acre.

Cultivation and Cropping:—The orchard must be cultivated for several years after planting if profitable returns are expected. Weeds and grass must be kept down and the soil stirred to encourage growth. There is no need, however, of devoting all of the space between the rows to the trees the first four or five years, hence intercropping is suggested.

Beans, garden peas, potatoes or other hoed crops may be grown without serious detriment to the trees, but corn, except possibly sweet corn, ought not to be planted in the young orchard as it takes too much from the soil and shades the young trees. Cultivation should cease soon after July 1st in order to permit ripening of the wood growth.

Protectors:—To prevent damage by mice and rabbits during winter the trunks of the trees should be covered with wire screen or tarred paper. If the paper is used it should be removed in the spring.

Buying Trees:—Buy only two year old trees of apple. One year cherry trees if well grown in the nursery are often as good if not better than two year old. Two year old plum trees are usually sent out by nurseries. Buy of Wisconsin nurserymen. We have many reliable nursery firms in our own state who can furnish any of these varieties. Why buy elsewhere?

Place your order in fall or winter for early spring delivery. **Do not plant fruit trees in the fall.**

Varieties

Apples:—The varieties named below are all standard, reliable and hardy and have been thoroughly tested in Wisconsin for fifty years or more.

For the home orchard of a dozen apple trees the following selection will give satisfaction: 3 Duchess (early), 5 Wealthy (mid season), 4 Northwestern Greening (winter). If a greater variety is desired add McIntosh (midseason, Tolman Sweet (winter), and Windsor (winter). For north-central and northern Wisconsin substitute Patten Greening for Northwestern and omit McIntosh.

Do not plant Transcendent crab anywhere in Wisconsin on account of its tendency to blight, plant Martha or Hyslop instead. The commercial grower will want to add to the above. A full list of tested varieties will be found in the Annual Report of this Society. (Sent free to members).

Plums:—Surprise, DeSoto, Hawkeye, all natives, all reliably hardy anywhere in Wisconsin and all sure croppers.

None of the European or Japanese plums are long-lived in Wisconsin but trees of certain varieties often live to bear several crops.

Try: Green Gage, Lombard and Moore's Arctic for European and Burbank for Japanese.

Cherries:—Where cherries thrive plant Early Richmond and Montmorency.

Pruning:— Prune tops severely as soon as planted, removing 50 to 75 per cent of branches.

Care:—Cultivate often enough until midsummer to keep down weeds and grass and to keep soil mellow.

SUMMARY

APPLES

Soil: Clayey loam with permeable clay subsoil preferred, other soils nearly as good.

Site: Elevated, level. If sloping land only is available choose north slope rather than south.

Distance Apart to Set Trees: 24 by 24 feet.

Age of Trees to Set: Two year old.

PLUMS. (Native)

Soil: Any well drained land. Native plums are adapted to a wider range of soil than other tree fruits. Many varieties thrive on sandy soil.

Site: Same as for apples.

Distance: 20 by 20 or 16 by 20 feet.

Age of Trees: 2 years.

Culture: Same as for apples.

CHERRIES

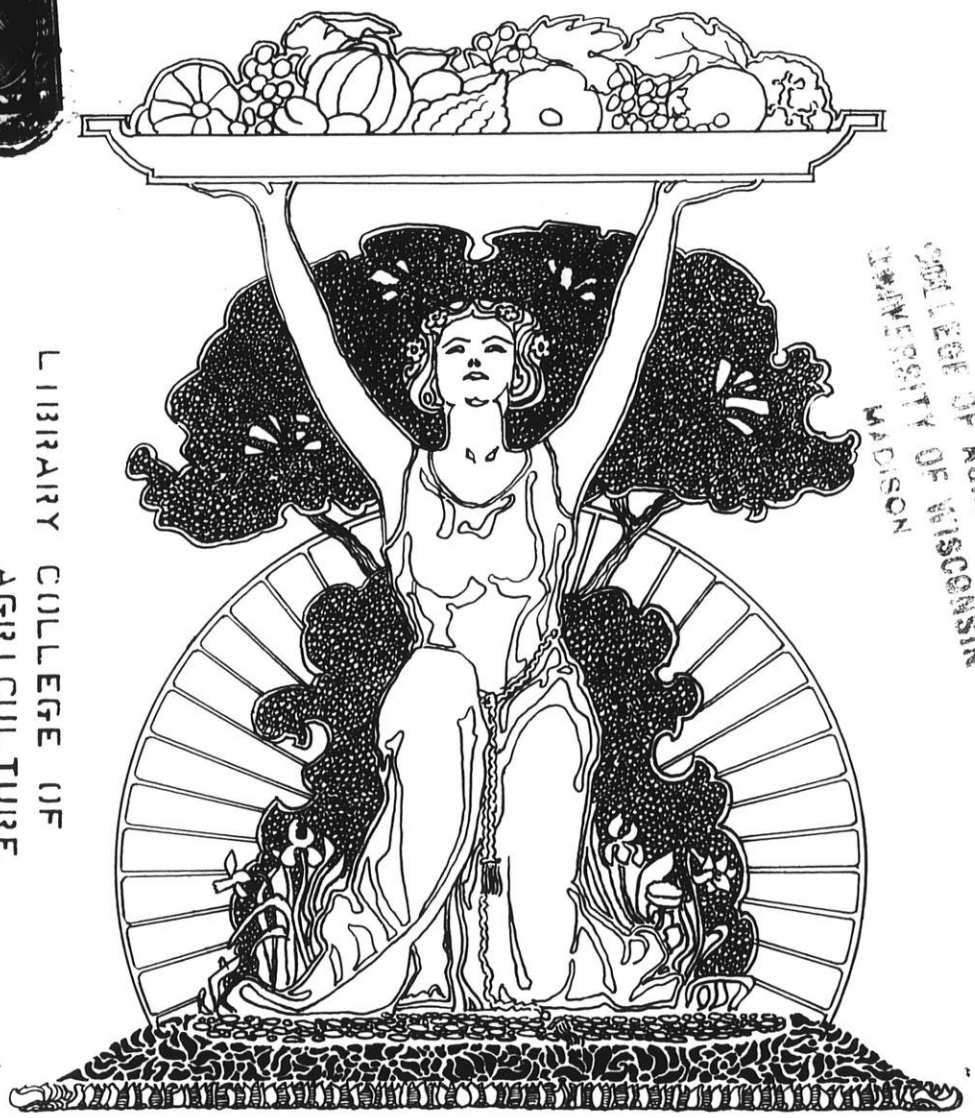
Soil: Light, well drained soil. Cherries will not thrive on heavy moist land.

Distance: 20 feet.

Age of Trees: 1 or 2 years.

Culture: Same as for plums and apples.

WISCONSIN HORTICULTURE



OFFICIAL ORGAN OF WISCONSIN STATE HORTICULTURAL SOCIETY

Volume XI Madison, Wisconsin, March, 1921 Number 7

Fight Oyster Shell Scale

(Circular 124, Extension Service, College of Agriculture)

Charles L. Fluke, Jr.

The oyster-shell scale, which probably occurs in every apple orchard in Wisconsin, can be easily checked if the proper spray is used at the right time.

It causes more injury to fruit trees than most farmers realize, many regarding it as a harmless insect which needs no special attention. The pest is so easily checked that every orchard could be reasonably free from the scales without expenditure of much time or effort.

The oyster-shell scale has spread throughout the country until it can be found in the orchards of practically every state in the union, and in most fruit sections of Canada. It is especially harmful in the Great Lakes region, where it is often mistaken for the San Jose scale.

What the Oyster-Shell Scale Looks Like

The oyster-shell scale is readily distinguished from other scales attacking apples by its rather peculiar shape, that of an oyster shell, and by its color, which closely resembles the dark brown of the bark of apple trees. For this reason it is difficult to detect the pest when only a few scales are present.

The female scale is about one-eighth of an inch long and is larger than the scale covering the body of the male. The smaller end of the female scale consists of the moltings or cast off skins of the growing insect while the larger end, which is finelly ribbed, is composed of a scaly material secreted from the body of the insect underneath. The male scale is very seldom seen on fruit trees. The old lifeless scales adhere to the bark for several years, and since new scales are yearly being formed the larger limbs and branches often become so encrusted that very little of the bark itself is visible.

Nature of the Shell Scale Injury

Scale insects belong to a group which secure their food by means of sucking mouth parts; thus the sap of the plant is sucked out, taking from the tree the necessary amount of nourishment to grow properly and produce good fruit. The oyster-shell scale seldom causes the death of the host in its entirety; however, in severe infestations complete limbs and twigs are often killed, which stunts and retards the growth and development of the tree to such an extent that it is a hinderance rather than an asset to the orchard.

THE EGGS OVER-WINTER UNDER THE DARK BROWN SCALES

Scales the shape of an oyster shell are found on the bark of many trees. From September to May the eggs can be found by carefully turning over a few scales. This picture is considerably enlarged.

Important Things to Remember About the Oyster-Shell Scale

1. It is easily checked if proper materials are used and applied at the right time.
2. Use liquid lime sulfur, 1 gallon, to 12 gallons of water.
3. Apply spray while the trees are dormant.
4. Cover branches and limbs thoroughly, spraying from all sides.
5. Repeat every two or three years.
6. Control measures used against the oyster-shell scale are also sufficient to check the ravages of the San Jose scale.

Also Feeds Upon Many Other Plants

Although usually found on apple, maple, horse-chestnut, poplar, willow, and lilac, the oyster-

shell scale has a very wide range of food plants, having been recorded on more than 100 species of shrubs and trees. Besides the hosts mentioned above it occurs on the following more or less important plants: basswood, box elder, cherry, currants, grape, pear, plum and rugosa rose.

How the Oyster-Shell Scale Lives

1. How the insect passes the winter. Any time during the dormant season (Spetember to the following May) if one will take a pin or knife and carefully turn over a few of the scales, formed the preceding summer, one will find underneath, at the smaller end, the old, dried-up female, and at the other end the small white glistening eggs (see figure). The insect passes the winter in this stage, the adults dying soon after eggs are produced in the fall.

2. Time of hatching of eggs. In 1917 the overwintering eggs began hatching at Madison June 8–12 and in 1918 from May 25–28. This variation in the time of hatching is caused by the earliness or lateness of the season. Southern Wisconsin will be 3 or 4 days earlier and the northern and lakeshore region a week to 10 days later. Soon after hatching the pale yellow young crawl from under the parent scales and seek a place on the bark, leaves, or fruit to insert their beaks which are long and thread-like. From this position, the females never move but continue to grow and secrete their scale-like covering. After the first molt they lose their legs and antennae, becoming small grub-like creatures. As soon as the males shed their skins the second time, they develop wings and emerge from under the scales to seek their mates. The females continue to feed and become full grown in August, after which time egg-laying begins. When this is completed, the adult dies.

How to Fight the Oyster-Shell Scale

Material to use. Lime sulfur is the standard spray for the control of scales infesting apple trees. It should be used at the rate of 1 gallon of lime sulfur to 12 gallons of water.

Time and method of applying spray. The strength of lime sulfur as recommended above is for dormant trees only, to be applied late in the fall or early in the spring before the leaves appear. It is best applied just as the buds are swelling and before any foliage appears. The spray must actually come into contact with the scales to control them, therefore a thorough application is necessary. Any good pump which will give at least 100 pounds pressure to insure a fine misty spray will perform the work well enough for satisfactory results. If the work is well done it will be unnecessary to repeat this spray every year, every two or three years being sufficient to hold the scales in check.

The San Jose Scale is Controlled at the Same Time

Lime sulfur used at the rate given above and applied when the trees are dormant is the best control of the San Jose scale. Both insects are killed with the same spray.

Sparta Back in the Ranks

The annual meeting of the Sparta Produce Exchange was held in their own hall last Saturday with one hundred and fifty members present.

Manager Frank Kern submitted a complete itemized report for the year showing in detail the number of cases of each kind of fruit handled each day during the season, the average price for each day and the total. The Exchange handled a total of 23,-788 11/16 cases of strawberries for which they received $58,-948.40 or an average of $2.58 7/10 per crate. They handled 447 crates of red raspberries, receiving $1,914.67 or an average of $4.28 for 24 pints, 837 crates of black berries, receiving $3,429.12, an average of $4.09 for 24 pints and 245 crates of black raspberries, receiving $1,096.34 or an average of $4.47 1/3 and 16 crates of gooseberries averaged $3.24, currants, eight cases at an average of $2.92. The average on strawberries this year was $2.58 7/10 compared with $1.04 for 1919, red raspberries $4.28 compared with $4.07 last year, blackberries $4.09 compared with $3.55 a year ago and black raspberries $4.47 1/3 compared with $3.90 a year ago.—*Monroe County Democrat.*

Keep the foliage of house plants clean. Wash off dust and mealy bugs every week or so.

According to the last census there are about 4,500 nurseries in the United States representing an investment of more than $52,000,-000.

A Well Deserved Honor

When rough spots in life's journey are passed, when the heights have been reached, when the shadows begin to lengthen a little we may be given to introspection, wondering if it has all been worth while. Most of us must answer the question ourselves. Each year the Agricultural College takes note of three

RENSSLAER JAY COE

or four whose lives have been spent in building up agriculture and building in a way that has made the pathway easier for others, whose works will live after them; upon these our college confers an honorary degree. Of four chosen this year our beloved fellow member R. J. Coe was one. In introduction Dean Russell said:

"Rensselaer Jay Coe, widely-known fruit grower and eminent nurseryman, has been concerned with upholding and upbuilding the dignity of the business and calling of horticulture ever since his residence in Wisconsin. One of the farm institute pioneers, his genial human kindness made him loved by everyone of his associates and won him hosts of friends in his audiences throughout the state. His hobby as well as his business has been fruit, flowers, and shrubbery.

"As a nurseryman, he has won an unimpeachable reputation extending over nearly half a century. His influence has helped to inspire confidence in reputable nurserymen everywhere. In the State Horticultural Society, he has served as president, treasurer, and vice-president, earning during the administration of each position the continual respect of his colleagues and the membership. His quiet yet forceful nature has placed him among those men who stand not only for accomplishment, but for character and true, sane leadership in agriculture.

"In recognition of his influence as a nurseryman and of his unwavering service in the field of horticulture, the Faculty of the College of Agriculture has chosen to designate him, that he may receive from you, Mr. President, the testimonial of appreciation awarded by the Regents of the University of Wisconsin."

The Back Yard Orchard

Mr. G. who lives in Waukesha county wants just six fruit trees, one for shade as well as for fruit. There are hosts of amateurs in the state who want this sort of thing so his letter is published in full, followed by certain comments.

"A paragraph in the January issue of our paper, advised any one with a 'square rod' of ground to plant a certain variety of apple tree.

"Does the average apple tree require that amount of space?

"I wish to set out perhaps four fruit trees in a 'backyard' orchard. One is to be as close to the house as possible, that we may have the advantage of shade as well as fruit. What particular apple would you recommend for that place?

"I realize, of course, that as a real honest-to-goodness shade tree, the apple couldn't qualify, yet we used to sing about 'The shade of the old apple tree,' and there are a few specimens hereabout that we are able to sit beneath, and, in season, enjoy the fruit. What I wanted was a tree that had a good spreading top instead of the taller, rather skinny habit, if you know what I mean.

"I had in mind for the others a good crab, a russett; perhaps a Greening for cooking, and a Winesap for eating or Stark Delicious.

"Also please recommend a plum and a pear."

David R. Gray.

Just a bit of very fine sentiment here, to sit in the shade of the old apple tree, and perhaps a wish for his children and his grandchildren also. Well, it can be done, if there are not too many other trees nearby. An apple tree on a lawn struggling with grass and shade trees would grow to be of "sitting under" size in just about time for the grandchildren.

If there is an open space, no large trees within two rods and a circle six feet in diameter is kept cultivated, fertilizer and water supplied as needed, after twelve to fifteen years we may

sit in the shade and eat apples. Plant Duchess or McIntosh.

In commercial orchards more than a square rod of land is allotted to each tree.

For the three back yard trees, 1 Transcendent crab, 1 Wealthy, 1 Northwestern.

Plant two plums of two varieties or none at all as few if any of the native plums will bear if planted alone. Surprise and De Soto will give satisfaction. The Flemish Beauty is an excellent pear.

Constructive Suggestions About Convention

Remarks in the February paper concerning the Annual Convention prompted Mr. M. B. Goff to write as follows:

"I just received Wisconsin Horticulture today, and congratulate you on your analysis of the society's program problems. What I said at the convention was intended to be constructive rather than critical, but I do feel that it is positively necessary to take more into account the needs of the different elements in the society. After all with the commercial men, who have not come to look on the annual meetings as a sort of pleasure excursion for recreation chiefly, there is the feeling that unless a lot of pretty solid meat is offered, they cannot afford the expense of attending a meeting. Criticism of this attitude will not change their point of view, and I do not know of any better way of trying the thing out than to give them what they ask for one or two years; namely, an opportunity for sectional meetings and conferences every day during the session. If after a couple of years they have not availed themselves of the plan sufficiently to warrant its continuance, the Society will at least have a good answer to the specialist who finds fault with the rather general nature of the discussions. The commercial and semi-commercial elements among the fruit growers of the state are larger than we realize provided we do something to stimulate their interest. Personally I am not in favor of a separate Fruit Growers Association at the present time. I would rather see the Horticultural society foster an auxiliary, within the society, holding part of its meetings in common with the other branches of horticulture, and part of its deliberations as purely commercial fruit growers affairs, in a separate room, but in connection with the regular convention.

Another thing is the location of the meeting. Madison offers many advantages in the winter time, but it is not at all equidistant from all parts of the state which are interested in fruit growing. When you realize that a Door County grower cannot attend for a cost less than $50.00 you see why it is difficult to stir up any general interest there without a pretty substantial program. Even then, I fully believe, that unless part of the annual meetings are brought nearer to an accessible part of the state in so far as our territory is concerned, it will be difficult to bring many of our growers out, regardless of the wealth of the program. It is not that they do not realize the many advantages to be gained, but the elements of time and money required overbalance considerable of the benefit to the average man. Such cities as Appleton, and Oshkosh are more accessible to most of the state than Madison, and I believe should be considered, at least every other year, of as much attraction as convention cities as Madison."

Mr. Goff's letter is worthy of careful consideration and further discussion is invited. As at present written the Constitution provides that the annual meeting be held in Madison. "Other meetings shall be held at such time and place as the Executive Committee may direct."

Put up a Sign, "Danger"

Here comes a beekeeper who wants to know if spraying will kill bees. Dr. Fracker wrote all but the headline.

"Your letter to the State Horticultural Society has been referred to me for reply. In accordance with your request, we are enclosing a copy of a Supplement to "Wisconsin Horticulture," March 1920, which describes methods of spraying.

"Lime-sulfur and arsenate of lead, if sprayed at the times described in the circular, are not injurious to bees. If the application is made while the trees are in full blossom the bees may visit the flowers and secure enough poison to kill them."

Don't forget the birds when we have sudden snowstorms and bad weather. A little suet tied to trees, a sheaf of grain, or breadcrumbs are appreciated and are worth supplying.

Try It

Oak Holler, Wis.

My Dear Friends—Once upon a time so the story goes, a man was told, that in order to obtain absolution for his sins he must make the pilgrimage to a far mountain. He was to travel the road used by the people in their journeys to and from the different cities and he was not to speak one word—if he did, he would have to start all over again. At the end of each day for every smile bestowed upon him he would be set forward a mile—for every frown back he would go a mile.

Confidently he set out upon his journey. He was certain that people would smile upon a man who was willing to make this pilgrimage. But alas! the road was rough and narrow and he jostled those whom he tried to pass. Many were the frowns he received. Even those whom he did not jostle thought him churlish because he did not return their greetings. Bravely he persevered, but after many months when he found he was no nearer his journey's end than the day he started, he became very much discouraged. Finally he sat down in a quiet spot by the side of the road and thought earnestly how he might avoid the frowns and win the smiles of his fellow travelers. As speech was denied him, there seemed nothing he could do.

Just then a traveler looking at him thought he was a beggar, so he stopped and searched his garments for alms; finding nothing to give him, he smiled very kindly and said, "I am sorry my friend that I have nothing to give you but may Peace go with thee—and those that have plenty be kind to thee." He passed on regretting his inability to help this poor man. But the kind words and smile had revived the poor pilgrim's courage. He was one mile nearer and it was the first smile he had received for many a day. He decided there must be some way of letting people know that smiles instead of frowns were what he needed. He finally made up his mind to hang a large placard about his neck on which was written, "Smile upon me oh my friends. Help me a mile on my way, for if thou dost frown, here must I stay. But thy smiles send me along swiftly —I pray thee my friends smile." He also decided to be very careful and give every one he met the full half of the road so as not to jostle them.

The next morning he started out once more. The first person he met noticing the careful consideration of his rights, read the placard and smiled. The Pilgrim was overjoyed to think his plan was successful and smiled so happily at every person he met that they smiled in return, even tho they had not read the placard.

As the legend goes he soon reached the mountain where his sins were forgiven.

Upon returning to his home he was asked what good this Pilgrimage had done him. This was his answer, "I have learned to give my fellow travelers a good half of the road and to smile, and by so doing have gained many friends."

Don't just remember where I heard this story—probably in the same garden where I heard many others and learned in later years that there was a lesson in each one. Am wondering if we don't all forget sometimes the lesson the Pilgrim learned, give a good half of the road and smile. Suppose the smile is thrown in for good measure. But it helps—for if the road you must travel be rough and narrow and you should jostle your neighbor, the smile is apt to make him better natured for usually the smile on your face is reflected in his.

Don't believe it? Try this once; walk down the street some day and smile at every man, woman and child you meet. See them smile back at you. They just can't help it for a smile is as contagious as the measles or whooping cough and a whole lot more agreeable. Almost believe you could take a little more than your share of the road if you smiled.

A smile will take the sting out of a reproof sometimes, and not lessen the effect either, because as I heard a speaker once say, "A smile is the lubricating oil in the machinery of life." Most folks like to be smiled on—some don't even mind being smiled at—if it's done in the right way. There's a considerable difference it seems in the way you smile at folks. Once heard a woman say to a friend, "What in the world is wrong with my clothes or my hair. I just met Mrs. A. and she smiled so sweetly at me I just know there's something wrong."

That was a new one on me—never had heard of that sort before. Anyway it wasn't the kind of smile the pilgrim needed to help him on his journey, or that you and I need to help us in our

every day life. The kind of a smile that we like to see is the smile that shows affection, kindly interest, happy greeting, pleasure in our successes, approval of the course we have taken, in short, the real honest-to-goodness sort of a smile that comes from the heart.

I'm thinking if I don't stop writing pretty soon I'll know just exactly how that Pilgrim felt when he sat by the side of the road. Never have seen that Editor man frown yet—but—if any of you see me wearing a placard bearing this inscription

"Frowns don't help this world one bit
Never made with me a hit
Help this Pilgrim on a mile
Everybody on me smile."

you'll know what happened to me.

Good Bye,
Johnnie.

Tree Planting for Small Towns

Ernest Meyer, Tree Planter, Minneapolis City Parks, in Minnesota Horticulturist

There is a great movement under way all over the country to plant trees in memory of our dead soldiers, and it should prove a good incentive to plant a tree on every spot intended for a tree. The trees should be specimens worthy of the cause they are intended for and not such as will decay and be gone inside of a generation.

Going through our small country towns one often wonders who plants all those ugly, crippled excuses for trees along the streets, and why it is that the planter does not select a straight tree or one that has at least a tendency to grow nice and straight, instead of one that already looks bad and keeps on getting worse as it gets older. The same is to be said about the kind of tree to plant. Why plant boxelders or cottonwoods? I would not even plant a soft maple, because all of these are shortlived and become dangerous with age.

A very truthful description of the box elder is given by an editorial writer in The Minneapolis Journal:

"An Arboreal Slattern. When the Park Board forbade the planting of box elders along the streets of this town, they did a good day's work, well seasoned with clear foresight and wise retrospect. The only flaw in the proceedings was the failure to limit the life period of every tree of that variety already on the street.

"The chief charge against this tree weed is that it has no fixed purpose in life, no wholesome pride of performance, no sense of its own unworthiness. It is cursed with a boorish forwardness, and a painful lack of that nice sense of dress common to trees of better breeding. A poor tramp among the matrons of the forest, it is endowed with a shocking fecundity and its offspring with a vulgar vitality.

"The pine, now, for instance, is a purposeful, dignified, and self-respecting tree. Its aim from infancy to age is to build its central shaft. Forgetting the things that are below, it presses upward. Nothing stops its terminal bud in its direct reach for the sky; and no lower limbs retard the building of the one well-determined bole. It is this quality that has made the pine and its kin the most useful trees on earth.

"The oak aims to endure; the maple to shape a noble head; but the weak-minded, ungainly, sprawling box elder has no commercial ambitions. It is content to squat and sprawl.

"The box elder leaf has no outstanding character. Men do not honor it. But the maple leaf has reached regimental honors in the United States army! and the oak leaf, a commander's order in the navy. Art loves to twine these two leaves into its best ornamentations. But who ever saw even a Digger Indian adorn himself with the trifling foliage of the box elder?

"Autumn gets no responsive tint from this tree's fading summer skirt. Drab, frayed, flabby, it waves no gay kerchief in farewell to the departing year. Nor does it lay its garments down with a will, as do the linden and the poplar; nor hold grimly on to them, as does the red oak. Half-heartedly it strips itself of a part of its shriveled covering, leaving the raveled rags to flap in the winter wind, like the weather beaten remnants of a cornfield scarecrow.

"Yet this cheap tree persists. It rushes in where oak trees fear to root. It immodestly offers to repopulate the forests where its betters have been slain for their wealth; for knowing nothing, it fears nothing. Verily, in the woods as in the rest of the world, 'the poor ye have always with you.'"

The elm and the hackberry are the best trees for our locality. Others are the basswood, the ash, and the hard maple. The basswood makes a good tree where there is plenty of good soil available and if it is protected from sunscald for two years after planting, by wrapping building paper (not tar paper) around it. A few sticks should be placed so that there will be an air space between the paper and the trunk. The towns further south seem to be very successful with the hard maple, and if conditions are right and the same precaution is taken as I advised for the basswood, it surely is a pretty and very desirable tree.

The hackberry is a tree that hardly ever needs any attention when once well established. It is shaped much like a maple and is a rare, beautiful tree. In planting the elm one should be very careful not to plant the red or slippery elm, a very undesirable tree on account of its being ravaged by insects every season in such a way that it is rapidly dying off all over the country. About our stately white or American elm I will not say much except that why anyone should plant a box elder while we have this magnificent tree passeth understanding.

The ash is a good, hardy tree, but there are two drawbacks. One is the abundance of seed it bears, which at times become bothersome, and the other is that if it ever becomes necessary to trim it for one cause or another,

(Continued on p. 130)

Wisconsin Horticulture

Published Monthly by the Wisconsin State Horticultural Society

12 N. Carroll St.

Official organ of the Society.

FREDERIC CRANEFIELD, Editor.
Secretary W. S. H. S., Madison, Wis.

Entered at the postoffice at Madison, Wisconsin, as second class matter. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of Oct. 3, 1917, authorized July 15, 1918.

Advertising rates made known on application.

Wisconsin State Horticultural Society

Annual membership fee, one dollar, which includes fifty cents, subscription price to Wisconsin Horticulture. Send one dollar to Frederic Cranefield, Editor, Madison, Wis.

Remit by Postal or Express Money Order. A dollar bill may be sent safely if wrapped or attached to a card. Personal checks accepted.

Postage stamps not accepted.

Local Societies

At the annual meeting of the Manitowoc County Horticultural Society, Saturday, Feb. 14, Edward S. Bedell was elected president, V. Wiegert, secretary and Bernard Nienaber, treasurer.

—From Manitowoc Herald.

A local has been organized at Fish Creek with 22 members: Ernest G. Hansen, president, Harry M. Schuyler, secretary, and Ed. Lorber, treasurer.

La Crosse County is on the way with another local, the North Ridge Society, 14 members and more coming: Henry Rundahl, president, J. T. Johnson, secretary-treasurer.

May we hope to hear from Green Bay, Richland Center, Eau Claire and various other points too numerous to mention.

Amateur Flowers at State Fair

For the benefit of amateurs who expect to exhibit at the State Fair, and who are now making up seed and plant lists, the 1921 premium list, as revised by a committee appointed by the president, is here given. In order to save space the classes only are given the amounts to be awarded in premiums being omitted. Nos. 20 to 26 as given in the 1920 premium book have not been changed.

Artistically arranged basket of flowers for table
Artistically arranged vase of flowers for table
Collection of wild flowers, correctly named not less than 10 kinds
Artistically arranged bouquet of wild flowers
Display of cut flowers, annual; 12 kinds
Display of cut flowers, hardy perennials; 12 kinds
Display of Pansies
Display of Hardy Phlox, 5 vases, 1 variety in vase, 5 spikes each
Display of Gladiolus
25 spikes of Gladiolus
Display Dahlias, 5 vases, 1 variety in vase, 6 blooms each
Display of Celosia
Display of Celosia, Plumed varieties
10 vases of Asters, 10 blooms in a vase
Vase of Asters, any color
Basket of Everlastings, both grasses and flowers artistically arranged
10 spikes of Perrenial Delphiniums
5 vases of Snapdragon, 1 variety to a vase
5 vases of Calendulas
5 vases of French and African Marigold
4 vases of Verbenas
Vase of Godetia
Vase of Salpiglossis
Vase of Cosmos
Vase of Annual Larkspur
Vase of Dianthus
Vase of Scabiosa
5 vases of Zinnias, 10 blooms to each, 1 color in vase
Vase Centauria, Corn Flower
5 vases Nasturtiums, 15 blooms each
Dining room table decoration, for amateurs only
Monday and Tuesday: 8 covers without china or silver..$15, $10, $3

Here We Have Action

Mr. F. R. Gifford who is "extension" worker in the Department of Horticulture, Agricultural College, is hot on the trail of the neglected farm orchard. For example: During the two weeks, Feb. 14th to 26th, twelve meetings were held in Dodge county where, as the announcement read, "every phase of fruit growing upon the farm will be discussed and you will be afforded an opportunity to ask questions." Good work! Good hunting! We hope Brother Gifford will tell us about these meetings.

No Tablets, Please, Liquid Only

All sorts of patent sure-kill, short cuts to success in spraying are advertised among them spray "tablets." Here is what Fracker says about them, at least all that can be printed.

"While some of the spray tablets you mention have merit, the mixing of spray material is now so simple that there is no need to use the more expensive materials of this kind. Ordinary fruit tree sprays consist only of arsenate of lead and lime-sulfur. The arsenate of lead is purchased as powder and the lime-sulfur as a liquid. By mixing one and one-half pounds of the powdered arsenate of lead, and one and one-half gallons of the lime-sulfur solution in fifty gallons of

cold water you have the most effective and cheapest spray material for fruit trees on the market. This combination is satisfactory for all the applications to fruit trees except when the bark is covered with scale insects or aphids are present, when special preparations are necessary as outlined in the circular."

Wants to Know About Pyrox

A member asks if Pyrox, which is advertised as combined insecticide, is reliable. Dr. S. B. Fracker, state entomologist, says:

"Pyrox is a satisfactory combined insecticide and fungicide which may be used by those who do not care to mix their own arsenate of lead and lime-sulfur. It is somewhat more expensive than the ordinary combination spray used and very little less trouble. The results are about the same.

"You will find enclosed a supplement to "Wisconsin Horticulture," March 1920, which gives the ordinary spraying calendar for apples. The Pyrox may be substituted, if you prefer, for the combined arsenate of lead and lime-sulfur spray recommended on page 7 of the supplement.

"The dormant lime-sulfur spray which you mention is only needed in Wisconsin when scale insects are common enough in the orchard to be injurious. If oyster shell scale is attacking your trees, it would be desirable to spray one or two years with this strong dormant solution in early spring."

Prickly ash berries picked when ripe and placed in clothing boxes give off a pleasant odor.

Soil for seeding early plants should be fine and fibrous. Clay that packs easily is not good soil in which to grow seeds. Add sand or leaf mold to lighten it.

Hot beds can be started late in February or early in March. Be sure the manure is heating well before it is put in the frame. Lettuce, radishes and early onions may be easily started.

We hear much these days about planting shubbery and flowers and establishing good fruit and vegetable gardens on the farm. They all pay in money value as well as added comfort.

THE INSECT PAGE

Conducted by the Department of Economic Entomology College of Agriculture

It is about time to begin planning for the spring offensive against insect pests. How about the old spray pump—is it in working order; if not now is the time to make repairs or send for needed parts. Don't put it off until the last minute; you might find that you needed a new valve, a piece of hose, or some other part. The use of good spray machinery is one of the first and a very important consideration in the control of insects. It might be well also to lay in the necessary amount of spray materials such as lead arsenate or calcium arsenate and lime sulphur. Some times there is a shortage of these insecticides and the man with an eye to the needs of the summer is not the man to be without what is needed when the time comes.

Clover Seed Crop Often Reduced By The Presence of The Cloves Seed Midge.

Do you always get a full crop of red-clover seed? If you do not, perhaps your trouble is due to the clover flower midge, a small mosquito-like insect which lays its eggs in young clover heads and the tiny maggots which hatch from these eggs eat into the flowers destroying the parts which produce seed. The maggots which do the damage are tiny reddish worms, when full grown, which any careful observer may find if he examines infested clover heads.

White or alsike clover are seldom attacked, the insect confining its work almost entirely to, red clover.

The winter is passed as maggots in frail cocoons which are found on the surface of the soil or slightly beneath. In the spring they change to pupae and the adults begin to emerge about the first of May and continue to appear until after the first of June. By this time the young clover heads are formed and the adult female lays her eggs in them. Each female may lay as many as 100 eggs and often there are more eggs than individual florets to each clover head. In such cases very little if any seed is formed. Infested heads are easily noticed the imperfect blossoming giving them an irregular appearance. When the maggots become full grown they wait until a rain comes to moisten the clover heads and the soil and then they drop to the ground making their way a short distance into the soil. After a period and about the time for the second crop of clover to head the adults of a second brood appear and are ready to infest the young heads and thus reduce the yield of seed.

Now the midge doesn't injure clover which is wanted for forage purposes; it reduces only the yield of seed. This however may be almost entirely eliminated by the following practices:

First— PASTURING— Spring pasturing kills the midge, either directly by the destruction of the clover heads containing eggs or young larvae, or indirectly by preventing heads from forming when the adults of the spring brood are laying eggs.

Second—EARLY CUTTING— If the clover is cut about June first the maggots which are then in the heads are killed and this gives the clover a chance to mature its second crop with seed without the presence of the flower midge.

During most seasons clover may be cut a little later than June first which will enable the farmer who is willing to assume risk of unfavorable weather to obtain a greater amount of forage than if he cut earlier.

The best rule to follow then is to cut the hay crop early in June and this allows the second crop to mature early enough to escape the midge and thus give a good crop of seed.

L. C. F.

Tree Planting In Small Cities

(Continued from p. 127

it takes such a long time to get back into shape again.

If the soft maple is planted, care should be taken to have it grow into a well-shaped tree by proper pruning, so that it may withstand the heavy winds.

Just as essential as the proper raising of the trees is the proper spacing, to give them a chance to grow into fine specimens, instead of getting their tops pinched out of shape and the root system overcrowded. Another bad feature of too close planting is that it stops the free circulation of air through the streets, hindering the drying out of the roadways and making the street dark and gloomy and the houses damp.

Looking down the street one gets the impression of too much timber compared with the amount of foliage. In many instances they are planted close together with the intention of cutting out every other one as soon as they begin to interfere, but it usually remains simply a good intention, or is done after the trees are already out of shape.

The average town or city lots are about forty feet wide, and where they are not wider than sixty feet, they should by no means accommodate more than one street tree, and the property owner should be careful not to plant trees on his lot that will eventually interfere with this tree. He should take pride in the tree and take good care of it, and if he is absent, and his neighbor sees his tree suffer from lack of water, he should give it a drink. All trees should be regarded as common property and anyone who either wilfully or through neglect injures them should be punished.

In many instances the driveway proper of each street is far too wide, there may not be even enough traffic to keep down the weeds, or if the street is oiled it is a waste of money and material considering the amount of traffic benefited. Instead of having these wide driveways it would be better to widen out the boulevard space between sidewalk and curb. It would give each property owner additional depth to his lot and he would willingly take care of the additional space and help beautify the whole street.

As soon as a street is improved by paving or oiling, sidewalks and driveways, etc., the trees are sure to suffer from lack of moisture and nourishment unless well supplied artificially, if the boulevard has only the ordinary width of six feet, or even less. Could the streets be paved first and the trees planted afterwards, they would adjust themselves to existing conditions and not be any the worse for it except for a noticeably slower growth that could be accelerated by artificial means to a certain extent. But even as conditions are now, to insure rapid growth it is necessary to give the tree a good start at planting time, by giving it an abundant supply of good soil, and if some manure can be put into the bottom of the hole away from the roots, so much the better; if it is well rotted manure it may be mixed with the soil without injury to the roots.

If conditions for planting are good, that is, if the good dirt has not been altogether removed in grading the street, a hole at least four feet across and two feet deep should be dug; if the original dirt is all gone, the hole should be as large as possible before planting the tree. A smooth cut facing down should be made at the end of its roots and all broken parts cut off. The soil should be packed firmly around the roots, preferably by watering.

On a nursery grown tree or one that is well shaped and well rooted, the top has to be cut back at least one-half, but not just chopped off. When the tree is trimmed it should still have the appearance of a tree, not a clothes pole or bean pole or maybe a scarecrow with the arms rotted off. The crown should be given a pryamidal shape, leaving the leader longer than the side branches. Crotches too low down should be avoided as they are likely to split in later years.

It would be well to invest someone with authority to look after the street trees, to give the location where trees may be planted or possibly bring about the planting of whole streets at the same time with the same size and kind of trees. Money could be saved if at the time the street is graded the tree holes were staked out, dug, and filled with good top soil, and a plat of their location filed so they may be located when the trees are to be planted. This would be quite an improvement over the system in Minneapolis where a property owner pays first to have the good loam hauled away or covered up and then, when tree planting time comes, pays again for hauling often an insufficient amount back from somewhere else.

Many mistakes have been made by old towns and cities in the planting and care of street trees, and before going ahead with any extensive work of this kind in new localities, whoever is in charge should get the benefit of the lessons these mistakes have taught and get all the information possible from wherever organized tree work is done. I can speak here for our department that we will be only too glad to help the great cause in any way we can.

Large beets furnish excellent greens for chickens. They seem to like the red fleshed ones best.

The flower bill of the country is about $45,000,000. At that it is $5,000,000 less than the amount spent for chewing gum.

Large consignments of Japanese oranges are appearing on the Canadian market in competition to California sorts.

There seems to be a shortage of ornamental shrubs of all sorts this year. Some of the new varieties of plums and other fruits are hard to get.

Never allow a house plant to stand very long in a jardinier or saucer of water. Plants cannot live with wet feet any more than you can.

Warm days now may be used to advantage in pruning the apple and shade trees.

Gruss aun Teplitz is a good garden rose. A few roses in a sunny place add much to the garden.

Prune early flowering shrubs after they have flowered. Fall blooming shrubs may be pruned early in spring.

Order seeds as soon as possible. When they are received it is a good plan to put them in a covered tin or other receptacle so that mice do not get at them.

Now is a good time to clear fences, trees and buildings of advertisements and candidates' pictures. When they are off, why not keep others from going up.

Plants need moisture in the air as much as human beings. For their good, if you won't do it for yourself, keep moisture in the air by open pans or some other means.

Definite amounts are set aside by business firms for advertising. It pays. People read the papers and a well written advertisement sells horticultural products as well as merchandise.

Keep house plants clean. If you would have them grow at their best, wash them off or slip them in soapy water once a week or so and then wash them with clean water.

Concerning Highway Trees and Other Matters

A society known as The Friends of Our Native Landscape, aided and abetted by others of good intent, appear to favor the enactment of a law compelling the owners of lands on state trunk highways to plant and maintain roadside trees, also to have set aside one hundred thousand dollars of the automobile license fund to be used in the purchase of county park sites.

The State Horticultural Society is ready at all times to support any rational plan of rural improvement whether in the beautification of highways or the establishment of county parks but cannot support either of these plans. We are in favor of preserving the native growth, both trees and shrubs, where it can be done without undue interference with highway construction or traffic. The rights and safety of the people who travel on the highways must be the first consideration. If a dangerous curve can be eliminated only by cutting a noble oak or even a group of oaks, what shall the highway engineer do? If he

should ask the advice of the editor he would answer without hesitation, sacrifice the trees.

That there has been much reckless, deliberate and unnecessary cutting of trees and shrubs by road builders we do not doubt but to restrain by law the road builder from cutting trees is unwise. Let's get him in a corner and educate him; tell him that hazel, sumac, wild rose and elder are not always "brush" but may sometimes be "native shrubs."

Bailey in one of his books says that a burdock which grew beneath his study window annoyed his gardener who insisted on cutting it. On being told by Bailey that far from being merely a weed the plant was in fact a fine specimen of **Lappa major** the gardener was so impressed that he treated it with respect. So if we can show Mr. Road Maker that he is destroying Rhus glabra, Rosa blanda or Sambucus canadensis and furthermore that these and other wild plants are really very beautiful, the source of great pleasure to many people, he will certainly help us preserve them when leaving them unharmed does not endanger life or limb by obstructing the view of trains or fellow motorists.

If we must have our heads in the clouds let's be sure that our legs are long enough to reach solid ground.

Also and again, there are certain substantial and convincing reasons why the planting of rows of trees along highways is neither wise nor desirable. This subject will be discussed in a later number.

Likewise there are good reasons why it is not wise nor desirable for the state to furnish

money to purchase park sites for counties. County parks are needed and will be had all in good time, but will be acquired and maintained by the people of the counties or communities. If acquired in any other way than thru the desire of the people themselves the movement will be a failure.

Our duty is to create a sentiment, a desire on the part of the people for these things then they will attend to the matters of purchase and maintenance.

Smooth bark trees, like young apple trees, mountain ash and basswood are apt to be injured by sunscald during the winter. Shade on the southwest side of the tree will prevent this. Wire, boards or cornfodder may be used.

Now is a good time to put a few roots of rhubarb in the cellar for forcing. They may be covered with soil, sand or cinders.

AMONG WISCONSIN BEEKEEPERS

Devoted to The Interests of The Wisconsin State Beekeepers' Association
H. F. Wilson, Editor

OFFICERS OF THE WIS. STATE BEEKEEPERS' ASSN.

Prcs. L. C. Jorgensen Green Bay. **Treas.** C. W. Aeppler, Oconomowoc.
Vice-Pres. A. C. F. Bartz, Jim Falls. **Secy.** H. F. Wilson, Madison.

Annual Membership Fee $1.00.
Remit to H. F. Wilson, Serretary, Madison, Wis.

Honey the Health Food

Have you made every possible effort to sell your crop locally?

Do your neighbors and friends know that you have honey for sale?

Wisconsin Honey Producers' Cooperative Association

A large number of beekeepers have joined the cooperative association but more members are needed.

The cooperative association is now in position to buy supplies and cans in large orders so that they can be sold to our members at a very much reduced price. If you have not sent in your subscription, please do so at once.

Beekeepers Will Meet in August

A cooperative summer meeting between the State Beekeeprs' Association and the University of Wisconsin will be held at Chippewa Falls, August 15 to 20, 1921. Dr. E. F. Phillips, Mr. E. R. Root, Mr. C. P. Dadant and other men noted in beekeeping will be on the program. Every beekeeper in the state should plan his vacation for that period and meet with us at that time. A camping ground will be available to all who desire to camp out.

The Honey Market

From present indications it is quite likely that the price of honey will not again rise above 20c in wholesale lots and any beekeeper who can at the present time get 15c or better per pound will do well to dispose of his crop. Next year's price is of course still questionable but we must expect to receive prices somewhat similar to those of pre-war times.

Help Advertise Honey

The American Honey Producers' League has started out on a definite campaign to advertise honey, $6,000 has already been subscribed and arrangements made to carry on a national advertising campaign in one of the National Magazines. It is too bad that the fund is not greater so that an extensive campaign could be carried on in several magazines at the same time. Every beekeeper in the United States should send in $1 for the purpose of advertising honey. Every cent of the money received for this purpose will be used for advertising. The amount of honey produced in the United States is increasing rapidly and the market must be more fully developed to take care of the crop. Send in your dollar at once.

Contributions to Advertising Campaign of American Honey Producers' League

Wisconsin Honey Producers' Cooperative Assn.	$100.00
Wisconsin State Beekeepers' Association	50.00

Who will be next?

Museum Donations

Mr. C. W. Aeppler, Oconomowoc, Wisconsin, has just donated to the Beekeeping Department of the University a nicely framed letter with translation written by Dr. Dzierson, at Lowkowitz, July 13, 1898.

This is a very generous act on the part of Mr. Aeppler and places at the disposal of our beekeepers something of real value.

The letter as translated by Mr. Aeppler is as follows:

"A Judgement"

"V. Berlepsch says in a certain often cited place in his book: " 'Learn theory, otherwise you will be practicing bunglers all your life.' " Indisputable is also the proposition: experience is the best teacher. Theory and experience must go hand in hand completely and correctly if perfection in anything is to be attained. The keeping of bees according to the principles of theory and experience is, therefore, the title of the latest edition of the book of this genius. Only, he, who is well conversant and harnessed in theory, and can look backward to a long and extensive experience of his practice, can make an honorable demand for the title of a bee-master."

American Honey Producers' League

The annual meeting of the American Honey Producers' League was held at the Claypool Hotel at Indianapolis, February 15, 16 and 17, 1921. This was perhaps the most important meeting of representatives of the beekeeping industry ever held, because it showed the power of accomplishment of the allied beekeeping interests when a properly represented and well regulated organization is formed. In any meeting where people are willing to give up money to the extent of $6,000 there must be some incentive and the people concerned must realize that they are going to receive an adequate return for such an expenditure. There is no question but that the American Honey Producers' League can be made a grand success if petty jealousies and personal dislikes of individuals do not wreck it during the next few years. If the present administration has the foresight and temperament to smooth down the ruffled feelings of the enemies of the League and will give all the interested people a chance to cooperate in the work and administration of the League, they will not only receive the favorable opinion of all beekeepers but will provide for the early success of the organization.

Some criticism has been expressed regarding the manner in which the affairs of the league were conducted and the steam roller was well in evidence at Indianapolis, but in all fairness to those who are in charge it should be stated that they have been greatly handicapped in their work by those who have not supported this movement.

It is also easily conceivable that any change or interference in the plans of the founders of the league at this time might prevent as rapid a development as is desired by all.

A fund of $6,000 was subscribed at Indianapolis for the purpose of carrying on a national advertising campaign and it is understood that every cent of this money will be used for this purpose. If the league in its present early stage of development can have so much influence, then it certainly deserves a fair trial and the individual support of every beekeeper and allied interest.

For the first time in the history of

beekeeping both beekeepers and the dealer are allied together for building up the beekeeping industry.

Each and every party interested must pay for the service to be rendered and the greater the investment the greater the return. One individual beekeeper subscribed $50.00 to the National Advertising Campaign. Should we be willing to let this man pay our way or will we help?

At the league meeting the supply dealers and honey bottlers seemed to be afraid each would give more than the other and the subscriptions ran from $100.00 to $1,000.00.

Acting as the representative of the Wisconsin Beekeepers, the writer pledged $200.00 to the National Advertising Campaign and every beekeeper must help make this promise good.

The Beekeepers Folly

By A. Swahn, Ellsworth, Wis.

Once more I have had the honor to be called upon for a paper on some branch of the honey industry, and I sincerely hope my efforts will produce a little good. In the past I have been unable to meet with you in person owing to the lack of experienced help in my drug store. Now I assure you that I appreciate this opportunity of meeting you all.

The title I have selected for my paper "The Beekeepers Folly" may I fear act as a boomerang and in your estimation be considered my own folly. However I am a beekeeper like yourselves and have included myself in all the criticisms I will make.

To begin with every beekeeper should paste this motto in his hat —SYSTEMATIZE, STANDARDIZE, ORGANIZE and ADVERTISE. He should then exert himself to the limit to carry out every branch of his motto. As my paper will touch mainly the last two branches I will only mention the first two briefly.

We should systematize all the work in both the Apiary and the Extracting house so as to eliminate a great deal of the usual labor in caring for our bees and honey. By so doing it will be possible to either keep more bees or have more time for something else. We should standardize because it will also pay us well to do so. This branch of our industry is now well under way in Wisconsin as we have a standard of grades, and now it is only necessary for us to adopt a standard package and label. This will be taken up again later.

Now comes the main branch of our motto—ORGANIZE. It will be but a waste of time to organize unless we mean business and fully decide to co-operate with our fellow beekeepers in the fullest sense of the word. I do not think it possible for anyone in any business or profession to reach the highest pinnacle of success without co-operation with others in one way or another. If we wish to progress we must both give and take advice. No man can live right and live for himself alone. By helping others he will in return help himself. It is the Beekeepers folly to think he can hide himself under a bushel and play the game of success alone and ever hope to reach the highest goal. We must have confidence in each other, we must feel that others are honest too, and that by co-operating with them we will better our own conditions.

In the honey industry we should have two separate and distinct co-operative organizations. One for the producing end and one for the marketing end of the business. The producing end is fairly well organized now and is making good progress, but the marketing end is still in the hospital, and to effect a permanent cure we must subject it to some drastic treatments. First we must put it under the X-ray and locate the real cause for its ailment, and then employ a corps of capable physicians to treat the case until it is able to stand on its own legs. These two organizations should be entirely separate for the reason that the men who are experts on production may be very deficient on marketing to advantage. It takes a beekeeper to produce maximum crops of honey with minimum expense and labor, and it takes a business man to sell that crop to the best advantage. Each is a business by itself. We may have some who would be efficient on both ends of the business, but we have hundreds who would not.

The Beekeepers Folly shows itself again whes we encourage greater production under the present very sickly selling methods. The more we produce the more anxious we are to sell, and the more we fear that we may not be able to sell the entire crop at the prices we had dreamed of getting. The outcome is that we may sell to the first bidder at prices way below what we had expected, or could have gotten had we but waited a little longer, or would have received if we had been organized and had some one who would have looked after our interests and who knew what the market conditions really were. Therefore I say let us ease up a little on production and exert ourselves on organizing and marketing conditions. When that is done and we are getting what our honey is worth and feel certain that we can sell all we can produce at those figures, then let us go to it and produce our limit.

We should not encourage more beekeepers or poor beekeepers who will not adopt modern methods. We should encourage our good beekeepers to produce more honey by keeping more bees or by producing more honey per colony. We should select our very best practical men to head the producing or educational end and they should confine themselves to that branch only. We should select our very best business material to take full charge of the selling organization and give them both our moral and financial backing, and in a short time we will be climbing the ladder of efficiency and be nearing the 100 per cent mark.

This is an age where ancient methods are passe. This is an age where brains count more than brawn and muscle, this is an age where we must step lively or side step for those who can. It is the Beekeepers Folly to think that the commission men are holding down prices and beating them out of their just profits. The beekeepers themselves are almost entirely to blame for the present low wholesale prices. It is our folly also to believe that sugar should regulate the price of honey. That should not be, as honey is not generally used as a substitute for sugar. The Beekeepers Greatest Folly is to enter into competition with his very best customer. If he was a fair and honest competitor it would not be so bad, but he is not. He is a price cutter, and a price cutter without a comeback. When a business man puts out a leader at a cut price he does it with the expectation of getting more and new customers into his place of business who might be induced to buy other goods at full prices which would absorb the lost profit on his leaders. When a beekeeper sells his honey at a low price he has no come back as he has nothing else to sell to absorb his loss, and all he can expect is more customers at the same low price. The more he sells the harder it will be for him to get a better price should he ever see fit to ask it.

Let us put this into figures and make it a little more plain. For example we will sell our extracted honey to the commission man for 20c. This commission man does not as a rule sell direct to the consumer. He either bottles it, or reships it to the retailers we will say for 25c. The retailers must also make a profit so they sell it for possibly 30c where only a little more handling is necessary as in the larger packages. If it is bottled a considerably higher price must be asked from the consumer. Now

what happens if we beekeepers sell direct to the consumers for 25c, as many have done and are doing right now? This places us in direct competition with the retailer with cut prices as we are offering it to the consumer at what it costs the retailer. We are therefore cutting our own throats as it were.

If we think 25c is the right price for our honey then for Heaven's sake do not sell it to the consumer at that price and at the same time expect the commission man to pay us more than 20c or even that much. You have discouraged the commission man's very best customer and forced him to either quit handling honey altogether or to meet your price and sell at cost. We should do either one of three things, sell to the retailer at a price which will enable him to make a living profit, or sell our entire crop to the commission men, or sell our entire crop to the consumer at retail prices and then quit kicking become some one else wants to make a profit too. If we are expecting the commission man to pay us higher prices we must in turn arrange to make higher prices possible all along the line.

Many is the time I have heard beekeepers say "Look at the money the middle man makes on our honey. He pays us a measly 20c per pound, and then we see it sold in the cities for as high as 50c." This does look like highway robbery doesn't it? Let us figure a little and see if it is. Remember that in the first place these fancy prices are only for the fancy bottles of a pound or less. As before shown the commission man paid the beekeeper 20c for the honey. He then pays at least 7c for a fancy pound bottle. The labor, label adverising, etc., to get this on the market costs at the very lowest estimate 1c per pound making 28c per pound so far. I do not think he can buy a shipping case holding 24 pound bottles for less than 48c adding 2c more to the cost or in all 30c and still no profit. This will be sold to a retailer who must make a profit of at least 15c per pound or he will not bother with it. As 5c per pound is certainly not too much for the commission man to make he will sell it to the retailer for 35c. Now where does the robbery come in?

To show you again that the commission man is not the one who is holding down the price I will again submit some figures for your consideration. I have already shown that when we sold him for 20c he in turn sold it to the retailer for 25c in the larger packages thereby making a profit of 5c per pound or 20 per cent on the selling price. 1,000 pounds at 25c will make $250.00—20 per cent of this amount is $50.00 profit. If this same commission man had paid the beekeeper 25c and sold to the retailer for 30c he would for the same amount have received $300.00 or at 20 per cent would have made a net profit of $60.00 or just $10.00 more than at the 20c price. His overhead expense would have been no more, the cans, labels, draying, advertising, labor, etc. would have been no more, so he makes a clean net profit of $10.00 more. Does that look as if he prefers to hold down prices?

Even if we organize and co-operate in the best possible way we can never hope to eliminate more than one of the two middle men who are between the producer and consumer—viz., the commission man. The retailer is a necessary evil and we cannot very well get along without him. However with the right kind of co-operation and organization we can save for ourselves the profit the commission man now makes from the retailer.

Unless we all get together and appoint a sales manager and let him set our prices and manage the entire selling campaign for us we will always be like a balky team. One will pull and the other will hold back and thereby never get anywhere. Even with a seemingly perfect selling organization we must have patience and not expect too much the first year. All new organizations must learn some things by experience and sometimes that costs money. I do not believe in small local organizations because it will cost a great deal more in proportion to sell in a small way than it will on a larger scale. A small organization cannot always meet the prices offered by the big commission men and will be very much like a dog's tail trying to wag the dog. We must place ourselves on an equal footing with the big ones to get the best results. Before suggesting a possible or nucleus plan for an organization I will touch briefly on the last branch of our motto, Advertising.

In order to put Wisconsin honey on the market as it should be, we should all adopt a standard package and label. The label should be neat and attractive and should bear a Wisconsin trade mark, and should show the grade, color, number of the producer, etc. It should not show the name of the producer, but should read—produced for the Wisconsin Marketing Association (or what ever name we call our organization). We should advertise as much as we can afford until we gain recognition and create a demand equal to the supply.

Advertising is a science, and not much can be said on that subject in the small space allotted to it in this paper. I will say however that even the very best advertising does not always produce the desired result immediately. In order to get the desired results we must keep everlastingly at it, and not get discouraged. A certain amount of money must be provided every year to carry on our advertising campaign, and then invest that money to the best advantage and patiently wait for results. Good advertising does not consist merely of letting the public know that John Brown sells his honey cheaper than anyone else. That kind of advertising might do John Brown more harm than good. It means that we should talk Wisconsin quality first, last and all the time. If we ca nmake the public think of Wisconsin quality when they think of honey, the battle is won, and the price will be a secondary consideration. The public is always ready and willing to pay a good price for good quality in an attractive package. The very best quality will be lowered in the estimation of a prospective customer if it is put up in an unsightly package, or even in a good package but with a poorly gotten up label. Everything should harmonize and savor of the highest quality, and if the right impression is given that quality will be remembered long after the price is forgotten. Advertising does not consist of merely buying space in our county papers or of sending out circulars. De should advertize as much as possible by word of mouth. We should all **think** Wisconsin quality, **talk** Wisconsin quality ,and get all our friends to think and talk Wisconsin quality.

There are two plans under which we could organize. One is to estimate the total expense for salaries, advertising, traveling, and office expenses, and then tax each member enough per colony to cover this amount. This plan was submitted in my last paper read at this place and was published in Wisconsin Horticulture. Possibly some of you read it, or heard it read. Since writing that paper I have considered this matter very thoroughly and believe it would be hard to get enough beekeepers to join an experimental organization of this kind and put up the cash in advance to cover the expenses during the experimental stage. After it was a proven success they would fall over each other to get in. We should all be willing to take a little chance. I will now suggest another possible plan wherein the officers might be willing to take most of the chances. We might organize and pay the officers on a commission basis of a certain amount per pound sold, and if no sales were made no money would be paid. By this plan if it could be worked out the

beekeepers would only have to guarantee in advance an amount sufficient to cover office stationery, advertising and necessary traveling expenses, which would be very nominal. The officers would thereby have to make good or make nothing. It is not the object of this paper to lay out any definite plan as that should be thrashed out by the officers elected.

We should elect officers and start the wheels going at this very meeting. It is too late now to do anything for the 1920 crop, but it is exactly the right time to get in line for the 1921 crop. An outline of the plan now in my mind is to get together and elect the regular officers consisting of a President, Vice President, Secretary and Treasurer and a board of either five or seven directors. This body should have the power to select a sales manager either from among themselves or from the outside. They should make plans and arrangements to be submitted at a future meeting. I would favor a central state body with branch representatives in every county. These branch representatives should act as assistants to the state secretary, and in counties having County Agents. I would advise that they co-operate with this agent, and thereby making it possible to get a great deal of assistance and a great deal of advertising at the expense of the county. The county secretaries should list all the honey available in his county and report same to the state secretary. He should together with the County Agent, solicit every retailer in the county and try to induce him to handle Wisconsin honey exclusively. We should be able to dispose of all our honey inside the state.

After the state is thoroughly organized into a permanent selling organization I would heartily favor joining hands with the American Honey Producers League into a National Organization. After that is done the beekeepers will be in a position to do a little price dictating themselves, and will also be strong enough to carry on a National Advertising Campaign, which is absolutely necessary in order to take honey out of the ordinary honey class and put it into the Quality honey class.

During the winter months the state secretary in co-operation with the county secretaries should get a list of all the supplies needed by the members for the next season, and then go after the large quantity prices from the manufacturers. We should save more each year on our supplies alone than the Association expenses would cost us.

The moral to all this is to immediately form ourselves into a state wide selling association and let this association handle both our purchases and sales, and in a short time we will realize something worth while out of our honey industry. We should have confidence in our officers and back them up with our money and honey.

If we remember our motto—SYSTEMATIZE, STANDARDIZE, ORGANIZE and ADVERTISE and carry it out to the limit, no paper will ever again be written entitled "The Beekeepers Folly"—I thank you.

Preparation For and Care of the Packages

It makes little difference whether or not the bees come by parcel post or express if they are properly prepared by the shipper and are given reasonable care in transit. Hive bodies with full sheets of foundation or drawn combs should be ready and placed on their stands when the bees arrive. Some kind of a feeder should be placed in the hive and syrup made of equal parts of water and sugar fed to the bees until they can get an abundance of nectar in the field. We always use a feeder of the Alexander type fastened at the rear of the hive. If they are received on a cold day, do not attempt to put them in the hives, but place them in a room of medium temperature or cover them with a blanket and wait until the temperature rises to 60° F. If the bees are to be kept caged for a day or two after their arrival, be sure to sprinkle a little sweetened water into each cage. When ready to transfer the bees to the hive, place an empty super above the hive so that the cage can be placed on top of the frames. As a rule, the queen will be enclosed in a cage hung in the center of the cluster. It will be held by two wires fastened on the outside of the cage. Loosen the cover to the cage and then loosen the wires holding the queen cage. Lift out the feed can from the top and remove the queen cage. The cage itself should be laid on its side and the queen suspended down between the frames. Before putting the queen cage in the hive, remove the tin strip covering the opening at the end of the cage in which the sugar candy is contained and let the bees liberate the queen by eating through the candy. If there is dry candy in the cage, this should also be removed, or else the bees will continue to cluster on it until entirely used. Leave the empty hive body and cage on until the second day unless the bees all desert the cage sooner. If they have not left the cage by the second day, shake the bees out into the hive being sure that the queen is in the hive. If the queen is uninjured and plenty of stores are available, the bees will have the combs partly built out and eggs in the cells in three or four days. If the queen has not been liberated by the third day, the queen cage should be opened and the queen allowed to run out on to the combs.

Occasionally a queen will be found dead upon arrival and in this case it is best to telegraph the breeder asking for another queen.

If the dead queen is immediately returned in the queen cage, there should be no charge for the extra queen. All colonies should be carefully examined one week after the transfer to see if all the queens are laying. If the queens cannot be found, or there are no eggs present, it is best to unite these colonies with others in which eggs and perhaps brood is present. If non-laying queens are found, they should be killed before uniting.

To unite, place a newspaper with a number of holes in it less than the size of a bee over the colony with a queen and set the other hive on top. Replace the cover and leave the bees to work their way through the paper. As soon as the bees have cut away a part of the paper, shake them all into the lower hive and remove the others. It does not pay to leave packages queenless for more than a week or ten days.

Tramp the snow around apple tree trunks. Mice often find a shelter close to the tree and eat the bark. Get rid of all the rabbits possible by traps, guns or otherwise.

The wild grape is a thing of beauty and service; the wild raspberry and blackberry, the hazel nut, supply a fine border for a rural highway, and wherever same are now found they should be protected. Some of our enthusiastic road builders never learn to appreciate trees and shrubs. There have been so many places where beauty has been permitted to go up in flame and smoke, and only black spots mark the ravines and roadsides where beauty was profuse.

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

Volume XI | Madison, Wisconsin, April, 1921 | Number 8

Celery

William Toole

Celery is easily grown and well repays the effort if proper care is given. No garden vegetable responds more easily to good care, or is more surely disappointing if neglected. There is not much satisfaction in trying to raise early celery but if early plants can be procured a few may be given extra care for early fall use. These early plants must not be given any check in growth through lack of cultivation or moisture else they are liable to run to seed.

For the general crop the seeds should be sown out of doors in a well prepared bed of rich soil, as early as it is safe to plant any hardy seeds in the garden.

The soil of the seed bed should be thoroughly pulverized and made rich with thoroughly decomposed barnyard manure if it is not naturally fertile. The seeds should be sown thinly in rows about four inches apart covered thinly. After covering firm the soil with the back of a spade or shovel. If the surface becomes dry the seeds cannot germinate so I cover the bed with unbleached sheeting such as I have had for a number of years for seed bed covers. This covering should be laid directly on the seed bed. Watering with a sprinkler may be done directly on the covering. As soon as the young plants begin to show the covering should be removed and the plants must not be permitted to dry out. Keep the seedbed cultivated and free from weeds.

The celery does well as a second crop to follow such early stuff as lettuce, radish, spinach, or early peas. After these crops have been removed and the grond hoed and raked to be free from weeds, mark off rows about three and one-half feet apart. Cover each mark about a foot or eighteen inches wide with a generous depth of friable manure and cultivate until it is well mixed with the soil. July is early enough to set out the plants in the rows where they are to be finished off. Of course a little may be pushed along for early use but the later grown is the best for fall and winter use. If the plants have not been too crowded in the seed bed they may be transplanted direct but I like to transplant into a nursery bed from which they are later moved to where they are finally. Plant in the rows about four or five inches apart.

If the weather is dry it is well to give one watering just after transplanting. If the young plants in the seed bed come along too fast they should be cut back once or twice. Cultivate faithfully until plants are large enough to have soil drawn to them for blanching when the larger leaves are four or five inches long. Soil should be cultivated when dry and then grasp all the leaves of a plant in one hand, soil is brought to the plant with the other hand; change hands and continue so that each plant is compressed within a collar of soil without any covering the center of the

plant. Bring more soil with the hoe up against the plants. If earthed up more than twice it will be necessary to use the spade to carry the blanching higher. What is stored for winter should not be blanched so much as that for early use. There are other ways of blanching celery using paper, drain tile, boards set on edge and also close planting in each direction. My own preference is for blanching with earth. Golden Self Blanching is a popular celery variety. It is slightly more subject to rust than some other varieties. Early Blanching is a thrifty variety of good quality and keeps well. Winter King is a little taller but not too tall, a little later and of good quality. White Plume answers for early, but does not equal the others for quality. The giant kinds are not profitable—there is too much waste in handling.

The Strawberry Weevil

Do the young flower buds of your strawberry plants ever droop over and fall to the ground? If so, the trouble is very likely caused by a small reddish-brown or black beetle which lays her egg in the bud itself and then crawls down the stem and girdles it, causing the bud to either fall to the ground or hang to the stem by a few shreds.

This damage can be checked if the proper measures are applied at the right time. A dust composed of one pound of arsenate of lead and five pounds of finely ground sulfur will aid greatly in killing off the weevils and increasing the yield of fruit.

If you have a large acreage a power duster is the best to use; for smaller areas the hand machines will work satisfactorily. The dust should be applied when the weevils first begin to feed upon the buds. This will usually be about the first of May or a little later. Repeated coverings should be made until the buds open. Usually only two dustings are necessary; the first when the weevils begin feeding and the second a week later.

The insect spends the winter as a beetle under rubbish or any suitable covering in or near the strawberry beds. They are quite small, only about one-tenth of an inch long; of a reddish or brownish color with two large darker spots on the back.

About the time the blossom buds appear the beetle comes out of its hibernating quarters and feeds for a while on the immature pollen which is secured by puncturing the blossom buds. After a short period the female lays her eggs singly in the buds themselves, in only those buds which contain pollen (staminate varieties) and are about ready to open. After each egg is laid she crawls down the stem a short distance and with her beak girdles the stem so that the bud either droops over or falls to the ground. This is the injury most easily noticed by the gardener.

The egg soon hatches into a small grub which feeds upon the pollen and other parts of the flower within the bud. When fully grown the grubs are strongly curved in shape and whitish or yellowish in color. If the buds do not fall to the ground at first they usually do soon after and the moisture of the

ground seems to be necessary for the development of the tiny grub within.

After the grub becomes full grown, it changes to a pupa and within about a week the adult beetle emerges, which is about mid-summer. The beetle then feeds for a short time on the pollen of other flowers, especially the wild bergamot, and then seeks shelter for wintering. Thus, there is only one generation a year. Charles L. Fluke.

Education First

Your article "Concerning Highway Trees and Other Matters" in March issue is rather misleading in its first paragraph. The organization of Friends of Our Native Landscape has in no way put itself on record as favoring any large appropriation for the purchase of county or township parks or of compelling owners to plant trees along all our highways.

The Friends of Our Native Landscape are heartily in accordance with the "rational plan" outlined in your article. Their work is chiefly educational. While carrying on their educational work they are also interested in seeing the necessary legal machinery created for the protection, conservation, preservation and dedication for public use of all features, characters and places which contribute to Our Native Landscape.

At the winter meeting held February 2, resolutions were passed favoring legislation which would put the planting, care, and maintenance of trees and shrubs along our highways under the jurisdiction of the State Highway Commission.

In view of the fact that highway tree planting is still in the experimental stages any other action was deemed unadvisable. Experience has shown conclusively that if we are to keep our highways open for winter travel trees and shrubs may be used as natural snow fences. Therefore these materials should be under the control of the same organization as roadway construction and maintenance.

We have now a law providing for Rural Planning. Some counties as La Crosse, for instance, have made a good start setting aside two Rural Parks and 12 Wayside Parks. However, it (Friends of Our Native Landscape) went on record as favoring such appropriation as may be necessary in the Department of Agriculture to make the law effective. This would, according to official estimate, require only limited funds of $8,000 to $10,000, annually.

Trusting that this will explain the situation more fully, I am

Yours faithfully,

F. A. Aust,

Secretary of Friends of Our Native Landscape.

Wisconsin Horticulture

Published Monthly by the Wisconsin State Horticultural Society

12 N. Carroll St.

Official organ of the Society.

FREDERIC CRANEFIELD, Editor.
Secretary W. S. H. S., Madison, Wis.

Entered at the postoffice at Madison, Wisconsin, as s cond class matter. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of Oct. 3, 1917, authorized July 15, 1918.

Advertising rates made known on application.

Wisconsin State Horticultural Society

Annual membership fee, one dollar, which includes fifty cents, subscription price to Wisconsin Horticulture. Send one dollar to Frederic Cranefield, Editor, Madison, Wis.

Remit by Postal or Express Money Order. A dollar bill may be sent safely if wrapped or attached to a card. Personal checks accepted.

Postage stamps not accepted.

Do You Want To Be In For Life?

As explained in another column your magazine is a victim of H. C. L. There is a way by which members may restore it to its regular size; take out a life membership.

If you have been a member of the Society for a year or more you will probably want to renew your membership from year to year. Before you realize it you have paid ten dollars. By paying it now you are relieved of the trouble of annual payments.

This fee, ten dollars, is for life membership in the State Horticultural Society and entitles you to the annual report and all other privileges for life as well as to the magazine.

If fifty memberships are received before May 1st Wisconsin Horticulture will be restored to 16 pages; if one hundred life memberships are received in that time you will again have not less than 20 pages and if possible 24 pages. You are doing yourself a good service and helping in a good cause. Send in your fee TODAY to

Frederic Cranefield, Sec'y,
701 Gay Bldg., Madison, Wis.

Found, A Dollar Bill!

An March 24th a letter was received at this office containing a dollar bill folded inside one of our "pink cover" coin cards. The dollar was plainly intended for renewal of membership but the card bore neither name nor address. The envelope was postmarked Milwaukee, March 23d, 11 P. M. Who is the member who forgot to sign his name?

From Twenty to Twelve

Our readers may be disappointed that The Paper consists of but twelve pages this month instead of twenty. Fear not, the worst is yet to come, next month there may be but eight pages, the next after that even smaller. Further than that we cannot see.

The reason? High cost of printing. The February number with supplement cost 120 per cent more than the corresponding issue in 1920. The same is true of the March number.

The receipts from membership fees and advertising must cover the cost of printing and paper. The cost of both has increased steadily for two years past until it has absorbed the surplus we had accumulated for such an emergency.

We sincerely hope that conditions may improve shortly so that we can go even beyond twenty pages. Publishers in the commercial field are facing similar conditions. They cannot risk increasing their subscription price and neither can they increase their advertising rates sufficient to meet the increased cost of printing. Except for the big fellows who can charge what they please and get away with it, there is very little profit to the publisher in advertising.

The Crossing or "Mixing" of Vine Crops.

A member asks, as many others have asked, about the crossing of different vine crops:

(1) Will the Hubbard and Delicious squash mix if planted together. The answer is that these two varieties of the same species may "mix," there may be crossing or there may not but the possibility exists.

(2) Will these and other winter squashes mix with pumpkins? It is not likely, in fact highly improbable as these belong to different species.

(3) Will cucumbers and melons "mix"? NO! Very many people will insist that this is not true but the burden of proof rests with them.

(3) Will pumpkins, cucumbers and melons "mix." No. Of the many combinations that might be effected in planting these three crops there is none that could produce a cross.

Of all the vine crops grown for

food there is only one group in which crossing is apt to occur, the common pumpkin and the summer squashes such as summer crookneck, scallop etc. all of which belong to the same species Cucurbita Pepo.

A Beginner Wants to Know

There is a man in Milwaukee who is going out on a farm next spring to stay. He knows nothing about fruit growing and asks many questions. On this account his case is hopeful because he knows that he doesn't know and is willing to learn. Feeling that there may be other similarly situated one batch of his questions and answers to same are given:

(1) Give list of apples for farm orchard in Forest county, also crabs.

Ans. We are tempted to answer, 12 Hibernal but other varieties may succeed. Try 4 Duchess, 3 Patten Greening, 3 Malinda, 2 Hibernal. For crabs, 1 Hyslop, 1 Transcendent, 1 Martha.

(2) Should Tolman and Windsor be included in any list of apples for Forest Co.

Ans. No.

(3) How many plum trees and what kinds and same for grapes.

Ans. Six plum trees will be enough, two each De Soto, Forest

Garden, Hawkeye. No grapes for Forest Co. unless on the south side of the building where the vines can be thoroly protected from frost during the fruit ripening season. Try Beta and Moore's Early.

(4) Distance to plant fruit trees.

Ans. Apple 20 by 24 ft. or 20 by 20. Plums 16 by 16 ft. for home orchard.

(5) Shall I plant in spring or fall?

Spring planting only for Wissonsin no matter what they do elsewhere.

There Are All Kinds of People Including Milwaukee Commission Men

The following from the Milwaukee Journal of Dec. 20th, will amuse our apple growers in Sturgeon Bay, The Kickapoo, Baraboo and other places who last fall sold many, many carloads of beautiful apples, Dudley, Wealthy, McIntosh, Snow, etc., at good prices and were unable to supply the demand. But the sales were **not** made to Milwaukee dealers.

Long ago our growers, for reasons which need not be recited here, learned to avoid Milwaukee as a market and as a result Broadway dealers get only "barnyard" stock from Hales Corners way and around Waukesha and think they are getting Wisconsin apples. Here is the joke, it should have been sent to Luke McLuke:

"Milwaukee commission men say that Wisconsin apples are not handled in any large quantities on the local market. Most of the apples sold here are from the west, New York and Michigan. There is only slight demand for the Badger product."

"Wisconsin apples are not of the desired commercial variety," said a Milwaukee commission man. "The apples are not properly prepared for shipment. They are largely fall apples and do not keep as long as apples from other parts."

Protecting Farmers Against Fake Insecticides

By Dr. J. K. Haywood, United States Dept. of Agriculture

In the enforcement of the insecticide act, officials of the United States Department of Agriculture have had some wonderful and weird "remedies" brought to their attention.

A preparation sold as a remedy for all kinds of diseases of trees was found to consist of approxi-

mately 80 per cent table salt and the remainder consisted of equally "powerful" ingredients. This great "remedy" was sold by an "itinerant tree specialist," who "guaranteed to exterminate" tree diseases and naively informed his credulous victims that tree diseases were caused by uneven temperature and overproduction of wood which causes the sap to become congealed in the "arteries" of the trees. He compared the treatment of tree diseases to the treatment of human diseases and consigned to the scrap heap all the conclusions and results of scientific investigators, insisting that he was the discoverer of the only true method of treatment. And this wonderful remedy may be bought, ladies and gentlemen, for the modest and insignificant sum of only $3 per can, cash money.

Unhampered by Facts

Another "remarkable" preparation was offered to the poultryman for the guaranteed extermination of vermin in his flocks by the simple expedient of adding a few drops to the drinking water, which became effective through the pores of the chicken and thus killed the lice on its back. This was an interesting theory to the scientists of the department, since chickens have no pores except two small ones at the base of the tail. This seeming obstacle to the practical working of the remedy meant nothing at all in the young life of its discoverer, who without hesitation denounced the department and impatiently pointed out the feather holes to prove his assertion that chickens did in fact have pores.

The treatment of diseased trees by the injection or inoculation method also seems to be a favorite of some "tree specialists." Cyanide capsules were used by one of these gentlemen in his "treatment" and many promis-

ing orchards were irreparably injured until the department got on his trail.

A combination of salt bricks with a little sulphur has been sold for destroying lice and ticks on cattle. "Simply put the brick in the pasture and let the cattle lick it and—presto! away go the lice and ticks." So said the manufacturer, but the insecticide board of the department failed to agree with him and he is now "specializing" in some other treatment which is certain to remove shekels from the purses of his victims.

Read Labels Carefully

Apparently it is only necessary to devise some treatment which is simple and easy to administer and the silver-tongued fakers are able to "put it across." The department advises all purchasers to write for information regarding the demonstrated and established treatments which may require more time and labor, but which are known to be safe and the best available treatments. Carefully read the labels and see if the seller has dared to put in print the verbal promises he makes. If so, the department will get him if he don't watch out and if he has made false and exorbitant claims.

The disinfectant which makes a strong odor, but which does not kill any germs; the insecticide or fungicide which is not effective against insects or diseases, or which positively injures the plants or crops; all of these things are receiving the attention of your Uncle Samuel who is endeavoring to prevent the billion and a half dollars of annual losses to crops and animals through the ravages of insects and disease.

A life membership in this society is a good investment. DO IT NOW.

AMONG WISCONSIN BEEKEEPERS

Devoted to The Interests of The Wisconsin State Beekeepers' Association
H. F. Wilson, Editor

Honey contains vitamines and also small quantities of various minerals necessary for the development of the body. It is the most healthy sweet known to man and is the very best one known for children.

Beekeepers' Chautauqua

Make ready now to attend the summer field meet to be held at Chippewa Falls, August 15 to 21, 1921. Come prepared to learn many new things and also to have a splendid vacation.

How Did Your Bees Winter?

Reports are now coming in from various parts of the state and the beekeepers report that while there was considerable loss from dysentery, yet there seems to be a fair amount of bees per colony. Dysentery seems to have been more general this past winter than in previous year. There seems to be no definite reason but it is quite evident that poor stores of some kind were gathered in the fall. Since dysentery seems to be more common, our beekeepers should plan to save stores from the early clover flow or else each colony should be fed at least 25 pounds of sugar syrup in October. Make preparations now to give the bees the best stores next winter.

One Dollar Brings Home Two

In our last issue of Wisconsin Horticulture we asked the beekeepers of the state to contribute to the National Advertising Campaign now being conducted by the American Honey Producers' League. To date we have not received any individual contributions. In spite of the fact that any number of our beekeepers have spoken in favor of such a plan not a single individual has yet offered to contribute.

CONTRIBUTIONS TO ADVERTISING CAMPAIGN OF AMERICAN HONEY PRODUCERS' LEAGUE

Wisconsin Honey Producers' Cooperative Assn. $100.00
Wisconsin State Beekeepers' Association 50.00

WHO WILL BE NEXT?

To Members of The Wisconsin State Beekeepers Association

The editor and publishers of WISCONSIN HORTICULTURE regret that it has become necessary to reduce space allowed to your Society to two pages instead of four. It may be necessry to reduce still further for May and June. A corresponding reduction has been made in other departments. We will resume publication at former size at the earliest possible date and if possible will give you a special edition or a supplement to make up for the loss you are now experiencing. Regretting that we are compelled to cut and soliciting your consideration, I remain,

Respectfully yours,
Frederic Cranefield, Editor,
Wisconsin Horticulture.

Improving the Demand for Honey

Ladies and Gentlemen of the Convention:—

Every fair minded honey producer in the United States knows this is one of the most important questions affecting the beekeeping industry today.

Dr. Bonney, president of the Iowa Beekeepers Association states, in an article of the August number of "Domestic Beekeeper" under the heading —Honey Prices—"This is a burning and vital question with honey producers just now." G. W. Bercau, manager of the Elizo Apiary Co. of Los Angeles, Calif., in the same paper for October and November says, under the heading of—Marketing Extracted Honey—"The question of marketing honey is paramount in the bee industry."

And, in spite of the opposite views which some of my contemporaries hold, I want to go on record as saying, "the successful and profitable marketing of honey is the foundation of the bee industry in this country, upon which foundation every branch of the industry must rest." And I am convinced beyond any doubt whatever, no matter how many new beekeepers we call into existence, and how numerous the members of our associations are for the time being, if we fail in this all important part of profitable marketing, which must include a better demand, we fail in all of them as far as the industry is concerned as a national recourse. For sooner or later the industry will collapse like a card house, without profitable returns to those engaged in the pursuit of honey production.

Having shown to the convention the importance of improving the demand for honey, I will now speak on advertising, the only medium by which the demand can be improved. Here again we have different views and many minds. But the one standing out the most prominent is the one of the doubters as to the usefulness of advertising. I wish to say here that advertising of the right kind is accumulative, which means it gains in selling strength as time goes on no matter what the advertised commodity may be, providing it has merits. It compares favorably with building up a one frame nucleus into a powerful colony. It neither can store up any surplus honey until it has grown into a fair sized colony, and then only a comparatively small amount. But when it has reached the stage of a rousing colony, occupying from ten to fifteen combs for brood rearing, we are justified in looking for a big surplus.

In our industry we have those beekeepers who do not expect a one frame nucleus to gather a surplus of honey, but they expect by paying a fifty cent or one dollar initiation fee into some association that that association ought to sell their honey crop at a big profit, advertise and create a demand for same. And in case the association should not sell the honey itself would create such a demand for their product that the public would flock with water buckets to their honey houses during extracting season and take the honey away from the extractor as fast as it is extracted, paying more than a satisfactory and profitable price to the producer. Failing in this, they curse the association and its officers and attack each other by ruinous price cutting, amounting in some instances to ten cents a pound on the same grade of honey. If they would stop and reason, and learn from the rousing and profitable colony of bees mentioned, how it was built up, the time, bees and care it took, they would also be patient in regard to advertising honey. For it takes a good deal more time, patience and money to build up a demand for an article of food which has been known to the public for ages, but which, owing to the neglect of the producer in keeping it before the public thru judicious advertising has lost its popularity and general demand, than it does to advertise an entirely new thing.

We beekeepers must learn to realize that we ourselves, and we only,

must bear the expense of the first cost of advertising honey. We must be willing to assess ourselves in order to raise the funds necessary to do so, that we may be able to start the advertising nucleus. First locally, by demonstrating the use of honey in cooking and baking contests, distributing recipes and literature and perhaps give away samples of honey. Second, we must raise a State advertising fund. And since there is now a national move on foot we may want to join it in a honey advertising campaign.

The ways of popularizing our product are many, too numerous to mention in this paper, the scope of which, of necessity must be limited. And I choose to conclude by stating that whatever method of advertising we may decide upon, do not let us adopt the mistaken one known as PRICE CUTTING, which is in reality not increasing the demand for our product, but to the contrary cheapens it in the eyes of the public, by creating a doubt as to its merits as a valuable food product.

A. C. F. Bartz.

Wisconsin Honey Producers' Cooperative Association

In our last issue, there is an article by Mr. A. Swahn, Ellsworth, Wisconsin, and one in the present issue by Mr. A. C. F. Bartz which should be read from end to end several times. We might perhaps jolly Mr. Bartz because of the fact that the Chippewa Valley Beekeepers Association voted not to take any stock in the coopertive association at this time. The Chippewa Valley folks are undoubtedly progressive and no doubt have been able to dispose of all their honey without any outside assistance. On the other hand it may be $10 is too large a sum for any one of them to raise in which case it has been suggested by one of our beekeepers that we send them this year's donations which we expect to give to foreign missions. **CHARITY BEGINS AT HOME.**

Mr. Swahn and Mr. Bartz have very nicely pointed out the important facts connected with our marketing problems and it should be emphasized that **Organization** is the most important feature of all. The Wisconsin Honey Producers'' Cooperative Association can if properly supported sell all the honey produced in Wisconsin and our beekeepers can be assured of a reasonable and fair profit but without an organization of some kind, our beekeepers will be accepting anywhere from 6c to 10c for their honey within a few years. At the same time the retail price will not be materially lowered beyond what it is now which will mean a bigger difference to the distributors. Beekeepers who do not belong to the association are writing in asking us to sell their honey. Yet they have not made any offer to take even one share of stock. In order to make the cooperative association a success it should have at least a capital of $20,000 and if this amount of money is to be raised, the beekeepers must get behind this movement. A sufficient number of subscriptions have been received to take up all the capital stock of the present orgnization but five times as much stock must be subscribed and paid for before we can increase our capitalization to even $15,000 or $20,000. The association has already helped a few beekeepers dispose of some honey and efforts are still being made along this line. We hope that before the season is over, that every bit of honey will be moved although there is a possibility that this will not happen as honey is now being offered in the west at 6½ and 7c per pound.

Because of the difference of opinion among our beekeepers, a definite plan for distributing honey has not yet been worked out but this will be done before next season's crop comes on and the association will be ready to start early. A list of the members and the amount of stock subscribed for is included. $820 has at the present time been paid into the treasury.

H. F. Wilson,
Secretary-Treasurer.

Wisconsin Honey Producer's Cooperative Association

Members	Shares of Stock Subscribed for
1. A. Swahn	10
2. Chas. Duax	1
3. J. G. McKerlie	1
4. F. F. Stelling	10
5. Edw. Hassinger	10
6. H. R. Tavs	1
7. Dr. Siebecker	2
8. H. L. McMurry	10
9. Sam Post	1
10. Edw. Blumer	1
11. Edgar A. Nerby	1
12. H. F. Wilson	10
13. Dr. Fracker	2
14. F. E. Matzke	9
15. Conrad Kruse	10
16. L. W. Parman	1
17. C. W. Aeppler	1
18. Gus Dittmer	1
19. Mrs. O. W. Hildreth	1
20. J. E. Dudley, Jr.	1
21. Mathilde Candler	1
22. Ralph Irwin	1
23. Geo. Stowell	1
24. Albert Peterson	1
25. Geo. Lotz	10
26. M. K. Walsh	1
27. H. Lappley	1
28. A. Endlich	1
29. O. K. Ramberg	1
30. Jos. B. Hesseling	1
31. Geo. A. Ross	1
32. Clem Agternkamp	1
33. Wilferd Perrot	1
34. E. M. Johnson	1
35. Gustav Telschow	1
36. Wm. Lemcke	1
37. Otto Kerl	1
38. Claude Moll	1
39. J. A. Travis	1
40. Phillip Rudolph	1
41. Paul Thomar	1
42. C. E. Zilmer	1
43. T. J. Wolfe	1
44. Chas. F. Lang	1
45. Otto Klessig	1
46. Arthur Kappel	1
47. Frank Yansky	1
48. Geo. A. Brill	1
49. H. K. Hartmann	1
50. C. D. Adams	2
51. Mrs. A. K. Bradley	1
52. Henry Siberz	1
53. Frank Wipautz	1
54. Chas. E. Cottrell	1
55. H. W. Johannes	1
56. John W. Peters	1
57. Aug. E. Wolkow	1
58. C. H. Stordock	1
59. Adolph Rine	1
60. C. S. Leykom	1
61. Frank S. Kline	2
62. A. H. Kapelke	5
63. Henry Luebker	1
64. James Cherf	1
65. Mrs. Wm. Gearing	1
66. Ira Lubbers	1
67. W. D. Williamson	10
68. L. O. Brainard	1
69. F. J. Mongin	1
70. Wm. Haberman	1
71. Orin Shufelt	1
72. Emilie T. Muller	1
73. W. A. Kuenzli	1
74. Mrs. J. Parkinson	1

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

Volume XI | Madison, Wisconsin, May, 1921 | Number 9

The Peony and the Iris

T. A. Kenning, Minneapolis, Minn.

(At Summer Meeting, Racine, August 1920—From Reporter's Transcript.)

Usually when a man or woman starts to grow flowers, they want to grow all the kinds of flowers that they see between the covers of seed catalogues. Each one seems more lovely than the other, and the catalogues present them so attractively that they want them all. They try a good many of them, and they find that some are not adapted to their particular locality; that some are rather finicky, and need especial care; some are not hardy, and some grow like weeds and look like weeds. On the other hand, they find that some are adapted to any locality, and respond handsomely to whatever attention is given them. Now, such flowers are the peony and the iris.

When a man or woman gets bitten by the peony or iris bug, so to speak, they want to talk to somebody else about it, and they want to learn more about it themselves, and they want to get a good collection of peonies and irises, and they want other people to grow them. So they hunt up other enthusiasts, and then they decide that the best way to disseminate the knowledge of and love for their particular flower, is through an organization. Thus it was that four or five men gathered together in Minneapolis about five years ago this last June, and organized the Northwestern Peony & Iris Society. There was an American Peony Society, but they held their exhibitions in the east, and it was hard for the growers and enthusiasts of the northwest to exhibit in competition with those who were nearer at hand. Among those men who organized this society were the late Rev. C. S. Harrison, C. J. Traxler, of Minneapolis, A. M. Brand of Faribault, and W. F. Christman.

It is a curious but sad fact that two of those men subsequently became blind. Rev. Harrison before he died became blind, and the last thing that his gaze rested upon was one of Brand's peonies, I think it was the Mary Brand; a very fine, red flower. He said it was the very finest red peony in existence, and he was quite an authority. Mr. Traxler is now also blind, and it was a pitiful sight at our last peony show to see him being led around by his daughter, she trying to explain the exhibits to him.

Now, the object of the North western Peony & Iris society is to disseminate the knowledge of and love for the peony and iris, and this is done in a number of ways. Each month the secretary has a department in the Minnesota Horticulturist, and in the Flower Grower. The members of the Northwestern Peony & Iris Society are also members of the Horticultural Society, and get the monthly publication, the Horticulturist. Then the secretary also issues a bulletin from time to time. We have had so far only two meetings per year. One of these is the annual meeting, which is also held in connection with the Minnesota Horticultural Society, where we have

papers and talks on the peony and iris, and usually an illustrated lecture. Then in the summer we have our peony show. It is supposed to be an iris and peony show, but you cannot exhibit those two flowers together very easily, because your irises are gone before your peonies are in their very best condition. But this is also held in connection with the summer meeting of the Minnesota Horticultural Society, and we have to govern the Peony show somewhat by their desires. These shows, of course, are great forces of education. This last year, because of the fact that it is impossible to exhibit the two flowers together, satisfactorily, some of us decided that we wanted a separate iris show. I have the honor of being regional vice-president of the American Iris Society, and so the American Iris Society and the Northwestern Peony & Iris Association co-operated in having this show.

Now, here is just a suggestion that I want to leave with you. I went to one of our biggest banks in Minneapolis, the Northwestern National Bank, and asked them if they did not want to put on an Iris show. Well, they rose to the occasion very handsomely, and said they would. They saw in it a chance to advertise their bank in a very effective way. So we put on an iris show. The bank advertised it in the papers very thoroughly—in the daily papers, —putting in paid ads. We had the first iris show that has been held in the northwest, and it certainly was a revelation not only to the bank officials, but to the general public as well. Hundreds of people came there with their note books and took down the names of the irises. Before that they did not know there was such a plant as the Iris. They thought they were just blue and yellow flags, but they found out that they were really fine flowers. The bank gave a silver cup, in addition to the money which they expended for advertising. Now, as I said before, I leave that with you as a suggestion. You can probably do something of that kind in your own town, and have a splendid show, without its costing you a great deal.

The iris is native of a great many countries, and there are a great many species of iris, although we are concerned mainly with only a few. There are three main classes of iris: the bearded; the beardless, and the crescent. The bearded irises are divided into three main classes: the dwarf bearded, the intermediate and the tall. Now, the dwarf irises bloom in April. They are doubly welcome, because they come so early. They come in a number of different colors. There is a beautiful blue, a white, and a yellow. They are very fine for bed edges, borders, because they grow very low. Then there are the intermediate irises, which are intermediate in size, in height as well as in time of bloom. They are a cross between the dwarf irises and the tall bearded irises. There are a number of very good kinds in the intermediate. Ingeborg is a pure white, a large flower, very fine. Helge is a lemon yellow. Walhalla has lavender standards and light purple falls, a very large flower, very conspicuous, and very fine.

I am only going to give you a few of each kind. You may want to take notes, but if you do not, I may be able to give you some names after the meeting.

Now, the tall bearded irises are what we have been in the habit of calling the German Iris. Linnaeus, the great Swedish botanist, gave them the name first, because they resembled the Iris Germanica, or the Species Germanica; but the German Iris, so-called, is not a native of Germany. For that reason we are beginning to discard that name, and there have been a number of other names suggested, such as Liberty Iris, Fleur-de-lis, etc.; but tall bearded iris seems to fill the bill better than any other, because it is descriptive. If we call them Fleur-de-lis, that is somewhat incongruous, because the flower is not a native of France, and it does not harmonize; and expressions with Liberty in them have been overworked. The description Tall Bearded Iris is I think the best of any, and I think that gradually all the growers will catalogue it as such.

Now, this is the main class of irises that we are interested in. There are in this class a large number of very fine varieties, enough to stagger you and confuse you. I am only going to give you a few, some of the best, low priced varieties. In fact, there are not many high priced Irises, because they multiply rapidly, and you can get very good irises for a small price. In the past the tall bearded irises have been classified according to the color of the standards, but there has been so much intermixing of varieties that lately that has not

been a very satisfactory classification, and some growers are discarding it. But we use it today to a certain extent.

Now, of the white, those having white standards, there is the Mrs. H. Darwin, that is a very fine iris. It has white standards, and the falls are veined a little with violet. It is quite a compact growing iris, and a very free bloomer, and a very satisfactory all around iris. Then there is the Victorine, which is very striking, white standards with a clouding of purple, and purple standards clouded with white. You see, they have gone fifty-fifty on the standards and the falls. It is a very striking iris, and a very fine flower. Then there is the Rhein ———, which has purple falls with white edges. It is a very striking iris. Then there is Miss Wilmott, which is a pure white flower of very leathery texture, and one of the best pure whites that there is. Both the standards and the falls are white.

Aurea is a rich chrome yellow was a litte tinge of pink in it, which makes it a very fine flower. Miss Newbronner is a little darker shade. That is also a very fine dark flower, an orange yellow. Mrs. Sherwin Wight is also a good yellow, but not quite as good as the other two. Iris King is a cross between Amarilla variegata and the Maria King. The Maria King is one of the most brilliant irises we have, as a dwarf grower. Iris King has lemon standards and maroon falls, bordered with a yellow border. It is a very strong grower, with a large flower. A very odd and striking

THE GARDEN OF MY DREAMS

Mrs. Coley E. Strong

There's a dear old fashioned garden
That I never shall forget.
There's no other garden like it in the land.
I can see it in my dreams,
There the white narcissus gleams,
And the daffodils in golden glory stands.

There the Lilacs purple plumes,
Sends the perfume thru the rooms,
As I sit and listen to the humming of the bees,
Oh, the soft south wind is blowing,
And you almost think its snowing,
As the petals drift from all the apple trees.

Morning glory, Honeysuckle, screen the doorway where I stand,
Zinnias, Balsams, Calliopsis—all that sturdy happy band,
Mignonette, the Portulacca, Four o'clocks and Corn flowers, too,
Cockscomb, Columbine and Asters,
Covered with the morning dew.

Heaven's blue is in the Larkspur,
Marigolds are prim and straight.
Hollyhocks in gorgeous beauty standing by the garden gate.
Ragged ladies, Stocks and Pansies,
Phlox drummondi, Poppies red,
Candytuft and English daisies, all in one old-fashioned bed.

In this garden of my dreaming,
Sweet beside the Southern wood
Grows the Lily of the Valley, stately blue and white Monkshood.
Birds are singing in this garden
Purple grapes hang on the wall,
Its so real, I stop and listen, I can hear my mother call.

Oh, its there I'd like to wander, in that garden over yonder
Where the June pinks grew in masses soft and sweet,
With the Heliotrope and Roses,
All the dear old-fashioned posies,
In this garden with its paths so prim and neat.

This old garden of my childhood, in my dreams I see it yet,
Its a sweet and pleasant vision
One I never shall forget.
For there's charm in this old garden, with its dear old fashioned posies,
Where the June Pinks grew in masses, near the Heliotrope and Roses.

Iris is Eldorado. Eldorado has yellowish bronze standards, shaded heliotrope. The falls are purple with a yellow throat, and yellow down the sides.

Then there is the Jacquesiana, which is an iris with clouded bronze standards. There are a number of striking irises in this group, and Jacquesiana is one of them. The falls are crimson-maroon. Prosper Laugier is larger and brighter than Jacquesiana.

Then in the purple standards we have Kochii, which is a claret purple, self-colored flower. Both the standards and the falls are the same. It is one of the indispensible irises, and very cheap. It is rather low growing and early flowering, but a very good one. Then we have Monsignor, which is a very striking iris, and one of the best. The standards are pale violet, and the falls are the same color, overlaid with a rich purple. Words can hardly describe this iris. It is a very tall, striking iris. Archeveque is a deep purple in the standards, and the falls are red and purple. That is one of the new good ones. Alcazar is another very fine iris, with light violet standards and deep purple falls. I know this is a good iris, because I have had to take second place behind it in the last Iris show. It won first prize in the class for the best individual blooms. Madam Pacquette is a claret color, and has a very fine fragrance. Now, that is something that is not spoken much of in catalogues. I do not see why it is not dwelt on more than it is. The iris has a very fine fragrance. Madam Pacquette smells like

(Continued on page 157)

Wisconsin Horticulture

Published Monthly by the
Wisconsin State Horticultural Society
12 N. Carroll St.
Official organ of the Society.

FREDERIC CRANEFIELD, Editor.
Secretary W. S. H. S., Madison, Wis.

Entered at the postoffice at Madison, Wisconsin, as second class matter. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of Oct. 3, 1917, authorized July 15, 1918.

Advertising rates made known on application.

Wisconsin State Horticultural Society

Annual membership fee, one dollar, which includes fifty cents, subscription price to Wisconsin Horticulture. Send one dollar to Frederic Cranefield, Editor, Madison, Wis.

Remit by Postal or Express Money Order. A dollar bill may be sent safely if wrapped or attached to a card. Personal checks accepted.

Postage stamps not accepted.

To Our Readers

The make-up of the Paper this month is very unsatisfactory to the editor and can scarcely be less so to our readers but your patient consideration is solicited. Violent changes in state printing contracts and other matters connected with the publication of our magazine are taking place which necessitates temporary changes. These troubles will all be ironed out in a short time and we will be able to get back again into our old swing. In the meantime, patience please.

F. Cranefield, Editor.

Necrology

L. H. Palmer, a long time member of this Society and a friend of horticulture died at his home in Baraboo early in January. Mr. Palmer had reached his sixty-second birthday.

Henry C. Melcher, Oconomowoc, died March 22nd after several weeks' illness. Mr. Melcher was 71 years of age.

These men were alike in many respects; both quiet and unassuming in manner, men who loved best the quiet of home life; both raised fruit not less for the love of fruit than for gain; both were amateur horticulturists in the best sense of the term and of these we have too few.

Neither the date nor place for holding the Summer Meeting has been fixed. The Board of Managers met recently and each agreed to keep an ear cocked upward in order to catch any wireless or other hints.

The Life Membership suggestion in the April issue has been well received. May we hear from **you?**

Quite So!

Oak Holler, Wis.

Dear friends—I don't know as I am included in the invitation sent out by this Editor Man—to express my opinions on this Convention problem—but,

I've a page of my own—and I want to tell you folks something—want to hurry up before someone else says it, that I have a lot of sympathy with you fruit growers, gardeners, nursery men, woman's auxiliary—all you specialist folks. Don't blame you one bit for wanting to have a separate meeting where you can discuss all your problems with those who understand and appreciate them. It is for your advantage—you get more good out of it—besides it pays in dollars.

But if you do this—what about the rest of us, I mean just we plain ordinary folks, who are just beginning—who have a few trees, a few berries, a garden? We who are just beginning to appreciate God's great out doors for ourselves and our children?

Do you realize what you stand for to us? You have done these things all your life. You love your work—if you didn't you wouldn't be successful, it means more than dollars and cents to you, even tho you forget it some times.

If a man who has made two blades of grass grow where one grew before—has done something worth while, hasn't it been worth while to have helped to plant gardens, trees, shrubs, and flowers on many a barren spot in the state of Wisconsin?

Hasn't it been worth while to know you have been unselfish? We have appreciated this, and because we have we are not afraid to ask you now not to forget us when you do the things that will benefit yourselves. Give us a share, a generous share, of the things that help you, we need them. Do not forget that your words, yourself, are more than any paper or book that was ever written. Summer meetings all over the state are enlightening a lot of us—may be the Annual meetings held this way would help also.

Do not fear that you are losing your individuality, by not allow-

ing your own desires to loom up so largely, you are teaching all who come to your meetings the greatest of lessons, that of patience and understanding, a careful consideration of what the other fellow likes. You disagree, but you disagree amicably. In short, you have the real get-together spirit and I'm glad. We know you are not going to forget us, we just wanted to tell you so.

Johnnie.

THE PEONY AND THE IRIS

(Continued from page 155)

grapes. Nearly all irises are very fragrant.

In the lavenders and pinks we have first Pallida Dalmatica. This is one of the old standard irises, and perhaps if I had only one iris I would want Pallida Dalmatica. It is a very fragrant and very tall growing large flower of a beautiful shade of lavender. Her Majesty is a rose pink. The falls are shaded or veined with a deeper color. Red Cloud is one of the newer irises. The standards are rosy lavender-bronze, and the falls are of a rosy crimson. Queen of May is another pink iris; it is perhaps the pinkest iris we have. It is a rosy lavender, almost pink.

Then there is a group of irises that are frilled, called the Plicata group, and the standard iris for many years in that group was Madam Chereau. This is a white iris with a blue frill all around the edge, and a very fine iris, although it is one of the older varieties. Ma Mie is an improvement over Madam Chereau, of very much the same color, but larger and a little more striking than Madam Chereau. Parisiana has white standards, dotted lightly, and the falls are frilled lightly. It is another very striking iris in the Plicata group.

Now, this group of bearded irises, contrary to the ideas of a lot of people, does not want to be grown near the water. The bearded irises like to have their roots baked during the summer time, and they should not be grown where water will stand in winter, for instance, and rot them. No manure should be put upon them in winter. They are perfectly hardy, and they do not need any covering at all. If you have just planted them out, perhaps it might be well to put a little rough covering of some sort

over them. I use gladiolus stalks and corn stalks, just to hold the snow. But if they are established plants, they do not need any at all. You are less liable to have rot that way. That is about the only trouble that you have with our iris. Cover them too heavily, and they will rot.

Now, the beardless group, the Apagon group, they like to be near the water, although they will do well in a dry situation. There are a number of species in the beardless iris group, but there are only a few of them that I will mention. There is the Siberian and the Japanese. The Japanese are rather difficult, and we will pass them by, although some people have great success in raising the Japanese. But the Japanese have to be well covered in winter, in order to come through and bloom. The bearded irises like lime. You can use either air slacked lime, sprinkling it on, or you can use the ground lime stone. The air slacked lime is the quicker acting, but the results disappear more quickly. The ground limestone is slower in its action, but the results last longer. The beardless irises do not want lime. The lime for the bearded iris is a fertilizer, but another good fertilizer for beardless is bone meal, which has been mentioned here before today. The Siberian is a deep purple iris. The leaves of the Siberian iris are more slender than those of the bearded, and the flowers grow on a more slender stem. The Siberica are small flowers, of a deep violet blue.

Orientalis is a larger variety that has been discovered in China, and has larger flowers. Then there is Siberica Orientalis, Snow Queen, which is a white variety with large flowers, and a very good one. A gentleman in Minnesota has a light blue color which he calls True Blue, which is a very fine variety, and can probably be purchased from almost any nursery. Then there is another beardless iris called Longipetala Superba, or Mrs. A. W. Tait, which is a soft porcelain blue.

Among the beardless iris we have the native European iris, Pseudo-Acorus, which is yellow, and our own American variety, which grows in almost any of

the swamps. The Pseudo-Acorus has long, narrow leaves which grow high, and it is worth while growing for the foliage alone, if it does not ever bloom. It has quite nice yellow flowers. Let me say in regard to the iris, that they can be planted most any time of the year. The best times are in August or the spring, however, although I have planted Iris almost any time; even when they were full of buds. You can take an iris, and throw it out on a dump, and go back in a couple of weeks and plant it, and it will grow again. It is not over particular. It will do almost its best under very adverse circumstances, although it will do better if it is given the proper care, of course.

A Long but Interesting Letter

Since receiving the last issue of your paper and reading the different new points on tree planting subject, all of which are very interesting, and being both a lifetime resident of Wisconsin as well as farm woman, I would like to present the other side of the question "Shall we plant trees along the State Highways?"

Where I live the farm is located on the Nos. 26 and 29 trunk lines, both sides the length of 80 acres and one the width of it. We have seen many grand old trees cut down and others had their roots cut off by the construction gang that they too will not live much longer. The road beds are so much wider and below the surface that few places permit of trees taking root. Then too the telephone and electric light men have spoiled the symmetry of so many trees, if not cut them so badly that they died, and miles of them have been cut down entirely, mostly big oaks.

Have you ever estimated the loss there is to the farmer (the present day tenant at least finds it so) where there are trees along the road. There is from 1 to 3 rods of very poor yield no matter whether it is corn or other crop. I think if our bee men who are so anxious to improve every foot of ground, were to receive their salaries from which such an estimate would yield they soon would be looking for some other occupation than "Inspection of Apiaries." The "Bass Wood" is usually found in low damp places consequently does not transplant well in dry soil, is of very slow growth, and how

many would survive the ravages of cattle driven to and from pasture also in fly time (unless guarded)? Then too have not the roadsides been cleaned up to have them dry up quickly and to prevent snow from filling in? Now they want them kept open all through the winter. Would it not be the height of folly to plant trees again. We have the interurban express passing on this road, besides as many as 100 autos and motorcycles in an hour ofttimes on a pleasant Sabbath afternoon and if you are not one of them, you can sit behind closed windows and doors to avoid the dust that is raised, or if there is a stock sale or baseball on during the week there are a few more days like it. The rains have but little effect for before it quits raining they have the water all spattered out of the track and before night the dust flies again. We have paid for our own oiling but this past year could not get that done. The road sides which usually have good grass and could be cut for hay are so thickly laden with dust that the animals do not eat it nor is it safe to keep cattle on the road longer than to take them to their pasture. The auto has the right of way. Perhaps you will think me a narrow-minded pessimistic "Old Maid" who has never been outside of the state or county, so I will add that I crossed the states to the western coast in Aug. 1915 by way of Ogden, and if you ever had that pleasure, I think you too will think Wisconsin looked pretty good when you got back again. When I read Mr. Everett's (editor of the Wisconsin Agri) letter which he printed de-

scribing the west, I saw that his ideas were very much the same as mine and he being a man had much better opportunities to see things. "The Sunken Garden" of Mr. Bush at Pasadena is very pretty, but if all the wealth that was spent on such a little spot, had been left in the pockets of many a boy and man and not gone "over the bar" there might be a little more beauty evenly distributed; besides it is a city which has so much wealth taken from all over the states and a long warm season to grow things. It surely looks very alluring to the visitors but the family without means could starve there before they could acquire a home, like they can nearly any where in Wisconsin if they have enough "pep" to do so and not like so many of our young people that cannot stay in one night, but must go to some show or up town to buy their supply of cigarets for the next day and not get in before 12 or perhaps 5 o'clock, then expect $50 to $70 per month besides washing and board. One would think that farmers grew money ready coined, instead of grain and cattle. Our tax on 160 acres is $217 this year and our representatives at the capitol are constantly asked to increase the appropriation for more funds to provide an office for the many young men who prefer to don the dress up suit instead of the garb of a farmer, and the farmer's family can work as one woman put it "until your tongue hangs out," and in the cities they are fed at the bread line.

You will think I have wandered far afield from my subject but it takes in all that pertains to a farmer's life. Although I am not a tax payer I have 10 colonies of bees in my sister's cellar with which I spend my time which is not taken up with the garden and lawn. I too have tried a little beautifying in a small cemetery which is on this farm but have met with more approval from the passer-by than with gratitude from the ones whose ancestors I have given a respectable burial place (from Buffalo grass to a lawn-mowed sod). I would like to take you to another such a place and then one can see how much our children of today are taught to respect the resting place of the dead. It's a little school-yard cemetery, many of the descendants own large farms and good homes, autos and all that goes to make up the home of today. But the hands that provided those comforts are not remembered. So it will be with "the boy that went across the sea;" those who came back do not care to even speak of the life they led: so why build a constant reminder of it for the hearts that still ache for those who never came back. Soon they too will be numbered with them and the others will have new sorrow of their own. When we look about us we see how quickly a vacant place is filled, and perhaps it's better so. For has not God his purpose when he calls one of his own to serve him. Though we mourn now some day we shall see and understand.

Now I think I had best stop

for even this may be too lengthy for one so busy as an editor.

Respectfully,
Emily F. Creydt.

Annual Report of Secretary

Frederic Cranefield

(Read at Annual Convention)

The year just behind us has been a satisfactory one to all concerned with horticulture, whether amateur or professional. So far as the commercial grower is concerned, a good season, good crops and good prices, a combination rarely experienced, should give encouragement and satisfaction.

It is probably true that the period embracing the years 1915–1920 was the most satisfactory ever experienced by Wisconsin gardeners and fruit growers so far as crops and prices were concerned. If, then, it happens that we are to face a period of lower prices and weaker markets we should meet it with fortitude and as near as may be possible without complaint.

The back yard garden movement which received such a stimulus in 1917 and 1918 has not seriously affected the market gardeners. In fact, I am of the opinion that a close examination of the situation would show that it has helped them.

The city gardener, whether a man of limited means or the man who gardens for fun has learned valuable lessons, one of which is an increased respect for the man who is compelled to make his living by raising fruits and vegetables. The city gardner is not now so sure as he was before he begun the gardening game, that the commercial gardner is a profiteer, a gouger, a robber. He has seen a "great light." There need be no fear on the part of the market gardener that his business will suffer severely in the long run from city gardens. These gardens are the best possible advertising medium for his products. Our work then in the encouragement of city gardens must not be abandoned, we must, by word and deed, encourage those who are now interested and maintain our recruiting stations.

We find a new field for our endeavors in the home or city garden work in the encouragement of the planting and care of fruit trees. We attacked the vegetable and small fruit problem in these gardens as the line of least resistance and have overlooked the fact that most city back lots afford room for at least two apple trees, one Duchess and one Northwestern. Why not? It will not more seriously interfere with the fruit grower than the back yard garden, the market gardener; merely create an appetite for more fruit.

Along with this urge must come, from us, some potential plan for the alleviation of apple scab and codlin moth on these c ty bred trees. There is now scarcely a city in the state but has within its limits hundreds of bearing fruit trees, (there are in Mad'son not less than 2000 such trees) not one per cent of which are pruned or sprayed. There is a great opportunity here for someone to practice the gospel of spraying.

The school garden work also deserves our attention. Just now it is too much like the greater part of our school system, machine made. The greatest need in this work is to find teachers who possess imagination, then the youngster who really wants a garden of his own may be able to find it in the school garden plot without referring to the numbered stake, he will be permitted to give expression to his ideas of what a garden ought to be and if it occasionally includes a weed or two no harm will be done. (The average school garden plot offends my sight by its rigid formality and sameness. If it were not a hateful expression I should say they appear like something "Made in Germany.")

A probulem of the first magnitude which was outlined a year ago in the President's address and the report of the Secretary seems no nearer solution now than then, the almost complete extinction of cane fruit growing in the state. This is a problem affecting everyone in Wisconsin, whether producer or consumer. Preaching apparently has had but little effect so the Executive Committee of this Society at its session last evening adopted a plan which should give results. This plan, briefly stated, is modeled on our trial orchard work but a much more comprehensive plan comprising thirty and possibly three hundred demonstration stations, this work to be carried on through cooperation with the county agents.

Another problem, not new and one that will be discussed at length during this meeting, is the Farm Orchard. We have had wise counsel on this subject in the past and will have wiser counsel and material aid in the future. The average small farm or home orchard as it exists today is one of the worst drawbacks to successful commercial fruit growing we have in the state. It's worse than a liability, it's a curse. Let's solve this problem without further delay. If we can do it we will have done our share toward keeping our Society and our state in the front rank of progressive institutions.

The marketing of Wisconsin grown apples has seemed a big problem in the past but is one that is growing smaller and smaller as the years go by, or rather as the quality of our product improves. When we have entirely eliminated the "barnyard apples" from back of the barnyards of Wisconsin and apples intended for the trade are grown only by well trained and

experienced fruit growers we will have gone a long way toward the solution of our problem. There will still remain the big factor in marketing. This is too big a subject to discuss in a report of this nature but it may be said in passing that, "the old order passeth." Wideawake fruit growers, acting independently and thru cooperative shipping association, have wiped out the commission and consignment corruptions and compelled the wholesale buyers to become merchants in fact rather than gamblers and in many cases petty thieves. A further readjustment is just in sight and it behooves the grower to keep in close touch with events. Cooperation is going to mean more than a mere claptrap word in the future.

The further development of commercial orchards in Wisconsin is work in which this Society should not be "weary of well doing." We have done much but have really only made a good beginning. Door county could double its acreage of tree fruits and handle the output easily. The scant 800 acres in the Kickapoo region could be increased to 10,000 acres and still only scratch the surface. There is abundant room for thousands of acres more of apple and cherry orchards in Wisconsin and there is every reason why the trees should be planted. In spite of the vast plantings both in the East and West there is little doubt that a careful census of bearing trees would show a tremendous decrease each year. Somebody must take up the slack, why not progressive Wisconsin horticulturists aided by our Society?

More than twenty years ago I took the stand that Wisconsin orchards should consist almost wholly of fall maturing varieties, Duchess, Dudley, Wealthy, Fameus and Mackintosh the leaders. Each succeeding year's observations since that time has only served to strengthen my opinion in that respect and the season just passed served to clinch it. Thousands of barrels of winter apples are now lying under the snowbanks in New York and Michigan and those sold brought the grower from 25c to $1.00 a bushel. Long before these apples ripened Wisconsin growers had sold their fall apples for 6, 8, 10, and 12 dollars a barrel.

In this proposed development of fruit growing there are two distinct lines of procedure open to us; first to promote the development of large commercial orchards, urging the extension of these already planted and opening new districts; secondly encouragement to the smaller grower. There are splendid opportunities near cities of two thousand population or more for enterprising growers to plant orchards of five to ten acres to supply local markets. When we have accomplished the planting and organized for co-operative marketing not alone in the different communities but a state-wide organization it still remains for the growers to get in touch with these in other states. Until recently fruit growing was the only major branch of agriculture that had no national organization, there is now however a new light on the horizon. The American Pomological Society having seventy-five years of honorable history back of it, has been reorganized so as to include commercial fruit growing in its activities. You will I am sure be satisfied if not pleased to know that representatives of this Society authorized by your executive committee have had a prominent part in shaping the policies of this new organization which promises much good for the fruit growing industry.

Rural Planning is not dead, only drowsing, and will wake up soon. This great work, or work that may be made great, is in the hands of the Rural Planning

Commission with whom we have offered to cooperate. Let us join hands with every department in promoting this work.

I have mentioned only a few of the things we ought to do. There are so many others that a mere recital would take many pages. I have enumerated only those which are so near to us that we cannot avoid seeing them. A broader policy, one looking ahead fifty or one hundred years would fill a volume.

Your secretary realizes that this report might have been more consistent had it begun with a record of accomplishments during the past year rather than suggestions for the future but that which has been done is merely history, that which remains to be done concerns us most.

Your officers and executive committee have aimed to execute to the best of their abilities the work before them.

The Trial Orchard work is declining in extent owing to the fact that the plans under which the orchards were held are maturing and no new ones have been executed. It has been the policy of the Committees in charge of this work that it be allowed to expire by limitation and that the Society expend its efforts in new fields. If in doing so we accomplish one tenth as much good as we have in promoting fruit growing thru the trial orchards we may be well satisfied. A discussion of the orchards will be offered by the Trial Orchard Committee.

The publications of the Society during the year were practically the same as those of the preceding year. Wisconsin Horticulture, including two supplements; January, Proceedings of American Pomological Society and April, Control of Insects and Diseases; the Annual Report and several leaflets. It has been the policy of your secretary as Editor of the Report to include in it only matter of permanent value and to secure such a careful revision of the fruit and flower tree and plant lists that it might serve as a reliable guide to prospective planters as well as an all year reference book.

We have worked in close cooperation with the departments of horticulture, plant pathology and entomology as well as with the various branches of the State Department of Agriculture. Our connection with the Wisconsin State Beekeepers Association has been strengthened during the year and the pleasant relations established will undoubtedly continue. Beginning with January of this year the Beekeepers Auxiliary will add nearly 800 names to our mailing list each one of which will some day be converted to horticulture. While there may be many readers of horticulture who do not read the four pages devoted each month to beekeeping they must keep in mind that the addition of these pages has not reduced the number of pages of horticultural reading matter. We have aided the State Fair Board in such ways as we could and maintain cordial relations with them.

We have spent all the money allotted us by the state and every other dollar that came into our

possession going on the theory that the money was appropriated to be spent. We hope it has been wisely spent.

But one new local Society has been organized during the year, the La Crosse County Society.

An account of the work of the established local Societies during the year has been placed on file and will be published in connection with this report.

Olden Times

Much attention has been given to groves and parks for thousands of years. Public groves and hanging gardens were common all over Egypt and Israel when the Savior was born. Out of doors was inviting to the scholarly Athenians and to the athletic Spartans. The crumbling walls of coliseums and stadiums and columns of amphitheaters that we now see in ancient Greece and Rome were built in parks. Shakespeare tells us in his dramas of the woods and groves and the ways in which parks were used for joy and recreation.

Europe and Parks

France and England for centuries have been spending millions in order to develop national and municipal parks long before this nation was born. However, it took America to undertake developing of great national parks and wonderfully beautiful municipal parks,—as out-of-door homes, recreation fields, playgrounds for joy and health,—in large areas and numbers.

J. A. Hazelwood.

AMONG WISCONSIN BEEKEEPERS

Devoted to The Interests of The Wisconsin State Beekeepers' Association
H. F. Wilson, Editor

Do You Believe in Advertising?

If you have any part of last year's crop on hand you can realize the need of increasing the demand for honey. Help yourself and your neighbor by sending in a dollar bill to the advertising campaign.

Contributions to Advertising Campaign of American Honey Producers League

Wisconsin Honey Producers' Association	$100.00
Wisconsin State Beekeepers' Association	50.00
..... Manitowoc County	1.00
Geo. A. Brill, Elk Mound ...	1.00
Miss Mathilde Candler, Cassville	1.00

Work for August

Dr. E. F. Phillips, Dr. Demuth, E. R. Root, Mr. Hawkins, Mr. Atkins and perhaps Mr. C. P. Dadant will be with us at the Beekeepers' Chautauqua at Chippewa Falls, August 15th to 20th. By that time you ought to have the honey crop off and be ready for a little vacation. Why not spend the week with us?

Monthly News Reports From Local Associations

April 12—Condition of bees: good. Clover coming good. We will hold a summer picnic and demonstration at the Mongin Bee Yards on August 27th. The bee association pooled their orders for bee supplies and made a saving of 18 per cent. We will have a booth at the coming industrial show at Green Bay and advertise the merits of Wisconsin honey.

Reporter, J. N. Kavanaugh, Brown County Beekeepers' Association—40 members.

April 9—Bees are in good condition with a lot of pollen coming in. About 5 per cent winter loss, half of this being due to poor honey and lack of requeening. One fourth extracted honey on hand.

Reporter, Leo Germain, Chippewa Valley Beekeepers' Association—21 members.

April 11—Condition of bees good. Put out early but doing good. Some need feeding if poor weather continues. I fear spring losses. From 10 to 20 per cent winter loss. Mild weather, uneasy, hence starved. Some queenless. Fruit trees coming in bloom. Dandelions growing fast. Extracted honey held for feeding. Anxious for countywide cleanup on bee diseases. Annual meeting of this association held April 23rd.

Reporter, A. A. Brown, Sec'y.-Treas. Dodge County Beekeepers' Association—21 members.

April 15—Condition of bees good. Per cent of winter loss and cause: 10 per cent. Short on winter stores.

Reporter, J. G. Mckerlie, Grant County Beekeepers' Association—21 members.

April 8—Bees are in excellent shape, very strong. No winter loss, 100 per cent perfect. Clover looks fine. Very little extracted honey left.

Reporter, Edward Hassinger, Jr., Fox River Valley Beekeepers' Association.

April 11—Condition of bees fine. 5 per cent—Starvation 1 per cent, clogged entrances 1 per cent, poor queens, 3 per cent. On low land clover seems to be alright. I don't know about high ground. It was very dry last fall. About 2,000 pounds extracted honey on hand.

Reporter, F. E. Matzke, Green County Beekeepers' Association—18 members.

April 12—Condition of bees above average. 25 per cent loss on account of poor fall management.

Reporter, W. R. Abbott, Jefferson County Beekeepers' Association.

April 9—Condition of bees good. Wintered fine. Outdoor wintered two and three frames brood April 1st. Outdoor: 190 colonies examined two smothered; cellar wintered 100 examined, 1 starved, 6 died from dysentery. Condition of nectar secreting plants good as far as can be estimated. Soft maple in bloom. About 2,500 pounds extracted honey on hand. On April 15 a demonstration was planned at Blanchard's apiary but weather conditions interfered and the meeting was held indoors. A demonstration in May will be held at a nearby apiary and in June a tour of the apiaries in Langlade County is planned. Association is coming up in fine shape; beekeepers enthusiastic and meetings so far have been well attended.

Reporter, Mrs. D. A. Blanchard,

Langlade County Beekeepers' Association—45 members.

April 8—Condition of Bees: 100 per cent of those that went into winter quarters in fair condition. Only queenless colonies reported in bad condition. Probably 3 per cent winter loss on account of very late swarms and queenlessness. Everything in good condition including clover. About 7,500 pounds known to be unsold. Both amateurs and "old timers" inquiring where they can buy a few more colonies. The members of our association purchased $762.48 worth of supplies at a discount of $150.00 below list price. Several later orders are expected. Lower prices seem to have had much effect on the "spirit of beekeepers."

Reporter, C. D. Adams, Milwaukee County Beekeepers' Asosciation—50 members.

April 8—Condition of bees 100 per cent better than last year. Winter loss about 5 per cent due to queenlessness. Clover was thought to have been killed this winter but looking the fields over it seems to be fairly well. About 25,000 pounds extracted honey on hand.

Reporter, Martin Krueger, Northeastern Wisconsin Beekeepers' Association—51 members.

April 11—Fine, as good as they ever came out in spring. From reports I judge bees had wintered unusually well in this section of Wisconsin. Very small amount of extracted honey on hand.

Reporter, B. J. Thompson, Pierce County Beekeepers' Association—13 members.

April 13—Condition of bees good. 1 per cent winter loss probably due to old queens. The quarterly meeting of the association was held Saturday, April 30th at Richland Center.

Reporter, James Gwin, Richland County Beekeepers' Association—28 members.

April 7—Condition of bees fine. 5 per cent winter loss—pollen clogged, dysentery. Clover 85 per cent. New seeding all alive, old partly killed out. Dandelions look fine. 20 per cent extracted honey on hand.

Reporter—Ivan Whiting, 18 members. Sheboygan County Honey Producer's Association.

April 14—Condition of bees fair. About 5 per cent winter loss and condition of bees at present is poor. Condition of nectar secreting plants is good. About 1500 pounds extracted honey on hand.

Reporter, Leonard E. Cass, Vernon County Honey Producer's Association—31 members.

April 12—Condition of bees good, with plenty of bees in hives that had sufficient stores for winter and spring. Per cent of winter loss and cause: 10 per cent, lack of stores and uneasiness in cellars. The outlook at present is good for a honey crop, as clover has wintered well and has got a good start. Very little extracted honey on hand. A beekeepers meeting was held at Hancock April 27. The spirit of the beekeepers is good.

Reporter, Lester Baldwin, Waushara County Beekeepers' Association—24 members.

April 12—Condition of bees is good on the average. With a favorable fall, brood rearing was continued late so that plenty of young bees went into winter quarters. Per cent of winter loss and cause very little, will not average over 3 per cent. My own is less than 2 per cent due to queenless colonies. Condition of nectar secreting plants: prospects good at present. Prospects did not look very favorable a month ago, but recent rains have given the clover a good start. Many of the beekeepers are becoming interested in the new marketing organization. It is hoped that it will be rounded into shape by the time the crop is off the hives. Personally I feel that we can sell every pound of Wisconsin honey in Wisconsin, if we all put our shoulders to the wheel and boost things along.

Reporter, C. W. Aeppler, Waukesha County Beekeepers' Association—31 members.

April 13—Condition of bees as far as I can hear or learn about normal or say 75 per cent. Per cent of winter loss and cause: Among farmers quite heavy, some as high as 85 per cent; those who are making beekeeping a business about 12 to 15 per cent. Condition of nectar secreting plants: White clover, also a'sike, is looking very fine. About 10 per cent extracted honey on hand.

Reporter—W. T. Sherman, Walworth County Beekeepers' Association, 14 members.

April 13—Bees are in good condition. Unless conditions should change all colonies ought to be in the best condition when the honey flow begins. Winter loss has been about 5 per cent, due to lack of stores and foul brood. It is impossible to determine the condition of nectar secreting plants at this time. Clover has suffered. Winter killed to some extent, especially alsike. Very little extracted honey on hand.

Reporter—A. H. Seefeldt, Washington County Beekeepers' Association—26 members.

Treatment of Brood Diseases and Maximum Honey Production.

In order to produce a maximum crop of honey in any locality it is necessary to be familiar with the principles of bee behavior. In a locality where American or European foul brood is present it is not only necessary to know bee behavior, but also to know the behavior of the organisms which cause the diseases. At the present time our knowledge of the diseases is somewhat limited, but we have at least a very good working idea of them. Before attempting to treat colonies for either of the diseases, it is very important to know which disease has to be handled, as the behavior of the germs causing one disease is entirely different from that of the other. For example, the American foul brood organism is capable of producing spores which are extremely hard to kill. The spores exist indefinitely in the dried up remains of the larvae. The scales stick fast to the cell walls and the bees are unable to entirely remove them. In the case of European foul brood spores do not appear to be formed and the dry scales can be removed fairly easily by the bees. It is, therefore, not necessary to shake colonies affected with European foul brood, whereas it is absolutely necessary to do so in the case of American foul brood, otherwise the colonies should be destroyed to prevent the spread of the disease.

Bees when gathering nectar place a considerable quantity of it in empty cells in the brood chamber. In this way, if American foul brood is present, some of the nectar is likely to go into cells containing particles of the scales. As soon as this happens spores of the disease float out into the nectar. Since nectar is moved around a good deal in the hive in the process of ripening it, the spores of American foul brood are more than likely to find their way into the supers. This makes it necessary when treating for American foul brood to not only thoroughly boil or destroy all brood combs, but also any super combs which may have been on a colony infected with the disease. Where only one cell of American foul brood appears in a colony, it is absolutely necessary to treat the colony. If the diseased cell is cut out, other infected cells will appear within a very short time. Cutting out diseased cells does not remove the cause as the spores are likely to be in honey in any part of the hive. In order for the beekeeeper to produce a maximum crop of honey in an American foul brood locality it is necessary to examine the brood combs carefully every few weeks

during the active season. The strongest colonies may possibly contract American foul brood first, as they have a larger working force in the field than weaker colonies, with which to over power colonies weakened by the disease. However, when a strong colony contracts the disease it quickly loses strength and in a comparatively short time may be robbed out.

In the case of European foul brood the weak colonies are usually the first victims of the disease. Since we all agree that prevention is better than cure, we should eliminate to the greatest possible extent the occurrence of weak colonies in the spring by providing the best possible conditions for wintering. Another operation in the treatment of European foul brood is the introduction of prolific Italian queens. Where much disease is present it is helpful to place the diseased brood above a queen excluder with the new queen below on one or two combs of healthy brood and empty combs in another hive body.

The introduction of Italian queens would be profitable even if European foul brood were not present as Italian bees are in general much better honey producers. In other words the fundamenta's which prevent European foul brood from becoming serious in an apiary are the same as far as they go in producing a maximum crop of honey.

European foul brood spreads more rapidly when no honey is coming in. It is, therefore, a good plan under such conditions to feed a one to one solution of sugar sirup to the infected colonies. This procedure is especially beneficial in the spring.

When a careful look out is maintained for disease it is usually possible to make the treatment for American foul brood at the beginning of the main honey flow. By so doing the largest possible field force has been obtained for the honey flow and at that time there is the minimum quantity of honey in the hives. The important point to bear in mind in treating American foul brood is that the spores of the disease are in the honey and if any healthy colonies get any of it, they are more than likely to contract the disease.

The treatment should always be made during a honey flow to prevent robbing. Much care is necessary to prevent honey from being spilled on the ground and on hives, and also to prevent the bees from gaining access to the diseased combs of honey and brood. The combs should be cut out of the frames in a bee tight room and boiled in a closed vessel for at least 45 minutes, or destroyed by burning in a hole at least one foot deep to prevent honey from flowing over the surface of the ground. The earth must be packed into the hole again as soon as the fire has burnt itself out.

In an apiary where a few colonies are to be treated, the utmost care should be used, otherwise all the colonies may get the infection and possibly spread it to other apiaries in the neighborhood. With the efficient foul brood law that Wisconsin has, in many cases it pays to destroy the colonies rather than try to treat. By so doing there is less danger of spreading the disease. Where the beekeeper has the protection of a good law he is less likely to get the disease from other apiaries, and should therefore do everything within his power to clean out the disease from his own yards. The sooner this is done the more profitable honey production will become in an American foul brood locality; and by good methods of beekeeping European foul brood will cease to be the cause in the reduction of the honey crop.

E. W. Atkins.
G. B. Lewis, Co.,
Watertown, Wis.

Method of Treatment

Regardless of the plan to be used, the principle is the same in every case, removal of infected honey and disease bearing combs. After trying several methods of accomplishing this and observing the results, the following method is considered the most simple and is reasonably safe if carefully done.

1. Colonies that are known to be diseased should not be given extracting combs prior to the treatment. If colonies have been supered and the bees have built comb between the frames, lift off the extracting supers and starting with the one next to the brood chamber, draw a knife between each frame and separate it from the next. **Do not do this until the super is placed back on the hive.** The operator should carry a can of steaming hot water with him and drop the knife into the water while moving the supers. Be careful not to allow any honey to drop outside the hive. **This operation should be done the day before treating so that the bees will clean up the edges of the comb.** The job of treating will then be less messy and the chances of dropping honey outside the hive will be greatly reduced.

2. Select an empty hive body that is bee tight and nail a tight bottom to it. Then, place a cover on it that can be moved freely back and forth when diseased combs are being put into it.

3. If the colony is only of medium strength, use one brood chamber with full sheets of foundation. With unusually strong colonies use two. Place an empty super on these to brush the bees into.

4. Place the hive body which is to receive the disease combs, to the left and rear of the colony to be treated, and place the supers of foundation and empty super at the left of the diseased colony.

5. Now lift the diseased hive from the bottom board and place on a tight fitting board at the right of the old stand. Then place a tight fitting board at the right of the old stand. Then place a queen excluding board on the bottom board still on the old stand and set the clean hives and super on top of the queen excluder. The excluder will help a great deal to keep the bees from absconding.

6. Slide the cover of the diseased colony slightly to one side, life out a frame and stand the frame on top of one of the frames below the empty super into which the bees are to be brushed. The bees may then be brushed off and honey will be thrown onto the frames and less honey will be carried into the new hive than when the bees are shaken from the frames. As soon as the bees are brushed from the comb, place it in the hive body at the left and cover.

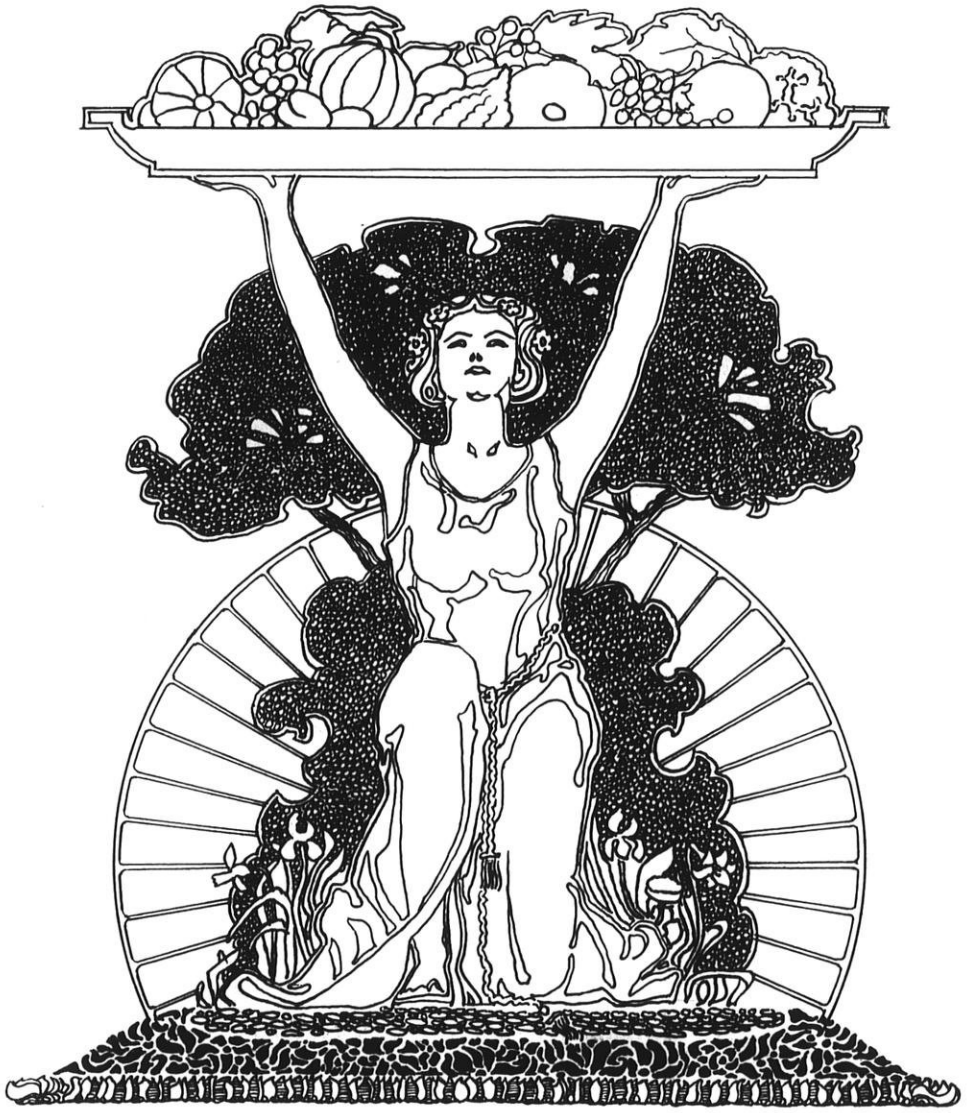
If more than one hive body was on the diseased colony stack them one above the other with a bee tight board below and the cover above. When the frames from one body have been removed, shift the empty body to the top of the hive body now holding the diseased combs and use it to hold the next set of frames.

7. As soon as a colony has been treated, remove all infected combs to the storeroom before treating the next colony.

8. **Do not wait until fall or winter to melt up the wax and clean the combs but do it at once. Otherwise you are almost sure to have your yard accidentally reinfected before fall.**

With the most careful treatment reinfection may appear in a few colonies either the same or following year and these should be treated or destroyed as soon as a few cells appear.

WISCONSIN HORTICULTURE



OFFICIAL ORGAN OF WISCONSIN STATE HORTICULTURAL SOCIETY
Volume XI Madison, Wisconsin, June, 1921 Number 10

Count the Trees

The city forester of Milwaukee has counted Milwaukee's street trees. His account of the tree census and of tree planting is interesting. Street trees in most Wisconsin villages and cities are entirely neglected; no regulations exist regarding planting nor any public supervision or care of the trees. As a result property owners plant whatever they please, wherever it pleases them, and if it pleases them they trim them with an ax or a bucksaw or not at all.

In Madison one regulation only is enforced, so far as the writer knows, that street trees shall be trimmed so that branches shall be at least 9 feet above street or sidewalk.

These conditions are deplorable but while we cannot expect to right every wrong at once let's start something anyway. Why not take a tree census in our town? Perhaps the school children or the Boy Scouts would like the job. It would be better if grown-ups did it. Let someone report the number and species of trees in his block, the perimiter of the block, report thru the local paper and challenge others to do the same.

It is not that the number of trees in a city is a matter of vital importance but these volunteer census takers will learn something besides the number of trees. If at all observant they will find that many of the trees need care; many are poor kinds; many gaps exist in the tree row and a number of other things depending on ability to see things. Quite likely it will set a number of people to thinking about trees and that will help a lot. Try it. Here is the Milwaukee story:

"The city forestry division, under the jurisdiction of the board of park commissioners, entering upon its third year of activities, completed the taking of the census of the trees in the highways of the city of Milwaukee.

"The 82,392 trees are in varieties and numbers as follows: Elm, 37,239; soft maple, 15,081; box-elder, 8,130; basswood, 6,366; ash, 3,807; poplar, 2,712; Norway maple, 2,682; Catalpa, 2,622; sugar maple, 2,082; horse chestnut, 930; willow, 339; ironwood, 171; birch, 51; honey locust, 45; Hawthorn, 36; mountain ash, 36; oak, 15; pine, 15; Ginkgo, 9; hickory, 9; butternut, 6; mulberry, 6; sycamore, 3.

"This year's spring planting in the highways of the various parts of the city, after the usual due notifications of the property owners directly interested and in the varieties and distances specified in the adopted rules, consisted in the planting of 1,150 two inch elm, and 650 Norway maple, as well as 500 elm and Norway maple for replacements; which work included the supplying of top soil, staking, inch mesh guarding with No. 8 ties, watering, and mulching at the actual cost of $5 per tree.

"Eight thousand six hundred and eighty trees were sprayed for the extermination of the tussock moth and the checking of the scurvy scale in the districts badly infested. The aphides which were very troublesome this season because of the unusual weather conditions required considerable attention.

"The pruning of 3,450 trees was done throughout the city as long as the season permitted. The work of trimming out the too thickly planted Norway maple on Newberry boulevard was continued and about four blocks completed. More than 300 dangerous and dead trees were removed with roots grubbed out, besides the issuance of permits for removals.

"During the fall planting season 175 large trees from six to nine inches in diameter were moved with clay balls, 1,400 shrubs were planted, and 1,200 Norway maple lined out in nursery rows.

"Subirrigation systems facilitating the application of both nourishment and moisture were installed in various localities where, because of poor soil and close planting, trees were in a starving condition.

"In some tree borders where trees were too closely planted alternate trees were removd so as to save those remaining. This too closely planted condition throughout the city will require action in the very near future to save many of Milwaukee's trees. Property owners, upon giving this thought, will realize this necessity. One of the great evils in all cities where systematic planting has not been undertaken is the crowded condition of the tree borders."—Milwaukee Sentinel.

The Weather Bureau is anxious to serve the Wisconsin fruit growers. What service is needed in addition to that we now have? How can the present service be improved? The Bureau has been granted a small appropriation to be used wholly for the protection of fruit crops and Wisconsin will get a share of it if we can show that it is needed. Please communicate with the secretary, F. Cranefield, at once. Tell us fully what service you desire of all governmental agencies and we will pass the word along to "those in power."

Roses.

June is the month of roses. Also of rose bugs and diseases. None of these enemies need cause great concern; all can be controlled and we may have fine bloom, clean, healthy, shining foliage and vigorous plants in spite of them. Sometimes I think because of them.

Three things are needed: thoro conviction on your part that you are bigger than any bug or any aggregation of bugs; a "bucket" sprayer (the little mason jar or tin squirt guns are an abomination); a quantity of arsenate of lead, nicotine sulphate and some lime-sulphur. The arsenate of lead is for slugs and other eating animals, the nicotine sulphate for aphids, commonly known as "lice," and the lime-sulphur for mildew.

These used singly are needed or in certain combinations will insure results stated above, for all except the rose chafer. When this offspring of darkness comes, say your prayers. Aside from that there is little that will avail. This pest comes overnight, in great numbers, and eats buds, blossoms and leaves while you are getting ready. Try arsenate of lead, plenty, with something sticky, say molasses, and then hope for the best.

Mildew attacks mostly climbing roses and other kinds that are planted close to buildings. Roses thrive best out in the open where there is a free circulation of air at all times. Try lime-sulphur solution 1 to 40. Usually it kills the mildew and sometimes the foliage. Dry sulphur dusted in the leaves sometimes kills the mildew.

Send us some good rose photographs.

We All Get This Way.

Oak Holler, Wis.

Dear Friends:—It's hard work to write when the orchards and the woods are calling me—I just want to run away to the woods and the water, to wander through the orchards, to listen to the chirp of the robin and the song of the wren, to see how near I can get to where she is building her nest before she commences to scold me and tell me to go on about my business.

I wouldn't care if this editor man scowled or not; I wouldn't care if there were dandelions in my strawberry patch; nor if the seeds were planted in my garden beds—I would just go and play for a spell.

Those old-fashioned ideas I learned in that old-fashioned garden of my grandmother's when I thought I was having such a good time tagging around after her.

I did run away for a time to a beautiful old farm where the apple, cherry and pear trees were in bloom, where stately evergreens shield a low, rambling old white farmhouse, whose door opens hospitably as you drive up and whose sweet-faced, white-haired mistress greets you warmly. I like to go there. I always feel as I drive away that I want to go back. Isn't that a nice, comfortable feeling to have when your visit is over—the desire to go back again? There's a charm about this old-fashioned home that three generations of the same family have lived in. There's a happy blending of old orchard and young, of years-old spruce and balsam with tiny trees just set out. The old-fashioned house is flanked with new-fashioned barns. Tractors and horses work the broad acres, gasoline engines pump the water, churn the butter and do the washing. Inside the house the big, low, old-fashioned rooms with windows filled with plants provide a proper setting for home-like furniture.

Every time I go out there I think what a pity there aren't more farms like this. It's a great thing to live on a farm that your father and his father wrested from the wilderness—to know they loved the same home and trees you are loving and living with. We need more of these homes; it's a great heritage to hand down to the coming generation. We need to get that feeling of peace and contentment. So don't feel discontented, you mothers and fathers, when your boy or your girl decides they want to live on a farm instead of following the other profession you have chosen for them.

—Johnnie.

Some printer put it "Fiends of Our Native Landscape"—which is really not so bad!

Announcements.

The Summer Meeting of the State Horticultural Society will be held in Oshkosh, August 17th and 18th.

Owing to the enforced absence of Secretary Cranefield, Vice-president H. C. Christensen, 1625 9th St., Oshkosh, will have charge of arrangements for program, outings, etc.

Inquiries concerning the Summer Meeting should be sent to Mr. Christensen.

The July issue of WISCONSIN HORTICULTURE may be much delayed. Readers are asked to be patient.

Wisconsin Horticulture
Published Monthly by the
Wisconsin State Horticultural Society
16 N. Carroll St.
Official organ of the Society.

FREDERIC CRANEFIELD, Editor.
Secretary W. S. H. S., Madison, Wis.

Entered at the postoffice at Madison, Wisconsin, as second-class matter. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1918.
Advertising rates made known on application.

Wisconsin State Horticultural Society

Annual membership fee, one dollar, which includes fifty cents, subscription price to Wisconsin Horticulture. Send one dollar to Frederic Cranefield, Editor, Madison, Wis.
Remit by Postal or Express Money Order. A dollar bill may be sent safely if wrapped or attached to a card. Personal checks accepted.

Postage stamps not accepted.

Something Must Be Done; Let's Do It

It has been said that there are at least three kinds of liars: liars, damn liars and fishermen. Also it is beginning to be evident that there is a similar classification for thieves, the superlative kind being the "highly respectable" who own automobiles, either in fee simple or mortgaged; the kind that raids gardens and orchards, committing petty and grand larceny. Clever (?) people, from the city, always, who would not dare steal from a neighbor's garden, who would froth at the mouth if you called them thieves, just common thieves, who go out into the country in automobiles and return with wild flowers and plants dug from the roadside or from private property, who brazenly enter gardens and gather vegetables of any and every kind, who enter orchards or front yards where fruit trees are growing and, not only steal the fruit but damage the trees. If remonstrance is offered by the owner it is usually met with abuse.

Quite often the male thief remains in the car while the females of the species do the raiding. Being too much of a coward to venture out himself he hides behind women's skirts, or so much as are left of them.

There may be some who read this who will doubt if such things are possible, that people who pose as respectable at home, who ride in automobiles, actually do such things. For answer ask almost any farmer or gardener in this or any other state.

The editor has heard related instances by trustworthy people that really seemed beyond belief.

Such things have happened hundreds of times and the contemptible practice is increasing. It is a serious matter, not only the standpoint of financial loss to the farmers, fruit growers and gardeners, and the growing disregard for property rights, but the bitter feeling engendered. Farmers feel, and rightly, that they are held in contempt by city people, that their rights are not worth consideration. The most regretable part of the whole dirty business is that the thieves are generally ones who want to be considered respectable at home.

Now what can be done to protect ourselves? We cannot advocate violence, although Editor Collingwood of the Rural New Yorker suggests flogging. This punishment seems fit.

One way, and a good one, if you can catch the thieves, is to invoke the law. Secure the license number, swear out a warrant and appear against them. The trouble lies in catching them.

You cannot spend all of your time in watching your crops, but you have a telephone and every automobile has a license number.

If the thieves get away before you can get the license number, telephone down the line to your neighbors and have them spot the car. When you get this write or wire the facts to this office. Just across the street from this office is the office of the Secretary of State; every license number is on file.

We do not care to outline our plan of action just now but we will see what publicity will do, both statewide and thru your local paper. **Be sure of your facts.** Be sure about the license number, the number and sex of the thieves and as full a description of them as possible.

To protect yourself this Society will help to protect you. No communication will be published without consent of the writer but expressions of opinion on this subject for publication are most earnestly desired.

By the time this is printed, June, the thievery will be well under way. Play detective, suffer the loss from one raid in order to get the license number and other facts for identity and report at once to this office.

Who Knows?

A member asks: "Do you know anything about the Golden Winesap apple or the Red Wing apple? Would it be advisable to plant them in Lincoln county?"

"Red Wing" sounds like Minnesota, but "Golden Winesap" is a new one. Who knows?

Asked for Bread And,—

This is a hard, cold, unfeeling world. When you try to do a good deed you are too often misunderstood; someone accuses you of ulterior motives. As an example, last month we recommended a list of apples for Forest county, including two Hibernals. Now here comes Kern of Sparta, who says:

"Dear Cranefield:

"Have you some old grudge against the unfortunate, who is leaving Milwaukee for a new farm in Forest county, when you recommend the planting of two Hibernals, or are you getting a commission on sale of that variety of apple trees to help nurseries dispose of the undesirables? Or, are you aiding the sugar trust? Either of the above offenses should be made criminal and a secretary found guilty punished according to law. You should be kind to the poor unfortunate. He will remember you to eternity if he ever fruits the Hibernal and tries to eat it. I should prefer to go down in the annals of horticultural history as a "friend" of the beginner rather than languish eternally in the infernal regions for guilt of such an unkindness, even if it is a cold day. Sincerely, Kern."

Now, everybody who knows the Hibernal knows it will live in Forest county, that it will make a fine, sturdy tree with big, shiny leaves, an ornament to any front yard and that the wood is valuable for many purposes. It will also bear apples. Nothing was said about eating the apples.

Persiflage aside, the writer has no hesitation in recommending the despised Hibernal for northern Wisconsin. The tree is as hardy as the native pines, the fruit when thoroly ripe is much better than no apple at all, quite the equal of Ben Davis but will not keep as long.

Easter Lily Blooms From Seed in Fifteen Months.

Commercial florists may become independent of imported lily bulbs for forcing for the Easter trade, in the opinion of specialists of the Bureau of Plant Industry, United States Department of Agriculture.

When it first became known that experiments in raising Easter lilies from seed were being carried on by the Department of Agriculture, few florists were prepared to believe that the undertaking possessed any commercial value beyond the possibilities of producing new hybrids. The results of these experiments, which have now been carried on for four years, indicate, the department specialists believe, that this country can develop an important industry.

Imported Bulbs Often Carry Disease

Heretofore practically all the Easter lilies produced in this country have been grown from bulbs imported from Bermuda and Japan. In these countries the bulbs are grown in the open and by the time they are ready to be dug and shipped the season is well advanced. When the bulbs reach this country it is necessary to force them rapidly in order to get blooms by Easter. Another disadvantage in using imported bulbs, the specialists point out, is that frequently they carry diseases which cause severe loss to the florists.

On the Arlington Experimental Farm, which is just across the Potomac River from Washington, department specialists produce the lily seeds in greenhouses by artificial pollination. These seeds are planted about January 1, pricked out into small pots, and in May the young plants are set in the open ground. They develop rapidly, and by July or August some of the plants reach sufficient size to bear blooms. In October or November the plants are lifted, potted, and removed to the greenhouse. Without undue forcing the plants will come into full bloom the following February to April—15 months after the seed had been planted. Those plants which bloom in July or August and from which the bloom stalk has been cut may send out two or three stalks and can be forced to bloom again by Easter.

Practically no losses have been experienced in growing bulbs from seed, and a remarkably large number of bulbs can be secured in a short time. On the Arlington Farm this work was begun about four years ago with five plants, and there is now a stock of between 15,000 to 20,000 bulbs in the field which were protected by heavy mulch during the winter, and approximately 1,500 plants blooming in the greenhouses.

It is interesting to note that the bulbs grown from seed produce a larger number of blooms than those imported from Japan and Bermuda. One commercial grower, who imports a million bulbs from Japan annually, reports to the department that he produces an average of 2½ blooms for each bulb. In the Arlington greenhouses bulbs grown from seed produced as many as 12 or more blooms, while 7 to 10 flowers on a stalk are common.

THE INSECT PAGE

Conducted by the Department of Economic Entomology College of Agriculture

Grasshoppers Again!

Have you ever heard of banana oil (amyl acetate)? It is a colorless liquid which has a very penetrating odor somewhat like bananas and pears. The Montana Experiment Station has shown in grasshopper campaigns the past two seasons that amyl acetate is far more attractive to grasshoppers in poison bait than lemons, oranges, or salt alone. "County agents and farmers having once tried the amyl acetate flavored poisoned bran mash would use nothing else."

This oil may be secured thru drug stores and is well worth trying. It is cheaper than lemons, reduces labor in mixing, and it also adds greatly to the effectiveness of the bait. The formula to use then would be as follows:

Bran .....25 lbs.
Paris green or white arsenic.....
.....1 lb.
Salt .....1 lb.
Amyl acetate.....12 teaspoonfuls
Water .....10 quarts

—Charles L. Fluke.

How to Check Pocket Gophers

Judging from the number of letters received, pocket gophers are becoming a serious menace to Wisconsin farmers. The following control measures are advocated by the Biological Survey at Washington:

Pocket gophers are readily caught in any one of several makes of special traps commonly on the market, and a few of these suffice to keep small areas free of the pests. For ridding alfalfa fields, orchards and long stretches of ditch embankments of them, a very successful and much more practical method is to poison them by use of baits of sweet potato or of parsnips placed in their underground runways.

The baits should be cut about 1 inch long and ½ inch square and washed and drained. From a pepper box slowly sift ⅛ ounce of powdered strychnine (alkaloid and 1/1) of this quantity of saccharine (ground together in a mortar) over about 4 quarts of the dampened baits, stirring to distribute the poison evenly.

The runways, which are usually 4 to 8 inches beneath the surface, can be located by means of a probe made of any strong handle an inch in diameter and 36 inches long. One end should be bluntly pointed. Into the other should be fitted a piece of ⅜ inch iron rod, protruding about 12 inches, and bluntly pointed. A foot rest aids in probing in hard soils. By forcing down the iron rod near gopher workings, or a foot or two back of fresh mounds, the open tunnel can be felt as the point breaks into it. The blunt end of the instrument is then used carefully to enlarge the hole, a bait or two is dropped into the run, and the probe hole closed.

One soon becomes expert in locating the runs and a man can treat 300 to 500 gopher workings in a day. Baits need be placed at only two points in each separate system of 10 to 30 mounds, which is usually the home of a single gopher. Experience has shown that baits placed fairly in the open run invariably kill the gophers. The method has found great favor whever introduced.

Caution.

All poison containers and all utensils used in the preparation of poisons should be kept plainly labeled and out of reach of children, irresponsible persons and live stock.

Nicotine Sulphate Dust for Truck Crop Pests

Nicotine sulphate dust has been so effective against the walnut aphis that the Bureau of Entomology, United States Department of Agriculture, decided to test it on truck crop insects. Recommendations based on the results of these tests are to be found in Department Circular 154.

While a 2 per cent mixture of the 40 per cent nicotine sulphate was sufficient to kill the walnut aphis, it was soon apparent that for other species a stronger proportion must be mixed with the kaolin. The melon aphis required about 5 per cent of the poison, but with that amount the results were entirely satisfactory. The most satisfactory type of machine for applying the dust was found to be a hand-operated bellows duster. With such a machine one man can cover two acres of full-grown melon plants in a day, using about 50 pounds of the mixture. The nicotine sulphate-kaolin mixture costs about 12 cents a pound in the 5 per cent strength.

The cabbage aphis succumbed to a 6 per cent mixture. The pea aphis, onion thrips and western cucumber beetles were all susceptible to the dust in various strengths. The proper proportions and methods of application are given in the circular.

The development of this poison puts a very effective weapon in the hands of the truck grower, specialists of the department say. Dust can be applied more easily and quickly than spray, and larger areas can be treated in a given time. Its killing efficiency is always equal and usually excels that of spray. It costs less than spray and power dusters are cheaper than power sprayers. In dust form the poison can be combined with arsenate of lead or sulphur and applied dry for insects and fungous diseases.

Nicotine dust will lose its strength if it is not kept in air-tight packages. It is sometimes disagreeable to the operator, particularly if the latter is inexperienced. It cannot be combined with Bordeaux mixture except when the latter is dry.

In action the nicotine sulphate is similar to nicotine sulphate spray but much more rapid. When used as recommended by the Department of Agriculture, the dust has proved superior to spray in controlling certain insect pests.

Edible and Poisonous Mushrooms

Mrs. J. E. English, Baraboo

In these day when everyone is seeking for good food at reasonable prices, we turn with redoubled interest to edible mushrooms which are provided for us like manna from heaven, without toil and without price.

This vegetable food, which has great nutritive value, is said by some authorities to be of little benefit to us, as for some mysterious reason we do not assimilate the nourishment it contains. However, I am not convinced that this is true. I have often noticed that a meal at which mushrooms were the principle dish was quite as satisfactory and sustaining as one where meat was served. At any rate, they make a very inviting and appetizing change in our bill-of-fare, and the fact that birds, squirrels and many animals eat them indicates that their food value is assimilable.

There is no one rule by which to determine whether or not a fungus is edible.

If you want to be able to distinguish them either have a teacher or get "The Mushroom Book" by Nina L. Marshall, or "A Thousand American Fungi" by Chas. McIlvaine, which is somewhat more scientific than Miss Marshall's book.

If you are fond of the natural sciences you will find fungi a most enjoyable study. In the first place learn the different parts of the plant. Then cut the pileus or cap from the stem of a specimen and place it with the gills down on a piece of white paper, and leave it undisturbed for several hours. On lifting the cap carefully you should see the spore print. Examining that with a magnifying glass you will find it made up of tiny spherical forms. The color and shape of these tiny spors determine the series to which the fungus belongs. Now by careful observation of its various characteristics you can go on and classify it. You may have the pleasure perhaps of discovering new varieties, for new kinds appear often.

There are the white-pink or red-tan-brown or purple and black spored series.

In the white spored series are

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Natural Park Areas

The movement that is on in Wisconsin to preserve places of striking natural beauty in their wild state should be supported by all. If something is not done at an early date, posterity will be penalized for our lack of vision as to the true value of preserving healthful and recreational fields. It is a move in which farmers, merchants, manufacturers and professional men, especially, should interest themselves. It will mean so much to all men, women and children of all ages to have preserved wild park areas.

Importance of Keeping Young

Too many men in middle life learn from sad experiences that the enormous amount of energy, enthusiasm and both physical and intellectual energy which they had accumulated during their childhood and youth on the farm, in the village, along stream, around lakes, became exhausted because of the lack of opportunity for health and recreational areas suitable for them during their adult life. Too many men fail to know the importance of preserving their physical strength at all times and in consequence thereof, we find their untimely separation from service and their health, energy and enthusiasm taken from them because of their failure to go out-of-doors to enjoy advantages that park areas supply.

Wisconsin Should Imitate

The Hanging Gardens of Bombay and the Parks of Calcutta have proven great assets to India. Switzerland's beauties have been enhanced by the preservation of park areas in county and in city. Geneva is noted the world over for her attractive courts, her wonderful roads and her beautiful park areas. You find it on every hand in Geneva—gardens, trees, shrubs and beautiful lawns. Wisconsin should not hesitate to imitate Switzerland because the state is termed rightly "The Switzerland of America."

The Demand for Beauty

We all realize that barren fields are no more inviting than barren walls, board fences and belching smoke-stacks. Barrenness always causes depreciation and lack of true enjoyment. It causes mankind to lose its better human impulses. There is a deep-rooted instinct in man that demands nature. The sight of trees and flowers has a soothing effect on the mind and soul, it refreshes and cheers. It is well known that the presence of trees and flowers is felt even by the blind. Cities that have not realized this fact, or sections of cities that have not conserved park areas have had property values go down and down and down. This fact is true everywhere. Those cities that have provided park areas at convenient places have had property values facing on the parks increase more and more from year to year. Parks are nothing more than community lawns. The country needs community lawns or park areas for country folk just as much as the urban population needs same.

Patience Needed

Wisconsin has at least a thousand small areas that should be set aside and conserved as county parks. To succeed in the movement that is now on in Wisconsin we need the support and backing of every public spirited citizen. Those who are advocating the idea are looked upon as visionary men and women and will have to stand for insults and rebuffs from those who fail to comprehend the importance of the undertaking.

A survey should be made in Wisconsin this summer to determine the exact location of scenic hilltops, beautiful river banks, attractive lake shores and historic spots that would make suitable park areas. This survey should be followed up by systematic effort to secure title in the public from the private individuals for same. There should be no delay in this preliminary work if we are really anxious to preserve Wisconsin's wild natural beauty. Every year finds more woodlots cut down, more water fronts grabbed up by water hogs so that the public cannot obtain them for public use with funds that can be made available. Let friends take courage to press forward the movement to preserve and conserve wild natural beauty spots as park areas.

Source of Support

The Friends of Our Native Landscape Society, organized about a year ago, has for its cardinal principle this great work. It is an organization of men and women banded together for no selfish purpose but for the purpose of helping along the movement to make Wisconsin a better place in which to live. It behooves not only members of Friends of Our Native Landscape, but all good citizens to lend their support and exercise their energies to keep Wisconsin the "Yellowstone Park of the Middle West." Wisconsin has more beautiful drives and more scenic vistas along the drives than any state in the Union. Its highways are well built, well maintained, well marked and are inviting to

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Remove Tree Protectors

A member asks if tree protectors may be left on fruit trees all year. "Would it be harmful to the young trees, not getting enough light?"

It is not a question of light or shade as much as one of insects. The protector affords a made-to-order home for bugs of all descriptions and their abominable offspring. Therefore remove the protectors in spring and replace in October or November.

Even if there were no bugs it's so very easy to forget about the protector and its wire or string fastenings until some fine day we find a valuable tree girdled. When removing the protector search carefully at the base of the trunk, poke underground for an inch or two for wires that slip down—these are the dangerous ones.

Natural Park Areas.

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tourists to travel over. The hills, the valleys, the rivers and the lakes are not equalled in many sections and are not surpassed in any state. Let us capitalize this asset by home appreciation. To the hog, the diamond has no value whatever. Wisconsin's citizens must not stoop to the brute plane in the matter of lack of appreciation for our valuable asset. Wisconsin's wild native flowers, shrubbery and trees, especially along our highways, when not in line of traffic, should be conserved. Vigilance on the part of the citizens of the state in this matter must be exercised in order to assure preservation. Many road builders do not rise to the high plane they should in this matter. For this reason we have observed in many places the grubbing out of the wild sumac, the grape vine, the hazel brush and the columbine.

Destruction of Nature Must Not Continue

Is it possible that this vandalism, this destruction of wild native beauty must continue? Are we talking to those patrolmen as Mary talked when she said, "Stop, stop, pretty brook"? Is it not a responsibility that rests on highway authorities to say to the patrolmen and to other men who are continually needlessly destroying roadside beauty, "Stop, stop, no longer shall you be permitted to destroy Wisconsin's valuable assets," because as Browning says, "I am still a lover of the meadows, of the woods and the mountains and all that we behold from the green earth. This prayer I make, knowing that Nature never did betray the heart that loved her."

Nature has provided Wisconsin with tall pine, sturdy oak, bending elm, weeping willow, shrubs, hedges and trailing vines and it is our duty to see that this quietness and beauty which feed us with lofty thoughts, curb our evil tongues, soften our harsh judgments and make us forget our selfishness are preserved.

Free to Everybody

Suitable county park areas in Wisconsin are not distributed in one section or in one county but in every section and every county of the state. The springs by the roadside should be free to the public as sunlight and the atmosphere. This will be made possible if the program of The Friends of Our Native Landscape is carried

out. The problem must be approached in all seriousness and earnestness by men of understanding, vision and courage. It is a problem that will not be solved by the ignorant, superficial and selfish. It is vital to the welfare of the living and the countless unborn generations. Its proper solution will exalt the imagination, broaden the vision and deepen the pure and unselfish undertakings of mankind.

—John A. Hazelwood.

Poisonous Mushrooms.

(Continued from page 175.)

many of our valuable agarics and also the most poisonous one known, the Death Cup. Everyone should learn to recognize this dangerous fungus readily, as it has been the occasion of many deaths. It usually grows in rather sparse woods, singly, or two and very occasionally a cluster of three. The cap, or pileus, is white, buff or tan, from two to four inches across. The stalk is white and from 3 to 6 inches tall, and about it drops a beautiful deep annulus. At the bottom the stalk is surrounded by a cup or volva. I advise all amateurs to avoid using any mushroom which has a volva until they have become really expert in classifying varieties.

The good Lepiotas belong to the white spored series, but in this family is one very black sheep. It is most attractive, the large white caps glisten in the green grass. Their spore fruit condemns them —it is made up of pale green spores, and the mushroom is very poisonous.

From May to October you may look on your lawns and treebanks for the glistening Coprimus. for with the first warm rains of spring our little friends arrive. They are small, tan colored caps growing in large clusters, packed closely together. They have an agreeable, nutty flavor raw, and are delicious creamed. The Coprinus family is large. It has black spores. As they mature the gills deliquese and drip a black, inky fluid.

The Antramentarius is another fine member of this family, which also appears frequently throughout the season. It is gray and grows in great profusion where cottonwood or poplar trees have stood. It is a firm, meaty mushroom and a general favorite. The Shaggy Mane, which is found in the fall, is perhaps the best known member of this family. The tall, cone shaped caps are white trimmed with a little brown and look very stately in the green lawn. They are especially fine fried or in fritters. We might call the Coprinus family a domestic group, for the various edible members are found growing about our homes.

Just now, in May and June, are found the morels, Morchella Esculenta. They are easily identified for they much resemble a cone shaped sponge on top of a short, white, hollow stalk. The whole surface is pitted or honeycombed and the spore sacks are embedded in it. They are found under any nut bearing tree, and often in orchards and oak groves. They are most tempting rolled in flour and fried brown. This family has no poisonous members—not one of them is even suspicious.

Another family of which you need have no fear is the puff balls. None of them is poisonous. They should be gathered while the spore bearing interior is still

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A GOLDEN SEAL GARDEN

"It is wonderful" is sure to be the exclamation of everyone who views the magnificent growth of Golden Seal and Ginseng in the Williams-Meyer garden at Loganville.

The "garden" comprises an acre and a half all under "roof," every foot of ground occupied by healthy, thrifty plants, not a waste space, not a weed in sight, but a sea of sturdy stalks everywhere in the allotted enclosure.

Yes, it takes an enclosure to successfully grow either golden seal or ginseng—why—because both plants are native only of dense forests where they thrive only in rich, mellow, leaf-mold soil, modestly hidden beneath the dense foliage of forest shrubs, leafy ferns or tangled vines and briars.

To produce like conditions Messrs. Williams and Meyer have erected a shed or shelter and covered the sides and roof all with lath so that the light may filter through and the rain may not be excluded, for next to fertile, mellow soil, moisture and shade—both in the right amounts are necessary for perfect results.

They selected a sloping hillside, not too steep nor yet too flat for their experiment, for they started this plat some 8 years ago and when there were few who dared even in a small way to try to cultivate and grow either.

In the construction of this shelter more than 7,000 large posts were set and in all something like 75,000 feet of lumber are said to have been used.

While the structure itself involved a very large amount of work it was a small task compared to the infinite patience and labor required to search the woods for the plants.

Having their enclosure ready, the ground was platted in beds 6x50 feet or 6x100 feet as needed and the plants brought from the woods and transplanted or the seed gathered from the forest and planted here.

When the ground was ready and the seed gathered the seed was placed on top of the ground and the bed covered with leaves also brought in the autumn from the woods.

The golden seal seed seems to work itself into the ground and the next spring the first sprigs of the plant appear. With the ginseng it is different for the seeds do not germinate for a year and it is 18 months before the new plant shows itself above the ground and through the leaf covering.

As it takes about six years for either the golden seal or the ginseng to attain its majority a portion of the field will be ready to harvest this coming year.

Of the two plants, the ginseng root is the most valuable, pound for pound, but it is the hardest to produce and seldom does its best when grown alone. The market frequently quotes the dried roots at $12.00 to $15.00 per pound. By far the greater amount of ginseng is exported to China where it is highly prized as a medicine.

The golden seal is also valuable for its dried roots, the open market value being about one-third that of ginseng.

It is from the golden seal that some of the most used and highly valued medicine is made. The source of supply has been and still is that gathered from the wild by those who often make a business of searching the woods and gathering and drying and marketing the roots.

Golden Seal and Ginseng are both common or rather used to be common plants in the northern states east of Mississippi river, but like the buffalo, the deer and the wild fowl, the demands of the settlers have nearly caused their extinction.

In the early days Sauk County was an especially favored field for these plants. The fertile, mouldy soil, the dense shade and woody nooks and moist, woodsy places made ideal conditions for perfect growth and development of the plants and here they abounded and grew to perfection.

Even now it is not unusual for bands of Indians to come from their reservation near Tomah and camp along some of the streams and even on the ridges and stay several weeks in a place while they hunt for sang and seal.

Nor was it the Indians only who loved to profit especially in the early days, for many a settler found his tax money and the necessary "change" to run his household by spending a portion of his time in spring and fall, digging those roots. In the spring after a forest fire almost the first plants to appear would be the sang and seal and then were most easily found.

Within the last twenty years a "find" of sang only a few miles from the city of Reedsburg netted the lucky discoverer several hundred dollars and the roots were all dug in a day or two.

However, it is a fact that it is now a problem for the most diligent "sanger" to go to the woods and dig enough roots even to pay his board. The plant is getting very scarce and difficult to find and the high prices recently quoted have brought it near extinction.

It is this condition that has caused many people to try to raise the plants and not all have met with success, but there are many small p'ats in this and in other states.

Some idea of the labor and care required to properly raise these plants may be known when we learn that each fall the entire garden is covered with a thick layer of forest leaves. It is to this producing so nearly and so perfectly the natural conditions that these gentlemen have met with such success.

Certainly it is a beautiful sight in the spring time to see the many thousands of plants springing through the brown covering of leaves and later in the summer to behold the solid mat or carpet-like covering of the green, so thick as to show not a break or hardly the location of the paths between the beds, some 128 of them if all counted. Or perhaps the most beautiful of all is the autumn scene here when the ripening berries show their flaming scarlet of the ginseng mingling with the more sombre tones of the fruit of the golden seal showing through the solid mat of green leaves.—From Reedsburg Free Press.

Poisonous Mushrooms.

(Continued from page 179.)

white. After paring off the hard outer rind, cut in half-inch slices, dip in beaten egg and milk and fry slowly, keeping the pan covered. All mushrooms should be highly seasoned with salt and paprica.

I could go on telling you of numberless varieties which grow about us, for they are here in legions, but this little group of common ones are surely enough for one evening.

AMONG WISCONSIN BEE KEEPERS

Devoted to the Interests of The Wisconsin State Beekeepers' Association
H. F. Wilson, Editor

OFFICERS OF THE WIS. STATE BEEKEEPERS' ASSN.

Pres. L. C. Jorgensen, Green Bay. **Treas.** C. W. Aeppler, Oconomowoc.
Vice-Pres. A. C. F. Bartz, Jim Falls. **Secy.** H. F. Wilson, Madison.

Annual Membership Fee $1.00.
Remit to H. F. Wilson, Secretary, Madison, Wis.

American Honey Producers' League

Mr. H. B. Parks, Secretary of the League, writes that the Wisconsin Association is the first one to increase its membership over the necessary 100. We now have 105 members in the League. Every member of the League should have received a copy of the League Bulletin by this time and if not, please notify us and we will see that you get one. Mr. Parks writes that the material for national advertising has been made up and that an advertisement will soon appear. Wisconsin beekeepers have contributed $150 to the advertising fund and we hope that more will come in.

Wisconsin Honey Producers' Co-operative Association and the 1921 Honey Crop

In the next issue of Wisconsin Horticulture we hope to be able to present a plan of operation for the coming season. Our beekeepers should take an active interest in the development of this association, as the competition for a market is becoming greater all the time.

An Infallible Method for Introducing Laying Queens

The season for introducing queens on a large scale will soon be at hand. And since the loss of a valuable queen, caused through some blunder in the mode of introducing, produces one of the keenest disappointments in the much credished hopes of a bee enthusiast, I have concluded to publish my infallible method of introduction through the columns of the Wisconsin Horticulture.

The method is short and simple. A day, a week or a month before the new queen is to be introduced, place above a queen excluder a set of brood combs containing some honey, but no brood of any kind, over a strong, queen-right colony, having brood in all stages. Be sure the colony is real strong. Place the queen to be introduced, on top of the brood frames in the shipping cage she came in, if received through the mail. Or place in a round queen cage, between the top bars. Have a stopper of candy in the cage, and if a mailing cage remove the tin over the candy and place cage containing the queen, bees and all on top of the frame. Now take the hive, which should be well filled with bees, and place on a bottom board, cover up bee-tight, put a wire guard across the entrance so no bees can get out. Put the now newly formed colony where it is wanted. Leave closed up for three or four days, after which time remove the entrance guard at dusk. Do not open hive for six to eight days, when you will have a new colony of bees which can be manipulated like any other in the yard.

When making a wooden stopper for round cage, see to it that the hole inside is not obstructed by fibers of wood, for in that case the queen will not come out. The stopper should be about an inch long, the hole five-sixteenths inch or larger. The candy should be packed in tight; the mailing cage should be looked at to see that there is a goodly amount of candy left in the releasing hole.

Before closing, I will add for the benefit of the beginner that, if a queen has to be introduced into a queenless colony, it is much safer to introduce first as above stated, and then unite the queenless and the queen-right, a la Dr. C. C. Miller, again using a queen excluder, as a Virgin might be in the queenless and cause trouble. In hot weather shade the hive as long as the entrance is closed.

—A. C. F. Bartz.

The Wisconsin Honey Grading Law

By C. D. Adams

If a business man from Mars were to drop down upon us he would probably be very much interested in our systems of marketing some farm products and amazed at our lack of system in getting rid of other equally desirable foods.

When we visit almost any city market we find a certain uniformity in the marketing of garden vegetables. The radishes, onions, beets, etc., are invariably tied in uniform bunches, the cucumbers assorted according to size, and so on through the whole list of vegetables. This has resulted through good business methods rather than through marketing organizations.

When we come to the fruit market we find more uniform ways of selling, though in many places we still see apples marketed in bags and any old box, or even in bulk. But in almost every village we find New York apples of at least fair uniformity in uniform barrels. We are still more certain to find scientifically correctly graded apples uniformly packed in boxes made with mathematical correctness, and on the ends are artistically designed labels. I recently saw a carload of this print unloaded in a small county seat in the very center of one of our apple growing sections.

When I ask merchants if our apples are not as good as the western apple, they invariably say they are of better quality, but they add the information that people buy that which appeals to the eye more than by the sense of taste. Our Wisconsin apple grading law does not apply to apples marketed in open boxes and bags.

The uniform size and color of the correctly packed apple sells it while our own Wealthies of unquestionably superior quality shrivel up and rot in their bushel basket or burlap bag at their side.

This same principle holds good through almost the whole list of food products. When we come to the one commodity in which we are most interested we find other states shipping in carloads of inferior honey so far as quality goes, but so much better graded and packed we do not find it easy to meet the competition. I recently saw in Milwaukee a carload of Colorado Comb honey, and after inspecting it I cannot blame the merchants for ordering it in preference to the average Wisconsin comb honey I have seen in the stores. While I did not sample it, I feel sure the quality did not compare favorably with our clover and basswood honey. But the packing and neat appearance was enough to sell it. Incidentally every section and case was stamped with the producer's number.

And it is not in comb honey alone that we have to meet this unequal competition. In almost every village in the state we find bottled honey put up outside the state. In many cases it is probably Wisconsin honey, but it was first shipped to Medina or New York, there to be put in attractive packages to be returned and sold to us. In many cases the bottled honey is of inferior quality. While in northern Wisconsin I recently paid thirty-five cents for an eight-ounce bottle of honey put up in one of our western states. One taste was enough for my children—they said it was not as good as our own honey. In the city of Madison today there are sixteen-ounce bottles of honey selling at sixty cents. We have had this kind of competition for years and practically the only ones to take advantage of it were some business men of Milwaukee who years ago began to ship in cheap western honey, add to it a small amount of our honey to give it a flavor and sell it in attractive packages all over this and other states. When I asked one of them how much they shipped in, he sidestepped by saying: "We began fifteen years ago by shipping in eleven carloads. We bring in considerably more now."

This blending is a commendable thing to do in so far as it gives us a market for a considerable amount of our honey. The unfortunate thing was that each label bore the words, "Packed in Milwaukee, Wis.," and many merchants and consumers thought they were buying a fair sample of Wisconsin honey.

When our beekeepers take their own superior quality of honey to the store in unlabeled pails and fruit jars, can you blame the grocer for purchasing only a limited quantity at rather a low prices? The uneducated housewife will buy the outside honey with the attractive label and he knows it.

But there is a section where outside honey comes out second best in the competition—in a dozen or more fair-sized cities and villages around Lake Winnebago. In that district is a beekeeper, Mr. A. Stevens, who puts a fine grade of honey in a nice one-pound bottle with a rather plain label. This year he told me that nearly all his 55,000 pounds of honey, if I remember the figures correctly, was marketed in this way. And I am sure from what the grocers told me in every town in that section that I visited that he could easily have marketed twice that amount.

These facts and others I might mention caused the members of this association to take the first step in the right direction one year ago when we voted to adopt uniform grading rules and requested the State Marketing Division to see that they were carried out.

When in September I was drafted by the Marketing Division to assist in the honey grading work I must admit that I was not very enthusiastic about the law. True, I had ordered stamps and was stamping every package of honey that I sold, but I was not sure that it was a step in the right direction.

My first experience was with the Milwaukee bottlers and you may be sure that they were not very enthusiastic about the new rules. Some of them protested in no uncertain terms and threatened to carry a test case to the Supreme Court at the first opportunity. But the one who was the first to object to the rules and who was sure they would not hold in court told me that after due consideration he had come to the conclusion that the grading rules would benefit the dealers more than it would anyone else. Suspecting a "nigger in the wood pile" I asked him why and he said: "The biggest trouble that we have is to get the necessary grade of Wisconsin honey to bring the western honey we use up to the necessary grade and color. When we order 'amber' honey from a Wisconsin beekeeper we may get any shade from light to dark honey. Even when we order by sample we get a few cans like the sample and the remainder is either lighter or darker than we want. This law may teach our beekeepers to blend their honey

and sell it correctly graded. And another trouble we have is that we often get unripe honey that sours. We should welcome any rules that correct these faults."

Other dealers spoke of the same objections to Wisconsin honey, but did not appear very optimistic about the rules correcting them.

The grocers are also much interested in this law and their first thought is that it is only another rule to cause them trouble. But I have yet to find a merchant who was not convinced the rules would help rather than hinder them when the objects of the grading were fairly presented to him. Again and again they tell me how they have been imposed upon by well-meaning but poorly informd beekeepers who assured them that they had some No. 1 honey. As these men are often good customers they are told to bring in all they have to spare. When it is delivered it is frequently comb honey just as it comes from the hives—not even removed from the super.

Extracted honey is better as a rule, but the grocer is often disappointed with that. So he welcomes any rule that will benefit both producer and retailer. He is our best ally in seeing that the law is not violated, for he cannot afford to become a party to its violation.

But what the dealers think of these rules is only of secondary interest to us. The big question is: "What does the beekeeper think of the rules?" I have visited beekeepers in their homes in nearly all sections of the state and I find a great divergence of opinion of the law. It is not to be expected that the farmer-beekeeper who has a few colonies from which he hopes to get enough honey for his own use every year and enough in good years to sell and buy the necessary supplies with the proceeds, would welcome the grading of honey. But we find exceptions here. He occasionally becomes a real beekeeper and sees in the business a chance to occupy his time and bring in a small income when he retires from more active duties. This class frequently takes a pride in producing something a little nicer than his neighbor and he welcomes the change. The others will probably continue to market the inferior honey marked "Ungraded."

Neither do we hear a deafening applause from the "side lines." Some of them seem surprised that the rules apply to their products. Others object to the "principle of the thing" and let it go at that. But the rank and file of them are living up to every letter of the law. It is probably from this class that we get the best co-operation in our attempt to standardize our product and let its merits be known.

The one who should be most interested in the rules is the commercial beekeeper, and we find he is. He is either for or against them in no uncertain way. In my visits to this class of beekeepers I have urged them to either suggest improvements or give definite reasons for their objections if they had any. I shall here attempt to give a fair summary of the few objections I have received:

One of our most prominent members felt quite sure the law was wholly bad because he said it had already caused a drop of three cents in the price of honey. It so happened that this drop took place at about the same time that the price of Fords and sugar took the big drop, but he would probably be at a loss to explain what bad (or would it be good?) law caused their downfall.

Another prominent beekeeper had just received a letter from a Milwaukee bottler in which he declined to make an offer for his honey because he said: "We are not buying Wisconsin honey." This sounded rather alarming and in a few days I visited my friend who had written the letter and asked him what he was offering for Wisconsin honey. He replied: "We are not buying Wisconsin honey—or any other honey." "Why?" "Why, because we are fairly well stocked up and the way sugar and other things are going down we do not think it good business to buy more than we actually need at present."

The next objection heard was repeated by quite a number of intelligent men, but was first brought out by the President of the Northeast Beekeepers' Association. He said in substance that the rules were not so bad in themselves, but the supplementary rules permitting the bottlers to state on the label that the contents is "Pure honey, produced in Wisconsin and other states" has defeated the very object of the law in that the bottler may use a very small percentage of Wisconsin honey, yet so print the label that the consumer would think it was principally home-produced honey. He insisted that the label should give the exact proportion of Wisconsin honey.

On first thought this sounds not only reasonable, but absolutely unanswerable. But I feel sure that a moment's reflection will bring out the department's reason for making the rule. Who among you or even among our university scientists could tell us that a certain sample of honey contained 5 per cent Wisconsin honey and 95 per cent clover or basswood honey from some other state? It is even doubtful if it could be definitely proven that a sample contained a certain amount of Wisconsin honey and the remainder alfalfa honey.

Now, if we could not tell this the only way it could be enforced would probably be to license bottlers and have inspectors always present at the factory to see that the rules were carried out. The U. S. Government does such things, but Wisconsin does not and under present conditions it is not desirable that it should. The expense would be far beyond any good that might come from it.

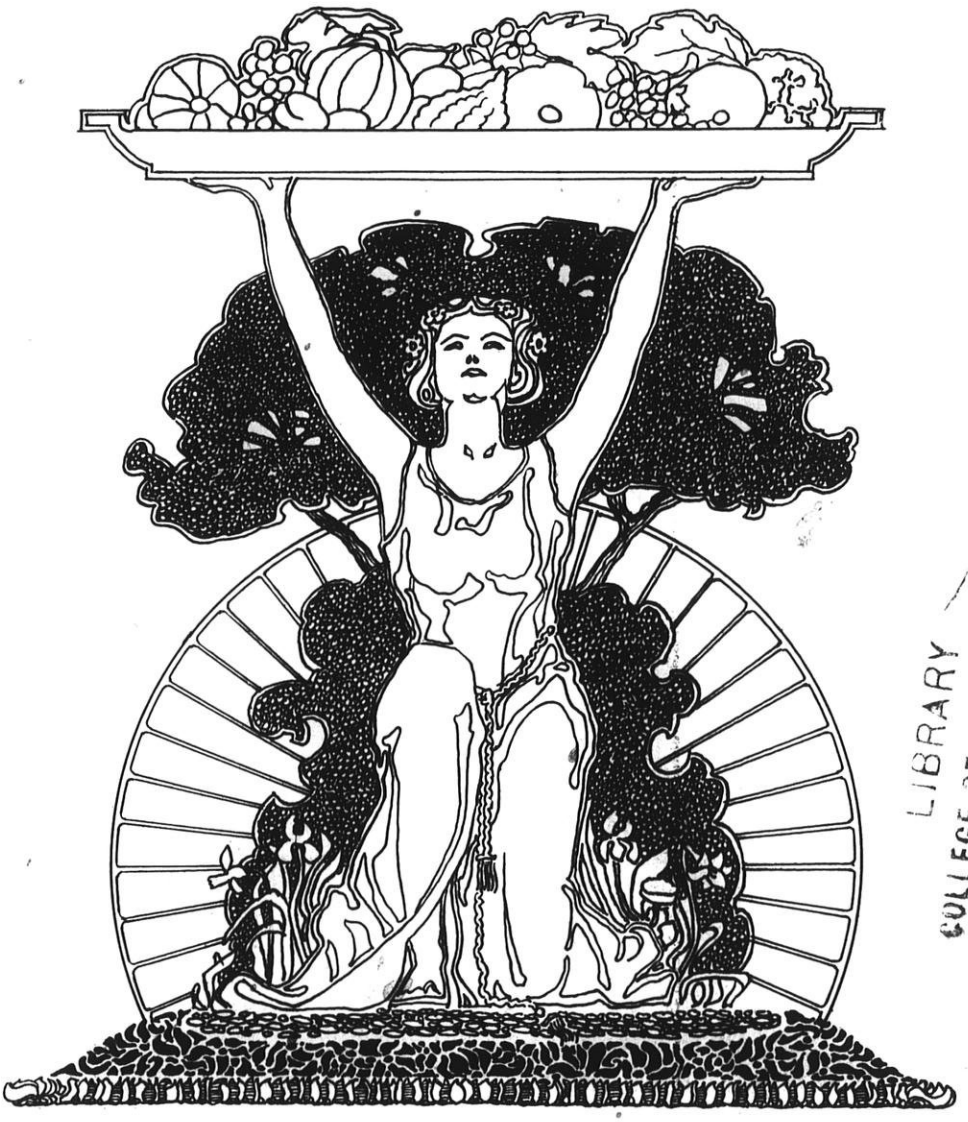
(Continued in July.)

The Editor would appreciate very much receiving some timely articles from the members. The state convention papers will all be used in the next issue.

ATTENTION!
BUSY BEE MEN!

Programs for the big Wisconsin Beekeepers Chautauqua and Field Meet at Chippewa Falls, August 15-20, will be announced complete in the July issue Lay your plans to be on the job with your coat off for interesting work!

WISCONSIN HORTICULTURE



OFFICIAL ORGAN OF WISCONSIN STATE HORTICULTURAL SOCIETY
Volume XI Madison, Wisconsin, July, 1921 Number 11

Our Summer Meeting.

The summer meeting of the State Horticultural Society will be held in Oshkosh, August 17th and 18th.

The program, outings, etc., are in charge of Vice President H. C. Christensen, of Oshkosh.

Members who have attended meetings in other years will not be much concerned about the advance notice of program; they will come with full confidence that the program the first day will be entertaining and instructive and that the second day, always devoted to study of local conditions, will be spent pleasantly and profitably.

Those who have never attended should make ready now.

Mr. Christensen sends word that there will be papers or talks on annuals and perennials; arrangement of cut flowers for the home; staging cut flowers for exhibition at fairs; landscape gardening; vegetable growing both from the amateur and the professional standpoints, and other live topics.

One topic which promises entertainment as well as profit is "The Professional Man's Garden," by Prof. J. G. Moore. Mr. Christensen writes: "I shall ask him to leave charts and such things at home and tell us just what he does in his garden and not what he advises others to do." This should be a very excellent number.

As for the second day, we have the following from Mr. Christensen: "We are planning a corn roast the first evening near Lake Butte De Mort and we may also have a talk by Prof. Aust that evening."

The plan for the second day is to visit some of the gardens near Oshkosh in the morning, returning to Mr. Roe's for a picnic dinner and spend as much of the afternoon by the lake as desired.

The Athearn Hotel will be headquarters.

Members are requested to bring along specimens of their best flowers and vegetables. Cash premiums are offered.

Members are requested to invite their friends. If the friends are not members they are absolutely certain to dig up a dollar apiece before they leave.

Owing to the uncertainty as to date of issue of WISCONSIN HORTICULTURE, it is unlikely that any further notice can be given that will reach members before Aug. 17th.

Address all communications concerning Summer Meeting to H. C. Christensen, Oshkosh, and *not* to the Secretary.

—Frederic Cranefield, Sec.

Notice.

To Members of the Executive Committee:

There will be a meeting of the Executive Committee at the Hotel Athearn, Oshkosh, Tuesday evening, August 16, at nine o'clock. Your attendance is requested.

Moss on Lawns.

"Moss and coarse weeds must be removed from the lawn, dug out by the roots or with a coarse rake if a smooth, velvety yard is to be secured," says James G. Moore, state horticulturist.

Mr. Moore says that mossy lawns usually occur from three causes: lack of proper drainage, acid soils and dense shade. If the drainage is all right and there has been made an application of lime so as to correct acidity of the soil and still moss remains it would seem to be a condition due to the shade.

"In shady locations the only way to have a good lawn is to use specially prepared seed mixtures, which ordinarily go under the name of shady lawn grass mixtures, and contain grasses which endure shade.

"Weeds are plants out of place," says the circular, "and like the poor are always with us." The main thing is to dig them out and then encourage the grass to grow so close that weeds cannot find entrance. This is a good time of year to make the fight against weeds of all kinds; and the curative is the rake, fertilizer, seed, roll.

Dandelions are particularly obnoxious, dominating many otherwise fine lawns. The yellow flower is pretty but the weed is homely and destroys the grass over a wide area. They should be dug out with as much root as possible as cutting off the root close to the surface simply makes two heads replace one.

Plantains are also troublesome, and crab grass worst of all. Being an annual it should be dug out before it has a chance to reseed itself.

Other Enemies.

For ants, moles, etc., rolling is efficacious but where ants are very bad it will be well to use bi-sulphide of carbon. Drive a stick in the ground where they are most numerous, and into this hole pour the liquid and close up the hole afterwards. The solution is explosive and should be very carefully handled. Where moles are troublesome, the advice is to use mole-traps.

Care in the selection of pure seed, selected for the locality and purpose desired, is important if a smooth, velvety lawn is wanted, and certainly no other improvement of the premises will show such good results.

Origin of the McMahan Apple.

A recent issue of a Richland Center paper contains a sketch of the life of Catherine Lewis McMahan Abbs, who died March 4th, 1921, at the home of her granddaughter near Bloom City, Wis.

The following paragraph is of interest to Wisconsin fruit growers:

"It was on this farm the famous McMahan apple originated. Her brother, James McMahan, on his way home from war, brought his mother an apple. She took two seeds from the apple and planted them by the doorstep. From these seeds came two kinds of apples, one red and one white. The red apples did not prove good but the white apple has ever since borne the McMahan name."

The farm referred to is in the town of Bloom and now owned by Ancil Dray.

This fixes the date at about 1865 and quite definitely fixes the place of origin.

One point is yet undecided, whether the apple known as McMahan Red or McMahan Bloom is an offspring of the red apple on the other side of the doorstep or of different origin.

Red Wing Apple.

In the May number we asked about the Red Wing and Golden Winesap apples. A Minnesota member, Mr. Alfred Swanson, of Red Wing, sends the following satisfactory reply to the questions asked:

Red Wing, Minn., July 5, '21.

In response to the inclosed inquiry, will say that the Red Wing apple is a Malinda seedling grown by Mr. Perkins near this place. Propagated and introduced by the Wedge Nursery Co. of Albert Lea, this state, and the Cashman Nursery Co. of Owatonna, this state. Was put on the list of new apples recommended for trial by our State Horticultural Society at the last meeting.

One tree of it planted in my orchard eight years ago has been bearing a large crop every year the past three years. A large red apple of fair quality (kind of sweet taste) which keeps in an ordinary cellar until February. Tree is perfectly hardy both in tree and bud in this locality.

We have seen the golden Winesap advertised by a Nebraska nurseryman as a wonderful new yellow apple that originated in Utah. Don't know anything more about it. Don't believe it is an apple for Wisconsin or Minnesota growers.

Quack, Quack.

Elkhorn, Wis., May 12.—Walter Nichols, of Walworth, uses an easier and surer method of eradicating the quack grass than with the hoe. He finds that Sudan grass seeded at the rate of 20 pounds per acre about June 1st, when the weather is warm, and on well prepared seed beds, will eliminate quack every time. In 1919 a three-acre strip in his field over-run with this pest was left quackless by this treatment. On either side of this patch where oats were sown, the weed remained as vigorous as ever. Not only did the Sudan smother the quack, but it yielded three tons of hay to the acre the first cutting and a lot of fall pasture the second cutting. In the corn last year not a spear of quack could be seen where the Sudan had been the year previous. Nichols says others may hoe quack if they like, but he is done.

(The above is clipped from a state paper and may be taken at face value. Like many other things it is important if true.—Editor.)

More from Johnnie

Oak Holler, Wis.

Dear Friends:—Such an excitement next door. The boys are going to a picnic. The younger one is hovering around his mother; he's thinking of the "eats." The older one is polishing his shoes and combing his hair. His mother said: "I'm a little worried about Son. He doesn't seem hungry nowadays. I think the warm weather has been a little hard on him." But Son and I grinned at each other understandingly. You see, I remembered when I thought more of my shining new boots and worried some because my shock of rebellious hair wouldn't lie down smoothly like some of the other boys—when I was going to the picnic because "she" was going to be there. Sure, there's going to be a girl in this story. There most always is one, you know. I can smile at myself now, though I didn't then—indeed not—life was a very serious affair to me about that time. I remember Mother took me down town to buy a pair of new boots on purpose for that picnic. I was so pleased with the appearance of one pair that I insisted on having them, though my Mother and the shoe man both thought they were rather tight. No, indeed, they weren't tight. They just felt fine. You see, I wasn't thinking at all how they felt—it was how they looked and what "she" would think of them. So my wise Mother said "all right" and away I went to the picnic. At first the slight twinges of pain went unnoticed, for "we" were walking up and down under the trees, my pockets filled with candy and peanuts. I could see folks smile, but "we" didn't care. "We" were happy. It didn't take much to make us happy those days. It really doesn't yet

(Continued on page 189.)

Wisconsin Horticulture

Published Monthly by the
Wisconsin State Horticultural Society

16 N. Carroll St.
Official organ of the Society.

FREDERIC CRANEFIELD, Editor.
Secretary W. S. H. S., Madison, Wis.

Entered at the postoffice at Madison, Wisconsin, as second-class matter. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1918.
Advertising rates made known on application.

The Honey Grading Law.
By C. D. Adams.

(Continued from June Issue.)

In fact, the present indications point firm is now putting in over 50 per cent of local honey instead of the 20 per cent that has been the standard in past years. Another firm has obtained a license number to put up pure Wisconsin honey for one of the big department stores. This would indicate that instead of using just enough of our honey to make it possible for the western people to dispose of a large amount of their mild honey in our state, we may in time have a monopoly in the trade.

Another objection worthy of notice is that the number of stamps for comb honey is unreasonable. It will be recalled that we have three grades in each of the five colors. No doubt our worthy committee saw this objection, but saw no remedy for it. The question has arisen: "Is it necessary to have so many shades of comb honey? Could we not reduce the number to light, amber and dark?" This is for the Association to decide.

Other objections will no doubt be brought out in the discussion.

We find some who complain that they do not receive any more for their No. 1 honey than others do for their "Ungraded." We must remember that one of the objects of this law was to educate the consumer to recognize good honey by the label and we know that takes time. No doubt there were much louder objections in the west when the apple grading law was being put in force.

In the near future we shall undoubtedly have some form of co-operative marketing. It may be through the Honey Producers' League, the State Marketing Division or some other agency. With any system of marketing we must have a standard system of grades. So we can easily see that this is the first and an absolutely essential step in that direction.

When that time comes we shall probably find some beekeepers producing only ungraded honey and marketing it as such. But their honey will no longer be in competition with that of their more progressive neighbors. The great majority will find it much more satisfactory and profitable to produce a high grade of honey and sell it as such. Then market quotations will mean something definite to us and the man with 500 pounds can ship his honey with just as much assurance of getting a fair deal as the man with 5,000 pounds.

If our honey is really as much better than most of that produced in other states as we think it is, it certainly will command a premium in every honey market of the country. "Watertown Goose" was for years listed on the menu cards of the leading hotels in New York. Why should not Wisconsin honey be as well known?

While I was somewhat skeptical about the law when I started out on the grading work I am no longer in doubt about the practicability of it. We have been marketing our honey in the poorest way imaginable. We have sold it at such a low price that housewives have associated it with the cheaper foods just as they did prunes a few years ago. Grocers tell me that people seldom question the price of jellies and jams, but they balk at a less price for honey. Glance at your grocer's shelf and see which he considers the best seller.

Some grocers tell me that their customers never buy honey as a food, but occasionally buy small bottles of it with which to make cough medicine. We have one of the finest natural foods in the world and we know it. Our problem is to put it up in a form that will compare favorably with other foods of equal value and then to educate the housewife to call for and not be satisfied until she gets—Wisconsin No. 1 Honey!

Only Organized Bees Gather Honey; Only Organized Beekeepers Gather Profits

Ladies and Gentlemen:

In this day and age of strenuous competition in all channels of commerce and industry, it becomes a matter of utmost importance for the Wisconsin farmer to turn himself to the attention that his profession deserves and to those things which concern the distribution and marketing of the products of his labor.

Agriculture, in its various phases, has been given an unusual amount of consideration and has been the object of a great many experimental studies wherein the matter of economical production was always given first thought. Our agricultural colleges, universities, and state departments have interested themselves commendably well in those activities concerned with disseminating information and knowledge on greater and more economical production. It is their sphere of service, and we must be thankful to such agencies for what they have done for farmers in general. There is, however, one branch of industrial agriculture to which the above agencies must not and can not turn their intensive attention, i. e. the organization of agricultural groups whose chief object might be the improvement of market prices affecting such organizations. Such activities necessarily fall upon the producer himself. The Wisconsin beekeeper will find himself no exception. With greater production, we have to solve the matter of greater consumption of such increased production. That problem must be met by group action of those producers so interested. For example, our state and college co-operators may find ways and means of increasing the 1921 honey crop by fifty per cent, but in so doing will find that some procedure must be taken whereby such increase will be profitably absorbed. We must not expect the same agencies that helped us increase our production to bear the costs entailed in advertising the consumption of the in-

(Continued in August Issue.)

More from Johnnie.

(Continued from page 187.)

if we go back and forget that what other folks think or say doesn't make so very much difference after all. It's our own capacity for enjoyment that counts, and—er—ouch—sad to relate, I was beginning to lose that capacity, for those boots pinched, oh, how they pinched. But I had to smile and look pleasant, for I had insisted on having those particular boots. I wouldn't try on any others, and they couldn't be sent back, and I couldn't tell the girl because—well—because I never did like to admit I had made a mistake. So I just grinned and bore it, and the picnic came to an end at last, as all picnics do. I went home and pulled those boots off. My feet were blistered all over, top and bottom. Mother called for supper. I went downstairs in my stocking feet. Wasn't I thankful I had those boots off. And then along came "the girl" and the rest of the crowd. They were going to see the fireworks. I had to put those boots on over those blisters. I didn't enjoy the fireworks—not one bit. I wasn't even thinking of the "girl." I was just wishing I hadn't been in such a hurry to buy those boots. The girl was rather silent, too. I've often wondered if she understood or if her new shoes hurt her, too. Sometimes I think she understood, because she was the sort of a girl that did understand. That Editor man once said he liked verses. I wonder if he ever saw these? They tell better than I can why she would be apt to understand:

I want to go back when the days grow warm.
I want to go back to the dear old farm.

(Continued on page 191.)

AMONG WISCONSIN BEE KEEPERS

Devoted to the Interests of The Wisconsin State Beekeepers' Association
H. F. Wilson, Editor

OFFICERS OF THE WIS. STATE BEEKEEPERS' ASSN.

Pres. L. C. Jorgensen, Green Bay. Treas. C. W. Aeppler, Oconomowoc.
Vice-Pres. A. C. F. Bartz, Jim Falls. Secy. H. F. Wilson, Madison.

Annual Membership Fee $1.00.
Remit to H. F. Wilson, Secretary, Madison, Wis.

Third Wisconsin Beekeepers' Field Meet and Chautauqua, Chippewa Falls, August 15-20

You cannot afford to miss the Beekeepers' Field Meet and Chautauqua. You will notice by the following program that Dr. Phillips, Mr. Root, Mr. Dadant and Mr. Parks will be with us and, as you know, these men are all nationally known beekeepers. Mr. Demuth may also be able to come.

All who expect to come should fill out the slip below and return to this office at once:

Third Wisconsin Beekeepers' Field Meet and Chautauqua, August 15-20, Chippewa Falls.

Name .....
Address .....
Reserve room or tent.....
How many in your party and how many days will you attend?.....
.....

PROGRAM

Monday, August 15
Morning

9:00 Registration.
10:30 Addresses of Welcome.
11:00 President's Address.
11:30 Relation of Queen to a Maximum Crop .....
Ivan Whiting, Plymouth, Wis.

Afternoon

1:30 The Influence of Weather on Beekeeping Practice.....
.....H. F. Wilson
2:30 Comb vs. Extracted Honey Production .....
Dr. Robert Siebecker, Madison, Wis.
3:30 Reports from Local Associations.

Tuesday, August 16
Morning

9:00 Our Future Beekeepers.....
.....H. L. McMurry
10:00 How the Wisconsin Honey Grading Law Is Improving Honey Sales .....
C. D. Adams, Wisconsin Division of Markets.
11:00 The Beekeeping Industry, One of the Nation's Best Assets .....
A. C. F. Bartz, Jim Falls, Wis.

Afternoon

1:30 Wisconsin Cooperative Associations and How the Division of Markets Can Help the Beekeepers.....
L. G. Foster, Wisconsin Division of Markets.
3:00 The American Honey Producers' League.....
H. B. Parks, Sec., San Antonio, Texas.
4:00 Reports from Local Associations.

Wednesday, August 17
Morning

9:00 The Needs of Richland County Beekeepers' Association
Mrs. B. C. Handy, Richland Center.
10:00 Prevention of Swarming....
C. P. Dadant, Hamilton, Ill.
11:00 The Forks in the Road.....
C. W. Aeppler, Oconomowoc, Wis.

Afternoon

1:30 Choosing a Location in Wisconsin .....
Dr. E. F. Phillips, Washington, D. C.
3:00 Northern vs. Southern Beekeeping .....
Kennith Hawkins, Watertown, Wis.
4:00 County Organization and Its Possibilities .....
Mrs. D. A. Blanchard, Antigo, Wis.

Thursday, August 18
Morning

9:00 The Lessons to be Learned from Demonstration Apiaries .....
E. W. Atkins, Watertown, Wis.
10:00 Wholesale and Retail Marketing of Honey—What It Costs to Sell.....
....E. R. Root, Medina, Ohio
11:00 Beekeeping Commercialized
..A. Swahn, Ellsworth, Wis.

Afternoon

1:30 Increasing the Honey Yield in Wisconsin .....
Dr. E. F. Phillips, Washington, D. C.
3:00 Some of the Basic Principles in Successful Cooperative Marketing.....
Rep. L. S. Tenny, U. S. Dept. of Agric. Bureau of Markets.
5:30 BEEKEEPERS' PICNIC.

Friday, August 19
Morning

9:00 Effect of American Foulbrood on Beekeeping in America...Dr. E. F. Phillips
10:30 Foulbrood Control from the National Standpoint .....
Dr. S. B. Fracker, State Entomologist.

Afternoon

1:30 New Methods in Beekeeping
....E. R. Root, Medina, Ohio
2:30 The Wisconsin Honey Producers' Cooperative Association .....
..A. Swahn, Ellsworth, Wis.
3:30 The Wisconsin State Fair...
..Gus Dittmer, Augusta, Wis.

State Fair Beekeeping Exhibit

Copies of the premium list for the state fair are now ready and beekeepers who desire to secure a copy can do so by writing to Gus Dittmer, Augusta, Wisconsin, who is superintendent of the Bee and Honey Department.

Mr. Dittmer has expressed his great appreciation of the cooperation the beekeepers have given in this matter and the beekeepers of Wisconsin should know of the excellent work which Mr. Dittmer has done along these lines. Mr. Dittmer has built the Bee and Honey Department up from a very small beginning to probably the best exhibit of its kind in the United States and this department has grown to such an extent that a number of applications from beekeepers have not been accepted because of a lack of room. The State Fair board promises us that they will in the near future provide a sufficient space to take care of all of our wants.

—H. F. Wilson.

Advertising Will Help You

If you have any part of last year's crop on hand you must know the need of increasing the demand for honey. Proper advertising will educate the public to eat more honey and in turn increase the demand.

Contributions to advertising campaign of American Honey Producers League:

Wisconsin Honey Producers Association	$100.00
Wisconsin State Beekeepers Association	50.00
———, Manitowoc County...	1.00
Geo. A. Brill, Elk Mound.....	1.00
Miss Mathilde Candler, Cassville	1.00
Ira Lubbers, Cedar Grove.....	1.00
John Kneser, Hales Corners...	1.00
Mrs. Pauline Baeseman, Wausau	1.00

WHO'S NEXT?

More from Johnnie.

(Continued from page 189.)

I want to go back once more and see
That Tomboy girl who played with me.
Be the curly-haired boy she used to call me
When we played follow the leader.

I want to climb up in the tallest tree
And swing from the top so wild and free.
Walk the beams of the barn once more,
Slide head-first from the mow to the floor.
Give her back that old gay smile
When we play follow the leader.

I want to climb up the long hill in the lane,
Hand in hand with the girl in the soft summer rain.
I want her back as she used to be,
That Tomboy girl who played with me.
God bless her and keep her where'er she may be
Till we both shall follow the Leader.

Johnnie.

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF WISCONSIN STATE HORTICULTURAL SOCIETY
Volume XI Madison, Wisconsin, August, 1921 Number 12

Dahlia Troubles

Few ornamental plants are more vigorous and free from disease than the Dahlia, but like all others, Dahlias have their failings, and the more familiar we get with them the greater the variety of difficulties encountered. Fortunately, experience brings also the knowledge how to counteract them.

In going over the list of things which interfere with Dahlia perfection, I may not bring much knowledge to the expert grower, but I may give some warnings to beginners. Scarcely any of the Dahlia diseases have been investigated by scientists, though the occurrence of a number are on record in works on plant diseases. I would be pleased to hear of any additional Dahlia difficulties, and especially to call up from the old masters of Dahlia culture valuable experiences in controlling or preventing them. The natural requirements of the Dahlia are an open situation with abundant light and air, a constant medium temperature, and water supply, and an easily drained but water-retaining soil, of moderate fertility. The horticulturists' art may enable us to improve on these, but the beginner will do well to keep as near them as possible. Probably the worst Dahlia disease is a constitutional trouble, something like the "curly dwarf" diseases of potatoes. The plants are dwarf, bushy and subject to sunburn, and with poor flowers or none. I first reported this disease in 1909. Stone published a note on it in Massachusetts in 1911 and others have discussed it since. The cause is obscure. It seems to be carried over in the roots, and there is some indication that there is less of it on plants grown from cuttings. It has been abundant in both wet and dry seasons.

Root rots due to various causes are frequent. A species of botrytis is the most common root rot fungus. It is most severe on stored roots in moist, warm conditions, with poor ventilation. The fungus enters and breaks or cuts in the surface, but does not attack perfect roots, according to Dr. Cook, of New Jersey, who has investigated it. On the other hand, we have the common case of shriveling up and death of roots from too dry storage conditions. Several other kinds of fungi and bacteria may attack Dahlia roots that have been injured by too much water in the soil, exposure to freezing or other causes, and cause rots. Another root trouble, which in some varieties is a natural characteristic, is the failure to make fleshy roots. Many claim that the plants grown from cuttings do not form natural roots, but it is certainly true that plants grown from both cuttings and seeds often do make full sized roots. If some one can find a way to develop buds from roots, as is done so easily with sweet potatoes, it will be a great advance in Dahlia propagation, but so far the stem seems to be the only part that will produce new stems, as some beginner every year learns to his sorrow. Wind is the main enemy of the stem. The brittle stem is the most vulnerable part of the Dahlia, but this has been greatly improved by selection, the better modern varieties having much stronger and dwarfer stems, and also by cultural and pruning methods. But the "no stakes" goal has not yet been reached.

Powdery mildew is about the only parasitic leaf trouble, and it rarely does much damage except to the lower leaves in the late summer. Many varieties are not injured at all by the mildew, while others alongside of them may be covered with it, sometimes so badly as to interfere with blooming. Halstead found that spraying with fungicides easily checked it. Wilting of the leaves is a symptom of too hot sun or of too little water in the soil, but I have seen wilt due to root injury from too much water in the soil.

Two fungi interfering with the flowers are known. A phoma sometimes attacks the flower stems, making the flowers small or causing them to drop before opening. In 1909 I found a fungus blight of the petals but have made no further investigation of it. The main flower failures are from climatic conditions. The hot sun of our summer is disastrous. The petals wither up, or are badly colored, or the flowers open one-sided, or the growth is so soft that the flowers have no endurance when cut. Sometimes the tips of petals and leaves are even dried up and killed. Choice exhibition flowers can be protected by a cloth cover overhead. This is a good precaution when there is danger from early frost. For the average Dahlia garden, however, we must depend on keeping back flowering till the hot weather is over or cutting back the earlier growth to get new, vigorous flower stems in the fall. The variation in flower color from deep shade to strong sun is often much greater than between two similar varieties. Too much shade not only gives lighter flowers, but

may almost suppress flowering, as will also too rich soil or too deep cultivation in the blooming period; but too little water and plant food may produce the same result. Both color and doubleness vary so with the season that two or three years' observation is necessary before one can know the character of a new variety. A heavy frost is usually the end of the flowering season, but frost seems to injure the buds least of all and they sometimes open after the stems and leaves are killed.

Singleness or poor centers is said to be induced by excessive forcing and taking cuttings from weak shoots. Double varieties are also said to degenerate into single in more Southern climates; but I am inclined to think that the appearance of open centers under certain conditions in normally full double flowers is more a varietal peculiarity. Varieties with bad centers, or that open so slowly that the outer rays wither before the center is expanded, can best be remedied by substituting better ones for them. There are also a number of troubles due to insects which cannot be fully discussed here. Borers, which destroy the inside of the stem, or cause it to swell, grasshoppers, spotted Cucumber beetles and Aster beetles that eat the leaves and flowers, aphis, and not least in injury, if smallest in size, the red spider.—Prof. J. B. S Norton, in Southern Florist.

The 1921 Cherry Crop in Door County

The cherry season of 1921 came to a close Tuesday night, at which time the last load of fruit was run through the factory at about 8:30 o'clock.

The output was a record-breaker, there being a total of 344,283 cases handled by the Door County Canning Co. and the Fruit Growers Union.

In addition to this it is estimated that there were at a very conservative estimate 6,000 cases that were shipped outside of these two organizations, making the total cases of fruit harvested over 350,000.

There was a grand total of 6,152,805 pounds of cherries canned at the factory of the Door County Canning company, of which 3,301,437 were Early Richmonds and 2,851,368 were Montmorencies. The total number of cases canned was 246,112, figured on a basis of 25 pounds to the case.

There were a total of 98,171 cases of cherries handled by the Fruit Growers Union, or 2,554,275 pounds. Of these 59,270 cases were Montmorencies and 38,901 were Early Richmonds.

There were a total of 66 carloads of Richmonds and 95 carloads of Montmorencies shipped to the fresh markets, the greater portion of which found their way into cities of the state. However, there were 50 carloads consumed in the city of Chicago and some found their way as far west as North Dakota, while five carloads in one shipment were sent to St. Louis, where they arrived in excellent condition.

If the total harvest had been sent to the fresh market it means that 600 cars would have been required to handle the crop.

In addition to the 161 carloads of cherries, there were also nine carloads of strawberries shipped to the fresh markets.

The aggregate value of this immense crop is placed at fully $1,000,000, there having been an excellent demand for the fruit at all times.

Compared with 1920 the yield doubled. In 1920 there were only 71 carloads sent to the fresh markets.

The Montmorencies showed the largest gains over the 1920 crop, the increases being almost entirely on this variety.

Fully 50 per cent of the canned goods has already been sold and it is anticipated that the balance will be disposed of within the next sixty days.

A new departure in the handling of the apple crop has been inaugurated and the fruit is to be handled through the Fruit Growers Union in the same manner as the cherries, there being one central selling agency in charge of E. L. Johnson, the very efficient secretary of the Union.

The Apple Growers Association will pack, sort and barrel the crop the same as before.

The market for apples is strong and the outlook for an excellent crop is good. It is estimated that the yield will be fully 8,000 barrels, or 40 carloads.—The News, Sturgeon Bay, Aug. 4, 1921.

Prune currants and gooseberries by removing some of the old canes. Most of the fruit is borne on canes three and four years old, but some of these must be removed each year to avoid crowding, which results in small currants and eventually mighty few of them. And again, the borer selects old wood for its operations.

Transplant iris and peony in September.

Some Roses Worth Growing and How to Grow Them

James Livingstone, Milwaukee

"A Rose by any other name would smell as sweet." These are the immortal words of Shakespere and he might have added that a rose by any other name would be just as popular. There are rarer flowers and perhaps some are more aristocratic, but the rose is the flower of the masses. They are just as much at home in the garden of the lowly cottager, and just as sweet, as they are in the garden of the millionaire. From time immemorial the rose has held its place in the heart of mankind. To quote an old authority on roses. "Many ages ago Anacreon sung the praises of the rose, he called it 'The most beautiful of flowers,' 'The delight of the gods,' 'The favourite of the Muses,' " and since that time it has not inaptly been called "The Queen of flowers." Two thousand years ago Sappho wrote "If Jupiter wished to give the flowers a Queen, the rose would be that Queen." It is frequently spoken of in Holy Writ, and Homer uses the rose figuratively in the "Illiad" and "Odyssey."

"While the rose was the most popular of all flowers amongst the ancient Greeks and Romans, the time and the means employed to install it an inhabitant of the garden remains perfectly unknown. In regard to its natural geographical distribution, it may be said to be confined to the northern hemisphere, none having yet been found wild very near to, or south of the equator. The vast continent of Australia, rich as it is in botanical treasures, has not as yet revealed to us a single species. Siberia, Iceland and Greenland have their roses, and one of those indigenous to Britain (Rosa Spinossissima) is the type from which two or three hundred varieties under the name of Scotch roses have sprung."

Warmer climates, however, have given us a much finer class, as China, Persia, India, etc., and from such material as the above have been created by hybridists the innumerable varieties now in cultivation. Some thirty species are noted by one rosarian and the varieties of these species, or families, are innumerable.

The study of the history and origin of these species, and their introduction to cultivation is intensely interesting, but it is obviously impossible in a paper limited to fifteen or twenty minutes, to even attempt to give an insight into this fascinating study. If we are to accomplish the objective of this paper, it will be necessary for us to confine our remarks to such varieties as are known to be hardy in Wisconsin. There are so many varieties on the market, most of them good, and nearly all of them suitable for growing in some locality of this vast country, that it is a matter of consideration for residents of each section of the country to consider which varieties are suitable for their locality and choose those which have been proven hardy. I must confess right here that I am not a specialist in roses, and there are hundreds of varieties catalogued that I have had no experience with. I have usually confined myself to varieties that I knew were hardy in the locality where I was located, and could be relied on to give a fair return for the time and money expended on them.

Growing roses is a good deal like growing apples, we all know that certain varieties of apples do better in some localities than in others and the commercial grower must choose those varieties which he knows will prove profitable in his locality. Of course, there is always a fascination in trying something new, and as variety is the spice of life, it is also the spice of gardening, and if we are to keep up our interest we must look for new varieties to conquer, or be conquered by them. My advice then to the common or garden variety of gardener, is to go in for the varieties the merits of which have been proven, and go lightly on those the merits of which are problematical.

For outdoor culture in this part of Wisconsin we have a great many varieties, some old and some new, that are well worthy of a place in any garden. Chief of those are the hybrid perpetuals. This invaluable and popular class has been produced by crossing the hybrid china roses with different varieties of chinas and Bourbons, the progeny producing abundance of flowers in the summer and occasionally a few throughout the autumn, thus being termed hybrid perpetuals. Some of our hardiest and best varieties of roses belong to this class, their ease of culture, hardiness, beautiful colors and fragrance combine in making them our most popular garden roses. Baroness Rothschild, Glorie Lyonnaise, J. B. Clark, Marshall P. Wilder, Magna Charta, Mrs. John Laing, Mable Morrison, John Hopper and Paul Neyron are

considered amongst our finest varieties in this class.

To be successful in growing roses a sheltered location should be chosen, far enough away from trees, shrubs or buildings so that the roots of the trees or shrubs will not rob them of food and moisture, or the buildings shade them continuously. Roses require a fairly stiff soil and an abundance of food and moisture, and it is useless to attempt to grow them unless attention is given to these details. It is much better to plant them in groups or beds, where the soil has been specially prepared for them, rather than plant them promiscuously over the lawn or garden. If the subsoil is heavy clay it should be dug out to a depth of eighteen inches or two feet and the beds filled in with good rich top soil. Spring is the best time to plant, and in hybrid perpetuals, two or three year old dormant plants should be planted. Care should be taken when planting, to place the graft three or four inches below the surface of the soil and the small shoots should be cut out and the stronger ones cut back to three or four eyes. When the plants have become well established it is important to watch for shoots that may come from below the graft and cut them out or they will rob the plant of nourishment and ultimately kill it. These shoots can be distinguished from the true variety by the great abundance of small thorns which literally cover them. During the first season's growth it is better to pinch off most of the flower buds. This may seem heroic treatment to some growers, but it will greatly increase the strength of the plant, and insure a larger yield of flowers the following year. Roses are gross feeders and a well established plant ought to have frequent applications of fertilizer in some form during the growing season. Liquid fertilizer, bone meal or a good covering of well rotted manure will keep them in good growing condition. The tips of the young growths are often infested with green or black aphis. Frequent spraying with nicotine will keep them in check. For slugs and other chewing animals spray with arsenate of lead, or dust with slug shot. For mildew dust with flowers of sulphur.

No pruning should be done in the fall except to cut back any long shoots that tend to make the appearance of the bed untidy. Before severe freezing weather the plants should be gently bent over and pegged down and left in that way until there is danger of the ground being frozen. Before severe frost sets in, cover the plants with soil in the same way as you would cover raspberry canes, and then when the ground has been frozen hard a covering of stable manure can be put over the whole bed. This method is a good winter protection and also lessens the danger of the plants being stripped of bark by mice.

As soon as possible in the spring the manure should be taken off and as the frost comes out of the ground the soil can gradually be taken off, and the stakes that hold the plant down pulled out, allowing them to get back to their normal position.

Pruning should be done as soon as possible in the spring. All weak growths should be cut out and the strong growths cut back severely. Apply and dig in at this time a liberal dressing of well rotted manure, or bone meal, and the plants are then ready for their growing season.

Hybrid Tea roses are becoming of more importance each year in the garden, and where the climate is not too rigorous, or if well protected in winter, they give wonderful results. Their culture is much the same as for the hybrid perpetuals, except that they do not need to be pruned so severely. Killarney, White Killarney, La France and Richmond are some of the older varieties that do well. Kaiserin Augusta Victoria is also a superb rose of this class, sometimes classed as a Hybrid perpetual.

Tea roses or Tea scented are a beautiful class of roses and where one can afford to plant a bed of them for summer display only, they give great satisfaction. However, they are only half hardy and will not stand our severe climate in winter.

Climbing roses have their place in every garden, no home grounds are complete without them and a place should always be provided for them. Their requirements as to soil and treatment are much the same as for the varieties already mentioned. Some of the old fashioned varieties like Baltimore Belle, Prairie Queen and Seven Sisters do not need to be pruned so severely as the newer varieties, such as Dorothy Perkins, Lady Gay, Farquhar and Excelsa, a much better red than the old crimson rambler. These last mentioned varieties should have all the old flowering wood cut out as soon as the flowering season is over. The young growths should be spread out and tied to the trellis and given every encouragement to make all the growth that

is possible. Keep them securely tied as the growth lengthens and if too many shoots start from the bottom select only enough of the strongest to cover the arch or trellis as the case may be and cut out all the others. It is better to have half a dozen strong growths than two dozen weak ones.

Rugosa roses are splendid subjects for planting for effect, in beds on the lawn or in front of shrubberies. They are extremely hardy and floriferous and some of the newer and semi-double hybrids make a wonderful showing when massed for effect. They are of easy culture and if planted in good rich soil and given room to develop they will make strong bushes and flower profusely for many years. The newer varieties should be given preference over the old single white and red. Blanche Double de Coubert, Colvin Tree, New Centuary, Madam Geo. Bruant, Sir Thomas Lipton and Alice Aldrich are all very desirable.

The seed pods should be left on rugosa roses as they turn bright red when ripe and make a fine winter effect. Rugosas do not require pruning as severely as hybrid perpetuals. Cut out all weak growths and shorten the strong ones so as to give the bed a uniform effect.

The old favorite Moss rose should have a place in every garden. There is no rosebud so elegant as the bud of a Moss Rose, and the fragrance of foliage and flower is delightful. Elizabeth Rowe, Henri Martin, Mousseline and Princess Adelaide are all beautiful varieties and perfectly hardy. Their culture is simple and when once established they last for many years.

The Persian Yellow and Rose Harrisonii are two of our hardiest and best yellow roses and are a fine combination with the Moss roses.

Another fine class of roses with miniature flowers borne in clusters is the Dwarf Polyantha roses. Baby Doll, Cecile Brunner, Echo, Clothilde Soupert and George Elger are all fine sorts These are all very dwarf growers and make a fine edging for a rose bed and are especially effective when planted in masses.

Rose Polyantha nana or multiflora can be grown from seed and if sown in early spring will be in blossom in June or July. They are perfectly hardy and when they get to be two or three years old they make good sized bushes a foot high and are literally covered with tiny single and semi-double blooms.

There are many other roses that, would time and space permit, are as worthy as those that have been mentioned, but if the efforts expended on this paper induces anyone to seek for more knowledge on this interesting subject, this paper will have attained its object.

Four and Twenty Apples Baked in a Pie

What is worse than a worm? A half worm. The consumer of apples has always believed this. The farmer is getting on to the fact that spraying and graded fruit will outsell the ungraded fruit.

The value of graded fruit as compared with ungraded was shown in a very striking manner by the following test: From 5 to 7 graded apples made a large pie, while it required from 15 to 20 ungraded apples to make a pie of the same size. The graded fruit is safe for baking, will keep longer, and is more fit for cider.

The farmers who sprayed their apples thoroughly and at the proper time, found that 80 per cent of their fruit was perfect, while their unsprayed trees showed 85 per cent imperfect.

While this season has been one of the worst in years for orchard insect pests and diseases, the farmers who sprayed their orchards thoroughly with the proper material and at the proper time are now marketing their fruit without any difficulty.

The merchants of Jefferson county are glad to co-operate with the farmers who are willing to take pains to grade their fruit and place it on the market so that it will appeal to the consumer. Many merchants have expressed themselves as preferring Wisconsin sprayed and graded apples to Michigan and New York apples.

Wisconsin apples are more highly flavored, better colored, and they can be placed on the market fresh from the orchard and sold at a lower price to the consumer.

The principal reason why the merchant has been compelled to get his supply of fruit from other states has been due to the fact that he was not able to get Wisconsin sprayed and graded fruit. —J. M. Coyner, Jefferson County Agricultural Agent.

Peony seeds should be picked when well colored, and stratified in sand till next spring, when they may be planted like other seeds of similar size.

The Northern Cherokee Rose

In our justifiable enthusiasm for the Hybrid Tea roses and the inclined-to-be-tender climbers, we must, nevertheless, bear in mind that there are thousands of gardens in the United States where climatic and pocketbook conditions do not allow their cultivation. These gardens require a rose of unquestionable hardiness and with a rugged constitution.

The owners of these harder-luck gardens love a rose as much as we do, and the "propagating" members of the American Rose Society should endeavor to increase for them the number of varieties and range of colors of definitely hardy roses.

There is a rose of this class that nurserymen seem to have fought shy of. It suckers freely in an open soil, so that a stock could soon be worked up. For the want of a better common name, I call it the "Northern Cherokee rose."

The only objection to its scientific appellation—Rosa spinosissima altaica—is that one must be particularly sober when pronouncing it or he may get balled up among the s's! National prohibition will soon eradicate this handicap, but not the s's!

While originally described as a species, it is now considered as belonging to the Scotch group. It is a native of the Altai Mountains in Siberia, has been known to cultivation since 1818, and in 1895 was described as "a rose almost lost to cultivation."

It has, unfortunately, also been known as R. grandiflora, a name also applied in European catalogues to a climbing form of the Polyantha rose, thus creating much confusion. In fact, my first effort to obtain this rose was suggested by reading a description of it under the name of R. grandiflora. I imported some plants, but received the climbing Polyantha, which went skating the first winter after planting, and never returned. I had relied upon the reputed entire hardiness of the Altaica form!

The true R. spinosissima altaica is absolutely hardy without any winter protection, and seems free from the attacks of mildew or insects, though it is sometimes troubled with a scale that is easily controlled by spraying.

It forms a bushy shrub about five feet tall and in an open soil spreads freely, just as do the other forms of the Scotch rose. In May and June it is smothered in large clusters of single, paper-white flowers, enhanced in their beauty by the numerous bright yellow stamens in their centers. One vigorous shoot will be crowned by a cluster of these pure white flowers large enough and handsome enough to creditably perform the function of a bridal bouquet at any wedding. I have often thought of this when its blooms were at the height of perfection, but it always happened that no swain of my acquaintance had popped the vital question at an opportune time, such as would bring the culmination of his ardent desire just when the blooms were at their best. Perhaps some loving couple will arrange with me to be married on the day of the maximum bloom of the Northern Cherokee roses; then I can happily provide the decorations.

If I were asked where this rose could be obtained I would have to answer, "I can't tell you." There are groups of it at the Arnold Arboretum and at the Kew Garden, but I know of no nurseryman carrying it in stock. I have had my plant some twenty-five years, always in one "hole" in the lawn. This hole has been kept free of sod for a space four feet in diameter, and as most of its suckers come up in the sod outside this four-foot circle, they are cropped off by the lawn-mower. A few come up within the circle and are tenderly lifted and potted as gifts to friends.

Some years ago I gave a small sucker plant to a friend who, happily, placed it in a large bed of enriched soil. His plant is now not only much larger than mine, but has enabled him, through its offshoots, to present quite a number to his friends.

Enterprising nurserymen should resurrect this rose from the undeserved oblivion in which it rests and offer it to the general public. The beauty of its bloom ought to be enjoyed as well as its excellent quality as a lawn shrub.—W. C. Egan, Egandale, Highland Park, Ill. In The American Rose Annual for 1919 Published by the American Rose Society.

Spring Flowering Bulbs

These must be planted in the fall, September or October, and bloom early in spring:

Tulips: Artus, red; Chrysolora, yellow; Cottage Maid, pink.

Hyacinth: Charles Dickens, pink; Baroness von Thuyll, white; Barron von Thuyll, blue.

Crocus: mxed.

Narcissus (daffodil), Von Sion.

For house culture: paper white narcissus, Chinese lily, Von Sion narcissus and any hyacinth.

Wisconsin Horticulture
Published Monthly by the
Wisconsin State Horticultural Society
16 N. Carroll St.
Official organ of the Society.

FREDERIC CRANEFIELD, Editor.
Secretary W. S. H. S., Madison, Wis.

Entered at the postoffice at Madison, Wisconsin, as second-class matter. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1918.
Advertising rates made known on application.

Personal and Confidential

The editor wants to talk to you a moment, a purely personal conversation, and you will, I am sure, consider it confidential. You are now reading what purports to be the August number of your paper, mailed about the first of October. There was no August number in August; likewise no July number until August. The reason is this: Early in May (so far as I was concerned) the entire universe went to pieces, the earth dropped away, leaving me in midair. Can you imagine such a situation? After a little time, things seemed to be better adjusted and I could feel my toes touching solid ground again, but everything revolved the wrong way! Also indescribable and nameless terrors encompassed me on every side, the mere recollection of them now causes a shudder. I will not tire you with the details, nor relate what seven clinic doctors said and did, but it was plenty. Said there was nothing the matter with me. Believe me or not as you like, I paid good money for that opinion. But they did say "You must rest, REST, REST." "But I can't rest, don't you understand? I must work. I have worked for 27 years without stopping. It's simply out of the question to stop now," and more to that effect. The seven hard-hearted brutes chorused, "Oh, very well, suit yourself, but we are simply telling you."

After considering their advice for a time and on ascertaining that I couldn't do anything anyway and that undertakers are merciless profiteers, I concluded to take the advice of the Sage Seven.

Yes, I rested; for the first three weeks, in a far corner of the state, under the shade of a wonderful old maple with foliage so dense that not a ray of light penetrated. I was vain enough to think sometimes that it grew there just for me, no one else had ever used it. Then for other wonderful weeks along the clear water streams of the northland and among lakes with densely wooded shores where:

"By night the constellations glow
Far down the hollow deeps below,
And glimmer in another sky."

Until, finally, I caught hold again of all that had escaped me and so left behind those formless terrors. The fact that I am having this little chat with you now, that I am back on the job, or the job back on me, isn't due in any large measure to my own perspicacity, nor the green fields, nor the sunshine, but to the kindly attitude of friends. Some of them were almost strangers at first, but now are dear friends. Cheerful words when cheer was needed, studied neglect when that seemed fitting, and so much more than I can tell you. For some reason my specs get dim when I think of these friends and I want to tell you folks that this is a rare world we live in.

Well, I didn't mean to run on in this way about myself, but I thought a word of explanation was due you. I am here again to serve you as best I can and that's the greatest pleasure of all.

The Editor,
Wisconsin Horticulture.
Madison, Sept. 6, 1921.

A POSTSCRIPT TO THE ABOVE

I have one friend who positively refuses to take life seriously and on that account grows fatter and jollier every year. Just recently he perpetrated this: "Just learned you have been through a period of sickness and have recovered. That relieves my mind. I read that line in the paper about 'Enforced Absence of the Editor' and I was considerably wrought up about it, but didn't know how long you were in for and thought it best under the circumstances not to ask the warden any questions."

Now, in the words of the immortal William B. Byram, "Wouldn't that drive you to grape juice!

Clean out the raspberry patch now if you have not already done it. Cut out all old wood, the canes which jointed this year, and burn it.

We Will Miss You, Johnnie

(One year ago the editor fell to talking with a member about our early days, the dreams and aspirations of childhood and other things that grown people rarely talk about. The outcome was the series of articles run during the year, some of which you, perchance, have read, signed "Johnnie" who lives in "Oak Holler." These were submitted to the editor only on his promise to withhold the name of the writer. So you must keep on guessing as to the identity of Johnnie for the ethics of this trade are rarely or never violated. Johnnie bids us farewell this month and we feel certain that there will be many who will miss him, for these simple little stories of the life of a guileless country boy have stirred strange memories in many of us. Coming straight from the heart of the writer and portrayed with no pretense of literary skill these stories have taken us out of our busy lives for a time and back to the happier days.

Although Johnnie has refused to appear again, we have found one to take his place. A new series will begin in September. Watch for the first number.)

Oak Holler, Wis.

My Dear Friends:—The year is up, the time has come to say good-bye, but, before I really say the words, may I say to you, all my friends, that this has been a happy year to me. I have enjoyed talking to you through the columns of Horticulture. I have felt as though I had gone into each of your homes and spoken to you personally. May I hope that the little stories of my childhood have touched your hearts, have brought back to you memories of your own, memories that will bind you closer to your children. Some of my friends think I'm queer, sometimes I think I am myself, but, nearly two thousand years ago He said, "Except ye become as little children."

We are trying to do so much for our children — education, money, pleasure—and, giving all these, we cannot give ourselves. We have no time, our sons and daughters are shut out of our hearts, the little things that mean so much to them are trivial to us; we have "forgotten to remember," as the little boy said when denied a pleasure outing and his father told him, "I never could go at all when I was your age." "Yes, but, didn't you 'want' to go. I just wish you didn't forget to remember when you were a little boy—it would help." How many of us forget to remember! How many of us forget the desire to tell to some older person our dreams and aspirations, and if we were lucky enough to have a father or mother who hadn't forgotten to remember. Do you remember how happy you were as a child? Are you giving your own children that same happiness, or are you forgetting perhaps just as your father and mother forgot, and,—may I say it, dear friends—having a heartache because your girl or your boy is growing away from you. Did you ever stop to think perhaps they were having a heartache, too? Give your children education, pleasure, material advantages if it pleases you to do so, but—give them first, last and always **yourself**—it's the thing **they** need and **you** need more than anything in the world. It's the one thing I am going to ask you before I say good-bye—"Please don't forget to remember" that you were once a child—and please don't ever quite forget

Johnnie.

Pickles, Dill and Otherwise

The raising of cucumbers for pickling is a fine business for the people who like that kind of business. Somebody has to raise cukes, we assume, although the editor never could see the necessity for doing so, and prices this year seem to be fair; $1.25 per bushel for smallest, 65c for No. 2, and 30c for No. 3.

Anyone who has picked a bushel of No. 1 cukes will agree that the price is fair, for the picking. Will some one please tell us how many bushels of pickling size cukes can be raised on an acre and how many bushels of strawberries on the same area.

Don't forget that the tulips, hyacinths, etc., which bloom in early spring grow from bulbs planted in the fall. September, October and often November are the months to plant. Order bulbs **now**, the planting may be deferred.

Tree Fruit Crop

East of the Rocky mountains the southern border of the apple zone begins in eastern Colorado with two commercial regions. Extending eastward, eastern Kansas, southwestern Missouri, and northwestern Arkansas have extensive commercial orchards; southern Illinois has three commercial orchard regions; southern Indiana, one; southern Ohio, one; West Virginia, Maryland and Virginia are contiguous commercial orchard regions, second only in importance to New York.

The above regions have practically no apples to ship and not enough to supply their nearest small markets. The middle part of apple zone begins with the Missouri river region, including northeastern Kansas, southeastern Nebraska and southwestern Iowa. This region has a few apples, practically none to ship. Eastern Iowa, central and northern Illinois, northern Indiana, central and northern Ohio are not extensive commercial growing regions, but have from 20 to 40 per cent of a crop. Pennsylvania has extensive commercial orchards with about 20 per cent of a crop of apples and a few peaches. The northern third of the apple zone, Minnesota, northern Iowa, Wisconsin, New York, New England has from 10 to 60 per cent of a crop. Maine the highest. The balance of New England and the lake regions about 35 per cent of a crop. West of the Rocky mountains there will be a full crop. Plums, practically a failure. Peaches and pears, light. Grapes, 40 to 50 per cent of a crop.—Survey by G. H. Townsend, Madison, July, 1921.

Propagating Currants

Speaking of currants,—September and October are good months for taking cuttings. While we have no desire to infringe on the business of the nurseryman, we offer the suggestion, by way of information, that you may easily raise your own currant bushes from cuttings. Select sound, well matured wood of this year's growth, cut into sections 8 to 10 inches long and plant them this fall. Leave only two buds above ground and if both of them grow next year, rub off one. Mulch the row of cuttings after the ground freezes. In the fall of 1923 you should have fine, thrifty currant bushes.

Home Grown Grape Vines

If you intend to plant grapes extensively, to produce fruit for market, by all means buy plants. If you are an amateur and have a pet vine which you want to perpetuate, or for any one of a hundred and one other reasons from which amateurs get so much fun, try "making your own." Firstly: if you were a bit careless this summer and allowed some of the new canes to rest on the ground instead of tying them to the trellis, you are apt to find that roots started from the nodes or joints of these and are well anchored by this time. Cut them loose, leaving only a few inches of cane, one or two buds and transplant either now or next spring.

If you find none of these try cuttings. These are to be taken from new (1921) wood and cut in sections of two buds each. The length of the cuttings may vary from 4 inches to 12 or 14 inches, depending on variety, rapidity of

growth, etc., but there must be a bud at each end. Cut off the stem close to the lower bud and leave ½ to 1 inch above the upper bud. Tie the cuttings in bundles properly labeled and bury in the garden where no water will stand.

Very early next spring exhume and plant them, leaving the upper bud just level with the surface of the soil. Seventy-five per cent should grow. During the winter "callus" or swellings will appear at the base of the cuttings, a condition favorable, although not essential to root growth. Some gardeners maintain that cuttings buried with the butt ends up will callus better than those placed in other positions. This is probably founded on something else than science, but it would be interesting to try it.

A Dwarf Spruce

In the May 7th issue of The Gardeners' Chronicle of London there is a figure and description of a little conifer which is called Picea albertiana, although some doubt is thrown on the accuracy of the name. Picea albertiana is a form of the White Spruce found only in the Gaspe Peninsula of eastern Canada and in the valleys of the Black Hills of South Dakota and of the Rocky Mountains of northern Wyoming, Montana and northward, and chiefly distinguished from the common White Spruce of the east by its shorter and broader cones. As this tree grows or grew a few years ago on the borders of streams and lakes or in groves surrounding mountain meadows in northern Montana, it is one of the splendid trees of the continent, rising to the height of one hundred and fifty feet with a trunk from three to four feet in diameter and a narrow pyramidal head of slightly pendulous branches. A plant of a dwarf variety of this Spruce, a few inches high, was found by Professor Jack near Laggan, in Alberta, in 1904, and from this plant has been raised all the specimens in cultivation. They are all conic in shape and very compact, and the largest of them, in Massachusetts at least, are not much more than two feet high. Picea glauca is now the recognized name of the White Spruce and this dwarf, the plant figured in The Gardeners' Chronicle, has been named Picea glauca var. albertina conica. It is certainly one of the most distinct of dwarf Spruces, and as it can be easily and quickly propagated from cuttings, there is no reason why it should not be within the reach of everyone interested in rock gardens, for which it is well suited.—Arnold Arboretum Bulletin.

Cardinal Flower Prefers Neglect

Remember that the Cardinal Flower (Lobelia Cardinalis), and its blue cousin, the Giant Lobelia, make their growth, from which comes next year's bloom, in the late summer and early autumn, so be careful not to dig around where the little rosette of leaves is coming. The new growth is close to the ground and has such short roots that it is easily dug up and destroyed.

Cardinal Flowers do best in the wild flower corner which sensible people let alone as much as possible. A little woods' earth may be carefully scattered around off and on, and an occasional garden weed must be dispatched. —The Flower Grower.

AMONG WISCONSIN BEE KEEPERS

Devoted to the Interests of The Wisconsin State Beekeepers' Association
H. F. Wilson, Editor

OFFICERS OF THE WIS. STATE BEEKEEPERS' ASSN.

Pres. L. C. Jorgensen, Green Bay. Treas. C. W. Aeppler, Oconomowoc.
Vice-Pres. A. C. F. Bartz, Jim Falls. Secy. H. F. Wilson, Madison.

Annual Membership Fee $1.00.
Remit to H. F. Wilson, Secretary, Madison, Wis.

ANNOUNCEMENT

Annual Convention Meeting of Wisconsin State Beekeepers' Association

December 8 and 9, State Capitol

In conjunction with the American Honey Producers' League a consecutive series of meetings has been arranged for the beekeepers' associations of Michigan, Illinois, Minnesota, Iowa and Wisconsin.

Michigan—December 1 and 2—at Lansing.

Chicago and Northwestern—December 5 and 6—at Chicago.

Illinois—December 7—?

Wisconsin—December 8 and 9—at Madison.

Minnesota—December 12 and 13—?

Iowa—December 15 and 16—?

Wisconsin Honey Producers' Cooperative Association

The Wisconsin Honey Producers' Cooperative Association has not been idle during the past season. Matters of organization have been under way and the association IS making progress. The next meeting will be held in the State Capitol on December 9 at 4 p. m. All stockholders are requested to be present because it is expected that important business will come before this meeting. A proper notice will be sent out to each member of the association, but all other beekeepers who are interested are invited to attend this meeting.

Prepare Now for the 1922 Honey Crop

Regardless of whether or not beekeepers have secured a normal crop this season, they should begin making preparations for next season. Be sure that the bees have plenty—at least 40 to 50 pounds—of good stores in the brood chamber. All bees left out-of-doors should be packed by the first of October. Bees to be wintered in the cellar should have some kind of protection up until the time of putting away for the winter. All bees should be in the cellar not later than the 20th of November. Do not attempt to winter over weak colonies. Unite weak colonies with colonies of middle strength, using the newspaper method.

Winter Stores

In case the bees have stored considerable quantities of fall honey in the brood chamber, be sure and feed them 10 to 20 pounds of sugar syrup and this must be done before the first of November. Sugar syrup may be fed later than this time but one can never be sure that it will be well taken care of by the bees.

In making the sugar syrup, mix 3 parts of sugar with 1 part of water, place on the stove and allow to boil for 5 minutes.

Wisconsin Beekeeping Survey

The beekeeping department in the university is planning to make a survey of the beekeeping conditions in Wisconsin and in a short time cards will be sent out to our beekeepers requesting certain information on conditions in their locality. It is hoped that beekeepers will respond in every case by returning the cards promptly so that the survey may be made as complete as possible. It is especially desirable that we get the information on honey flows and honeyplants so that we can distinctly set off the different beekeeping regions of the state.

The 1921 Honey Crop

The United States Bureau of Markets' reports indicate that there will not be more than 50% of a crop in the United States. The crop in Wisconsin is about 35 to 40% of that secured in 1920, being very unevenly distributed. In some sections, especially within the vicinity of Milwaukee, a normal crop was secured. Generally in the southern part of the state, beekeepers did not secure any surplus at all. The late flow, among which is included fireweed, seems to have greatly benefited beekeepers in the northern part of the state, although in that region there are also many beekeepers who have little or no surplus. With less than half a crop in Wisconsin, there is no reason why any beekeeper should have great difficulty in disposing of his crop. All that is needed is more cooperative effort between those having no crop, and those having a crop to get even distribution. As a rule, beekeepers when they have no crop, do not make any effort to keep up the distribution of honey. As a matter of fact, in years when beekeepers do not have honey to sell, they should buy honey to carry the trade which they have developed in the past. The secretary is in a position to help with the distribution of honey, provided there are offers to buy. We already have a number of growers who wish to sell, but no applications have been made at this office to buy. This does not mean that there is no demand for honey. As a matter of fact, the demand is increasing steadily, and those beekeepers who have sold out early at a low price are going to regret having disposed of their crop so early in the season. There is practically no comb honey to be secured at all, and we are already receiving letters from buyers in both east, west, and south, asking for prices on Wisconsin honey. Prices have been fluctuating to a very great extent, but Wisconsin beekeepers will probably be able to receive 15 cents wholesale, and on this basis should receive from 25 to 30 cents per pound retail.

Don't fail to read the summary from Mr. Root's talk on, "What It Costs to Do Business." It has some important information for our beekeepers.

What It Costs to Do Business

Every beekeeper and every farmer should know that it costs to sell as well as to produce, and it costs more to sell in small quantities than in large. If it costs to sell, one must get acquainted with some kind of cost system. No matter how large the factory, and even the smallest beekeeper has a miniature factory, there are two items in his cost system: production cost and selling cost. In both cases the beekeeper must figure overhead expenses. Cost of rent on building including the cost of the building and cost per square foot of space used in preparing honey for the market, should be known. Determine to an exact cent what every foot of space is bringing you in return. In your business you must figure. Divide your building off into different spaces, charging the cost of each space for what it may contain. You must charge cost of space against each piece of machinery and in this cost you must include idle time with the machine. The machine must be charged with the man who runs it and his idle time must also be charged to the machine. Such items as cost of trucking, including gasoline, tire expense, and wear should be charged either to production or to selling. In fact mileage may be charged on a basis of 10 cents a mile in the use of a truck. In order to make the business successful, you must have your employees interested in the work. In fact, it is a wise plan to put your children in as a part of the company, because it keeps up their

interest. Labor should also be interested in the same way.

The selling cost is usually greater than the production cost. In the overhead for selling we must include bookkeeping, bad debts, depreciation, broken glass, and other common items which are seldom taken into account by the beekeeper.

Where the beekeeper handles the selling himself he should be fully entitled to the same cost of selling as would have been chargeable to the product if it passed through regular selling channels. It is a mistake to believe that we can eliminate the jobber and wholesale dealer. These factors are necessary, because the jobber picks things up in small lots and gets them into shape to turn over to the wholesaler, and then the wholesaler depends upon the retailer to take the products off his hands. Overhead is always greater when we try to sell than when we let a regular salesman do the work. It is better to find a man who is a good salesman and let him handle that part of it. There is some question at the present time about the movement of honey, but this need not worry us for it is not only honey but everything, and every effort should be made to keep honey at a fair price, for when the price is once down, it is mighty hard to get it up again.

Also in competition with your retailers, it is perfectly reasonable that you should compete and sell your honey against the honey on your groceryman's shelves, but do not undersell him. Get your groceryman to let you put on bee demonstrations. Make your display attractive and sanitary. As a last word, do not forget that the selling cost of honey will run at least 100 per cent over that of the cost of production.—E. R. Root of the A. I. Root Company, Medina, Ohio.

Annual White Sweet Clover

Through the courtesy of Professor H. D. Hughes, of the Iowa State College and Experiment Station, Ames, Iowa, the Ohio Agricultural Experiment Station received in April, 1918, one hundred seeds of an annual variety of Melilotus alba.

In a letter to the agronomist of the Ohio Station, Professor Hughes states "the new variety or species of sweet clover was found at this station in March, 1916."

In the Journal of the American Society of Agronomy Vol. 9, No. 8, November, 1917, an article appeared, "An Annual Variety of Melilotus alba," by H. S. Coe, Scientific Assistant in Forage Crop Investigations of the Bureau of Plant Industry, U. S. D. A. Mr. Coe described the appearance and habits of plants grown from seed purchased in Hale County, Alabama. Typical specimens were placed in the Herbarium and the Asa Gray Herbarium. The plant was described as follows:

"Melilotus alba Desr. var. Annua n. var. (Annual White Sweet Clover)—Erect or ascending, branching, glabrous or young branches and leaves slightly pubescent; leaves petioled, leaflets mostly oblanceolate, some narrowly ovate to oblong, serrated, obtuse to truncate; corolla white, 4 to 5 mm. long, the standard longer than the other petals; racemes numerous, slender, 4 to 15 cm. long; pods reticulate, 3 to 4 mm. long; root becoming 15 to 30 inches in length and enlarged very slightly if at all at the crown. Crown buds are not formed."

Annual white sweet clover is probably indigenous to Alabama. Whether the original Iowa strain of annual white sweet clover came from Alabama is not known. However, the priority of its discovery apparently belongs to Prof. H. D. Hughes, of the Iowa Station.

Annual white sweet clover differs mainly from the biennial in its strictly annual habit, no crown buds being formed and in its more rapid growth than that of the first year of the biennial; the seeds are flatter and a prominent crease extends from the hilum diagonally across the seed.

Test at the Ohio Station.—The Ohio Station has grown the annual white sweet clover in a small way for three seasons, 1918, 1919 and 1920. It requires from 153 to 183 days to reach mature seed production under Ohio conditions, and about 80 days from time of seeding until the beginning of the blooming period. In 1920, 1 acre produced 5,379 pounds of total air dry weight of plants and seed in 183 days. At this time practically none of the leaves had fallen and the weight indicates the amount of rather coarse hay that might have been expected. The seeding was made in 30-inch rows at the rate of 2½ pounds of seed per acre. —L. E. Thatcher, Ohio Agricultural Station.

Beekeeping Industry One of the Nation's Best Assets

Every industry, whether owned or controlled by the government or by individuals, is a national asset, as has been amply proven during the last war. And it is not necessary to further enlarge or even dwell on that question. Taking, therefor, for granted that every industry in the country is a national asset, I will try to show why the bee industry is one of the best.

Most of us are aware that many of the nation's assets are subject to depreciation and even exhaustion, because of creating new industries and favoring others. Take, for instance, our lumbering industry, which at one time seemed inexhaustible, and especially the white pine industry of our northern forests, which formerly yielded millions and millions of dollars in revenues annually, but has now almost ceased to be a national asset.

On the other hand the bee industry has not declined, (in value and importance,) but rather has increased. The lumbering industry of our forests had to give way to agriculture. But the bee industry thrives fully as well, if not more so, in agricultural districts than it did in forest districts.

It is one of the remarkable features of the bee industry that it can thrive alongside of many of the agricultural branches without encroaching on them. In fact, it stands almost alone in this particular. We can not grow a crop of clover and potatoes on the same ground at the same time, nor can we have a crop of oranges and a crop of peaches on the same piece of ground at the same time. We can have, however, either the peaches, oranges or clover and harvest a crop of honey from the same ground they occupy at the same time.

The value of the beekeeping industry as one of the nation's best assets was perhaps never more apparent than during the war, when for a time conditions threatened to leave honey the only sweet available for human consumption, owing to the fact that the supply of sugar was greatly reduced both at home and from foreign sources. Then the honey bee came to our assistance with its precious sweets gathered from the flowers growing in many places where the plow had not as yet turned the ground, and from waste places, swails and mountains inaccessable to the plow of the agriculturist proving what a valuable national asset the bee industry is, and how appreciably it added to the nation's food supply in time of greatest need. This all without taking a single acre of ground for the sole production of honey.

But the adding to the nation's food supply without encroaching upon the acreage and quantity of other farm products is not the only peculiar advantage the bee industry has over many other industries. It has another value, which is perhaps greater than the one aforementioned, in that the cross-pollenization of flowers is greatly increased by the honey bee.

Chester A. Reed, a noted botanist, says: "It is evident that should the pollen continue to fertilize the ovule in the same flower, the plants in successive generations might become weakened and finally die out and the species be lost." He states further, "It is evident that a flower secreting honey may be visited by unwelcome guests, ones that will accept of the nectar but will make no useful return. Any insect with a shiny smooth body, whether winged or not is of little use in fertilizing a plant, for even should it receive pollen, it will in all probability have fallen off before the next flower is visited. Ants being particu-

larly found of sweet things and so small that they can enter a flower without disturbing the anthers, frequently drain the nectar cups so no useful insect will visit them, and they fail to reproduce their kind. Nature has a number of ways of preventing thefts of this kind, one of the most common ways being to provide the plant stem with bristly hairs, forming a very difficult barrier for any crawling insect to overcome; others have a tuft of hairs at the very entrance of the honey cells, which bar the way for unwelcome guests, but readily allow the bee to insert its tongue."

There are, of course other insects possessing the ability of cross-fertilizing flowers, but depending on favorable weather conditions to multiply and become numerous enough to be of any value and are often so retarded by unfavorable weather conditions that their numbers are too small to be of any value as cross-pollenizers. But the honey bee, cared for and protected by the beekeeper, is ever ready whenever the weather permits it to leave the hive to gather food for its home, at the same time performing its most valuable function, that of cross-pollenization of the different kinds of flowers which it happens to visit. This is necessary to keep the seed vigorous and in better condition to reproduce their kind as strong and healthy plants during the years to come.—A. C. F. Bartz, Keystone, via Jim Falls, Wis.

Beekeeping Commercialized

A. Swahn, Ellsworth, Wis.

The time is coming, and not in the distant future either, when our Wisconsin beekeepers must put the honey industry on a business basis the same as all other successful business enterprises. In other words it must be commercialized.

The branch in our university where the A. B. C's of beeculture is taught is a very valuable one, but I think the state should ease up a little on teaching the anatomy of the honey bee to our old and established beekeepers, and spend a little more time in teaching the earning power of the honey bee. Teaching old beekeepers the rudiments of beeculture is the same as teaching the old dog new tricks. It is hard to do.

Beekeepers who are so ancient in their ideas that they do not know the rudiments, or do not have books from which they may be learned, are also so set in their ways that they do not care to learn. The successful beekeeper of today is the one who is willing and anxious to learn and profit by new methods and ideas. The most ignorant man in the bee business today is the man who thinks he knows it all, and who will not take advantage of modern methods.

In the honey industry, like any other business, we cannot expect the best results without trained brains, without work and without proper investment. We cannot expect to meet competition by sitting around pitying ourselves, and bemoaning the fact that the big fellows in the business are making money. Why do they make money? Simply because they put both money and brains behind their business. The old adage, "The pen is mightier than the sword," might be modernized and brought to date by a new adage, "The pencil is mightier than the plow." This means that if we use our brains and a pencil, as well as the necessary capital, we will find means by which we can eliminate the hard work of holding the old plow, and pounding old Dobbin on the back. More can be done now in 24 hours than could be done in a week by the old methods of depending entirely upon brawn and muscle to get results.

Do like the big fellows in other industries. Systematize your work. Get the notion out of your heads for all time that the big fish in business eat the little fish. They do nothing of the kind. The successful men or the so called big fish, pave the way for the little fellows. They originate and develop new ideas and methods by which success is assured if followed. If your business is not a success do not blame the other fellow—blame yourself.

The secret of successful beekeeping is intelligent management, co-operation and maintaining fair prices. The very men who kill prices are the ones who do the most kicking about the high cost of supplies and the low price of honey.

Every time you feel that some one should be kicked, ask some of your kind and obliging friends to kick you first, and the chances are that the right party will receive the kick.

Think more about your own faults and shortcomings, and less about the faults of others, and the present dark cloud will soon turn toward you its silver lining.

We have enough beekeepers, but not enough bees. We will now consider the point around which the success of the whole industry turns, viz.: The cost of production. There are three ways to increase the profits of any business:

First—Better prices without increase in cost of production.

Second—Decrease in cost of production without a corresponding decrease in selling price.

Third—Increase in the turnover. Applied to beekeeping this means more honey without an increased operating expense.

A great many beekeepers have the wrong idea in thinking that the only way to make more money is to get higher prices. We should consider the cost of production a great deal more than the selling price. It is the cost of doing business that ruins so many business men. While it is true that the local prices are often established by the smaller beekeepers, it is also true that the wholesale or quantity prices are established by the real commercial beekeepers who keep a large number of colonies. There is not a beekeeper in Wisconsin who can compete with some of our western brothers, because of our smaller turnover and higher cost of production. We who have only 75 to 100 colonies, must not think we are commercial beekeepers in the true sense of the word, and unless we have some other source of revenue will not get to first base in a profit comparison with some of our large western beekeepers who keep from 500 to several thousand colonies. They can sell at a profit for less than it costs us to produce.

We must do one of three things. Do less work with our present number of colonies, and more in some other line of business, or keep more bees with better working methods, or stop kicking because the other fellow can undersell us at a profit. How shall we figure the cost of producton? I think most of us are taking advantage of our bees, and charging altogether too much for our time, etc. I have no figures to prove my statement, that perhaps the average Wisconsin beekeeper has about 100 colonies, but do not think it will go above that number, so will use it as a basis for my calculations.

If our 100 colony beekeepers charge full time during the honey season to the cost of production, the poor bees will soon go into bankruptcy. If we expect to meet the lower prices which are very likely to be with us in the future, we must get right down to brass tacks and economize on our time, and manage so that we can meet them and still make the same or better net profits than in the past at the higher prices. It can be done. I cannot go into detail and show just how this can be done, as there is no fixed rule that will apply to all men or all locations and conditions, but a word to the wise should be sufficient.

In the first place, let the bees do most of the work in the apiary. Let them alone as much as possible. Do nothing with them unless absolutely necessary, and then do what is to be done at the right time. Figure out in advance just what should be done, and when it should be done and why. While modern machinery can do but little of the work in an apiary, modern brains can eliminate at least two-thirds of the usual work done by the old haphazard methods of pottering around all day without any marked results. Do not trot all day in a half bushel. Plan your work and then work your plan. Unless you have enough bees to keep you busy all the time when working to the very best advantage do not charge full time to the cost of production. Charge your

own time just the same as if you hired c all the work done by the hour, and f you will get correct costs. In addi- tion to this, of course, comes the interest on investment, depreciation, etc. Interest on investment is a fixed expense and cannot be changed, but when it comes to the item of depreciation there is a chance for argument. We must, of course, figure depreciation on first cost of supplies. Now, if our hives and buildings are painted and cared for as they should be they will last nearly a lifetime without much depreciation. Referring to the item of comb foundation, we will figure depreciation on its first cost, and not its present value. When this comb foundation is fully drawn out it is worth many times its first cost. By using fully drawn combs year after year we will get enough more honey to more than offset the item of depreciation for the whole apiary, so I doubt the advisability of considering it at all.

Please do not think that because I am telling what should be done that I do everything to the very best of advantage myself. Far from it; however, I always try to cut off corners whenever and wherever I can. As the preacher once said to his congregation, "Do as I say—not as I do."

Brother beekeepers, what are the greatest items of expense in most apiaries?

Disease.

Poor queens.

Poor working methods.

Poor financial backing.

Insufficient stores and Spring protection.

These items add more to the cost of production in most apiaries than the total of all other expenses.

We all know that disease and poor queens add very materially to the cost of production, by cutting down the amount of production. Poor working methods also cut down the amount of production and add to the cost. Financial backing in the form of sufficient supplies to give plenty of storage and ripening room for the nectar when it is ready to be stored, will add a great deal more to the profit than the interest on the difference between a shortage and an abundance of supplies. Insufficient stores and protection in the Spring will retard brood rearing and make weak colonies for the harvest. This is an expensive result, and adds very greatly to the cost of production.

Among beekeepers as well as other classes we find the pessimist and calamity howler who is always blaming someone else for his own shortsightedness. For instance, during the past few years of high priced supplies, I have heard good beekeepers say that supplies were so high that there was no more profit in the business. Let us see if that condition was really fatal. If our 100 colony beekeepers had their equipment up to where it should be at all times, would they average more than $100 yearly, at pre-war prices, for extra supplies? We will call it that anyway, in order to bring out my point. We will say that 1920 prices were 300 per cent higher than pre-war prices. That made an extra supply cost in 1920 of $200. At 8 per cent this makes an extra yearly expense of $16 How can this terrible leak be stopped?

By adding just one colony of bees with a good queen.

Finance your bees properly, manage them properly or be satisfied with your present income. Beekeeping is not a get-rich-quick game, but it is a comparatively soft job if properly managed. Most of the hard work can be eliminated, the season is short and the work is healthy and it deserves our money and best effort sto back it.

I know that many will censure me for this statement, but I will make it just the same, and time will tell whether I am right or wrong. Lower prices will be a God-send to the honey industry. It will make better beekeepers and fewer beekeepers, and a more general demand. Better beekeepers means more bees, and more honey at a lower cost, and perhaps a better profit even at the lower prices.

In my last paper, "The Beekeeper's Folly," read at Madison last December, I discussed at length the folly of cutting prices. I repeat it now. Prices should not be cut in the general sense. They should be lowered to meet the general demand for cheaper food products. The price cutter is generally a ne'er do well who cannot get business at the prevailing prices because of his inability as a salesman or for other reasons, and he thinks business will rush to him if he cuts the price. In this he is generally disappointed, still his cut will have a tendency to demoralize the local market at least. Easy money makes careless beekeepers. Lower prices will cause money to accumulate a little slower—hence the expense account will be guarded a little closer, and the final results should be about the same.

Cash in on Your Idle Time.—The time wasted by most men if properly occupied would support their families. Our 100-colony beekeepers should be able to spend at least 5 days out of every week during the honey season at some other kind of work. Any able bodied man who is willing to work and manage his work properly, can with strictly modern equipment care for from 300 to 500 colonies practically alone, producing extracted honey. Cash in on your waste time and watch your bank account grow. Time wasted is nothing more or less than additional expense.

The best example of economic honey production, and economic labor conditions that I can think of is right inside your beehives. The bees waste no time if conditions are right. They even work themselves to death to support you, and still you do not always appreciate their efforts enough to give them a chance to do their very best. If we would work to the same advantage as the bees, we would soon forget what we might have thought was a faulty government, or a faulty business condition that was holding us down and not giving us our share of this world's goods.

In conclusion will say that commercial beekeeping means business beekeeping where cost is considered more than selling price. In other lines of business the seeling price is usually established by keen competition, and success depends mainly on the cost of doing business. The same rule must be applied to the honey industry of Wisconsin in order to make it a greater success.

FRUITS FOR THE HOME

The fruits named below are all standard, reliable, hardy sorts that have been grown in Wisconsin for fifty years or more:

APPLES

(1 dozen trees enough for the farm home) 3 Duchess, 5 Wealthy, 4 Northwestern Greening.

If a greater variety is desired add McIntosh Tolman Windsor

For north-central Wisconsin substitute Patten Greening for Northwestern and omit McIntosh, etc.

Do not plant Transcendent crab anywhere in Wisconsin on account of its tendency to blight. Plant Martha or Hyslop instead.

PLUMS

Surprise, DeSoto, Hawkeye, all natives, all reliable hardy anywhere in Wisconsin and all sure croppers.

None of the European or Japanese plums are long-lived in Wisconsin but trees of certain varieties often live to bear several crops.

Try: Green Gage, Lombard and Moore's Arctic, for European and Burbank for Japanese.

CHERRIES

Where cherries thrive plant early Richmond and Montmorency.