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Volume XII

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Wayside Roses in France

It is wartime France, and a hot day in May, rendered infinitely hotter because of the rarity of such temperature. The American troop-train stops again, with the usual series of bumps and jerks, groanings and squeakings. It has made an average of five miles an hour for two days, with the said average speedily diminishing as it nears the front.

A score of enterprising men leap off to see what may be discovered. Their first idea is water, because that in their canteens has long since vanished or has been heated beyond the cooling point; but the officer in charge speedily anticipates and checks their proposed raid on the shallow well of the railroad gatehouse at the crossing, as it is against orders for the men to drink from unknown wells. The gate mistress—for women were doing most of such work in France during 1918—seems surprised that the men are not allowed to drink what to her is "perfectly good" water, which she had started to draw for their use. Noting her disappointment, the officer first thanks her and then tells her that he and his men must obey certain regulations.

Lifting his eyes from the ruddy face of this peasant war worker, he notes for the first time her neat little house, with its tiny but well-kept grounds, but, most striking of all, the wonderful Gloire de Dijon rose which luxuriates and rambles forth over the south side of the cottage, and is even sending forth enterprising shoots on the roof itself. In his stumbling French he felicitates Madame on her beautiful Gloire de Dijon.

"Ah, mon Capitaine, you love the rose; you know my wonderful one by name—it is most strange! Would you care to see my other plants? I have some very beautiful roses, is it not so? None can compare with mine, everyone says it. Voila mon Capitaine," as he follows her, "Do you know what this is, and this?" Fortunately for her opinion of him, he does know, and smilingly identifies a fine standard of Lady Ashtown, unmistakably distinct, a Druschki with wonderful petalage and substance and several other well-known varieties, but he is unable to name an attractive yellow climber with a bloom almost like Sinety which she calls Nikola, and he forgets the name of a stalwart specimen of Queen of the Belgians.

It is shaded and cool in the little rose-garden, and the perfume brings back memories of other roses and other gardens, for they are all so much the same in many ways; even the never-failing aphis is busy as usual.

The men crowd nearer; another officer enters the little garden, and Madame is overjoyed to see them all, and does the honors unaffectedly, making all welcome in her delightful French way, quite evidently glad to see them and especially pleased that her roses are so appreciated and admired. Bustling here and there, she points out one bud, just opening, "Is not the color quite exceptional, the stem remarkably long, even for one of my roses?" Another plant must be carefully inspected; "It is a new one and has survived its first winter well; it replaced an old bush which died two years ago. Are there any roses like this in America?" She is glad her visitors grow roses in their gardens; of course they realize that before the war she had very many more varieties than now; her husband did the work then, and she had time for her beautiful roses.

The Americans linger, forgetful of time, drinking in the beauties of the cool fragrance seasoned with the woman's gracious hospitality. But it is all interrupted by the warning whistle of the locomotive, given in the usual dwarf squeak of the French production. Everyone but Madame starts for the train; but before they go she must really insist that the officers accept these few blooms she has cut; she will not miss them. So, thanking her and taking the flowers, they regain the train.

In a moment it starts, and soon the little French rose-garden of the gate-keeper's wife is out of sight. Out of sight, but perhaps its modest glories have given a message to the hearts of the men on the train—the kind of a message that does good. At all events, the three officers talk roses, and forget the tiresome journey in recounting just what varieties they know and deciding what kinds they will grow when they get home.

All have fallen in love with the Dijon. At lunchtime one orderly states that his family in Nantucket have some very wonderful roses. He describes the house and just where the plants are, and it brings up a picture of the quaint island village.

After this experience it was easy to keep a lookout and note the roses grown and the difference between the wayside garden in

France and America. Generally speaking, one finds that the French like standards, and such seem to thrive better over there than they usually do with us. But the one rose which stands out is Gloire de Dijon, and this applies from Clermontferrand, in central France, clear to Nancy.

Was it Dean Hole who said that were he placed on an island and allowed only one rose bush he would choose this variety? At all events, Dijon deserves many more owners than it has. Near Philadelphia, if given winter protection and placed in a southern exposure, it will grow by fall to a height of over ten feet, and in November one may count two dozen blooms on one plant of it. Incidentally, it is of larger and finer growth if budded on Multiflora than on Brier, and it should not be grown outside on its own roots where it must withstand much frost. Parsons knew well the value of budded plants and recommended them, and his advice is borne out by the action of Dijon which, however, winters especially well on Multiflora.

There is no other yellow climber which compares with Dijon in hardiness and blooming. Climbing Mme. Melanie Soupert is another rose which, with protection, sometimes does exceptionally well as a yellow climber near Philadelphia, but it gives much less growth and bloom than Dijon.

Somehow it always seems that a hardy climbing or semi-climbing rose, with the form of the Hybrid Tea and more than one period of bloom, is the type most to be desired for the climate of the Middle Atlantic States. The South has the climbing Tea, the cooler North a longer period of bloom for the hardy climbing Perpetual. In France, where Gloire de Dijon is used so successfully, the climate approaches in severity the cold of our middle eastern section, so why not take a hint from the thrifty gate-keeper's wife and grow this variety?—George C. Thomas, Jr., Chestnut Hill, Philadelphia in the 1919 American Rose Annual published by the American Rose Society.

Soft Maple a Poor Street Tree.

The city forester of Milwaukee has banned the soft maple as a street tree and as a result has received many protests from property owners.

The following from the Journal is an example. It seems to us that Mr. Spidel's points are well taken.

"I have 200 soft maple trees which I raised from seed," he said. "They are handsome, grow fast, and I can see no reason for preventing their use."

O. W. Spidel, city forester, says that the soft maple has been rejected for use along Milwaukee streets because it is much more susceptible to insect pests than other trees, the limbs break easily, making them dangerous in storms. When large limbs break, he says, the wood is so soft that rot always follows, ultimately destroying the tree, and while the soft maple grows fast, this is its only merit, as it dies young. Under ordinary conditions a soft maple will live about forty years, while the Norway maple and elm will live about eighty years and the white ash about sixty years.

"Soft maple is more expensive to care for, as it needs more spraying and trimming after storms, it costs as much to set out, and lives only from half to two-thirds as long as other trees," Mr. Spidel said. "Why should it be used when we have other trees that are superior? The Norway maple or sugar maple, the elm and white ash are all superior. Compared with these trees, it is a waste of money to plant soft maples."

Orchard and Garden.

October 8 to 15

Everlasting flowers picked before frost and cured make fine winter bouquets for porches or often a living room.

Keep grass and rubbish away from apple and other tender bark trees if you want to discourage mice from girdling.

Celery may be set in boxes of sand or soil which just covers the roots, watered well and placed in a dark cool place for winter storage.

Squash and pumpkins should be placed on shelves in a dry warm room. Often the furnace room is a good place. Do not pile more than one layer deep.

The Boston fern is the best house fern to use. It stands the variations of temperature and the dust best of any.

Grapes and raspberries winter best if laid on the ground just before it freezes and when there is no frost in the cane. Cover with earth to the depth of about two inches.

Take up a few hills of rhubarb before the ground freezes hard for winter forcing. Let it freeze out doors and then about December first put in a box of earth or sand in a warm dark place.—Le Roy Cady, associate horticulturist, University Farm.

Double-Seeding Petunias

MYRTLE SHEPHERD FRANCIS

(Mrs. Myrtle Shepherd Francis is the daughter of the late Mrs. Shepherd, founder of the flower and seed industry in California. Mrs. Shepherd began the work of improving the Petunia, and her daughter has continued it with unabated zeal, and in a systematic manner, which places her among the great plant breeders of the age. Her experiences and observations, and the results of her achievements, are so plainly stated that the following article is excellent reading and easily understood, even by people who are not disposed to delve into the mysteries of plant life. Read before the twelfth annual meeting of the American Genetic Association, at Berkeley California. Published in The Pacific Garden.)

Before presenting the subject of my double petunia that reproduces itself, I want to state that I claim no scientific attainments, that while the scientific aspect of the work has been of deep interest to me, my chief aim has been to produce the finest strains of double petunias to be had in the market, and to make those strains reproduce themselves. Competent authority assures me that my work has been successful. * * *

The first single petunia was found by Commerson in Argentina, on the banks of the La Plata river, and sent by him to Jussieu, who named it Petunia nyctaginaflora, introducing it into France in 1823. This plant had an upright habit, with thick, sticky leaves, and long-tubed, fragrant white flowers. The second species was sent by Tweedie from Buenos Aires to the Glasgow Botanical Gardens in 1831. This plant had a decumbent habit, small, violet-purple flowers, and short tube, and was named Petunia violacea. From these two species all varieties of petunias have been bred. They have been freely crossed with each other; hence the garden varieties now go under the general name of Petunia hybrida Hort.

While the nyctaginaflora type is quite common, the true violacea form is seldom seen, proving that the nyctaginaflora species was the dominant factor in the early crosses. Even today most varieties revert to that form when left to themselves.

For convenience sake, I shall loosely divide the single varieties now under various names into two classes: those with upright habit, long-tubed flowers with small reproductive organs, slender style and fiilament adherent low down in the corolla tube, and wide range of colors, with satiny texture, as hybridas, representing P. nyctaginaflora. and the varieties with the decumbent habit, large leaves, flowers with short tube, large reproductive organs, thick style and filament adherent high up in the corolla tube and limited range of colors as representing P. violacea.

The first double petunia appeared in a private garden in France in 1855, and from this, so far as I have been able to learn, have all other doubles been obtained by artificial fecundation.

Method of Operation

For the benefit of those who may be unfamiliar with the method by which double petunias are obtained, I will explain that the double is an imperfect flower, and the single is a perfect flower. The unbroken anthers (the pollen-bearing organs) of a single flower are removed, the flower is then covered with gauze or paper until the stigma is ready, the pollen is then applied from a double flower by means of a camel's hair brush, and the covering replaced, to prevent the possibility of insect fertilization.

Such a procedure, however, is entirely too laborious for commercial work. I have never used the coverings but remove the anthers and pollenize at once from a nearby flower, double and single plants being grown in adjoining plots.

From the size of the anthers and stigma, colors and habit of growth, it would seem that the hybrida had been universally used for both male and female parents, until recent years.

Though advised otherwise, in my early work I chose the form known as grandiflora as the female parent for my doubles, probably because the flowers were easier to work with. Later, when an ideal had formed itself in my mind, the grandiflora seemed more likely to give the desired results.

Many doubles have rudimentary organs of reproduction, but in my first work in 1901 I noticed this, and formed the habit of examining each bloom carefully before picking it to pollenize with.

The first perfect double bloom was found in a hybrida plant in 1910. This plant had delicately fluted flowers with cream-colored pollen, and, when pollenized with another flower from the same plant, matured a capsule of seed. The stamens of this flower were many, rising directly through the center, the filaments being bound together by a band or collar, while the ovary sat upon a torus. The ovary of the single form sits directly upon the calyx.

From this capsule of seed thirty-seven plants were raised. No records were kept until 1911, but

as near as I can remember seventy-five per cent were double, both single and double being of the hybrida type. None of these plants gave many perfect flowers, though all were examined for reproductive organs and some seven or eight matured seed.

That season among our regular doubles appeared a semi-double of steel-blue and white which bore all perfect flowers, and on an inferior double red was found a capsule of seed which had matured without hand pollenizing.

From three distinct types, six hundred and sixty plants resulted in 1912, eighty-five per cent double and twenty-two per cent seeding slightly.

Great Variability

The petunia is perhaps the most variable flower under cultivation, but its fluctuations have a certain regularity. In this generation, the three types being planted together, the wildest confusion prevailed. In it appeared for the first time the true grandiflora, represented by three plants of deep magenta color, with steel-blue pollen. Their doubling was of an entirely different nature—all extra petals were adherent to the corolla tube instead of the usual mass of petals and stamens which generally fill the center of the flowers. Nearly all blooms on these plants were perfect, though they did not all mature seed.

In this planting were also some small inferior doubles of dingy purple flowers which were perfect with the same manner of doubling and which matured several capsules of seed without pollenizing. Both extremes have the same form and both are fertile.

From the grandiflora crossed by the hybrida double and some seed of the hybridas also we raised in 1912 five hundred and ten plants, seventy-three per cent in double, twenty-five per cent seeding. Many of the flowers showed great variety of color, beauty and size.

In 1913 we got one hundred and eighty-seven plants, with seventy-three per cent double, but thirty-three per cent seeding. Nineteen fifteen marked a decided change—the grandiflora heretofore recessive became the dominant type with blooms of extraordinary size while its seeding capacity had increased eight per cent. Both beauty and reproductiveness had developed to such an extent that for our stock seed I crossed a perfect double with a perfect double for the first time, but disaster overtook, me for our seed beds, with our entire stock of seedlings, were washed out by the floods of 1914.

Replanting from our selling stock yielded 918 plants, 85 per cent double, 42 per cent seeding. 1915 produced 567 plants, 90 per cent double, 40 per cent seeding. While the increases of doubles has been quite steady, the seeding percentage has not increased so rapidly, due to the use of a plant that carried singleness in its pollen, but with other qualities which I wished to preserve.

I have not yet made the reciprocal cross again, but expect to do so, as many of the fine large flowers are perfect, seeding as freely as singles when pollenized.

Doubtless my work would have been done on eitrely different lines had my knowledge been greater in the beginning. During the last five years I have bred distinct strains of double seeding petunias, steadily increasing doubleness, lengthening the stems and giving greater delicacy to the texture and colors. In all my work those qualities have had precedence over reproductiveness.

Many interesting and curious variations have been observed, in one of which the whole flower becomes pettalous. Some of the finest flowers are pistillate, reverting to the old form; others have anthers containing no pollen; while some almost single blooms have malformed reproductive organs, still others are perfect but infertile, etc.

Lavender and steel-blue seem to be the best seed producers, and I am quite sure that blue pollen is more productive of fertility in doubles than yellow, which continues to give about twenty-five per cent seeding plants. This may be due to the contracted throat which seems to accompany this pollen.

Of volunteers which appear each season the doubles predominate. I have never found one with other than blue pollen.

The small, pointed capsule of the hybrida, containing about two hundred and fifty seeds, has developed with the flower, one capsule often producing as many as four hundred and fifty seeds. The dehiscence in singles is in twos, but in these doubles it is often in threes and fours.

In conclusion, I quote from De Vries' Species and Varieties: "Hays has repeatedly insisted upon the principle of the choice of the most favorable variety for the experiments in improving races. He asserts that half the battle is won in choosing the variety which is to serve as a foun-

dation stock, while the other half depends upon the selection of parent plants within that variety." I. blindly striving to realize my ideal, unconsciously chose the most favorable variety and the right parents in that variety for what I desired to produce, and if the entire stock of these strains should be lost, with my present knowledge, I could consciously choose the right variety and the right seed parents in that variety, and other strains of seed producing double petunias could be developed.

(Extract from Mrs. Francis' Letter, August 13, 1920)

Since the foregoing article was written, I have developed many new shades of color, increased the percentage of double blooms and the production of seed.

To my mind the single flower is more beautiful and our strains of them rival our doubles. The Giants of California, great, ruffled blooms, with black or yellow tigered throats, many of them six inches across, the fringed hybridas, smaller blooms of satiny texture and wide range of color, are fine breeders; and Fluffy Ruffles, the darling of my heart, is a cross between the Giants and Hybridas. This strain has most of the good qualities of both parents, though it is not a giant flower.

The petunia is a most difficult plant to work with, it is so plastic and so variable. One can obtain almost any result, but to retain it is a different matter. In the best of strains and the most careful roguing the inferior plants bob up in a very exasperating way, and their evil communications will corrupt the good manners of the best bred petunias.

Insect Enemy of Horseradish

Even the pungent and tear-starting qualities of horseradish are not sufficient to discourage insect enemies. In addition to two other specific and two incidental pests preying upon this plant, entomologists of the United States Department of Agriculture report a third specific enemy, known as the European horseradish webworm and described in a bulletin of that title, Department Bulletin No. 966, just issued.

The caterpillar, which does the most destruction, is of medium size and is also known as the purple-backed webworm, as well as by its regular name. While favoring horseradish, it is also known to attack turnip and cabbage, and after feeding on the lower surface of the leaves sometimes webs them together near the ground. When abundant, it attacks the stalks even down to the roots. It was first discovered in injurious numbers in Virginia near the District of Columbia in 1919, and occasional attacks have been noted in Massachusetts, New York, New Jersey, and Wisconsin. The moth of the species is rather a bright ocher yellow, with a wing spread of about 1 inch, peculiarly spotted. The eggs are deposited in compact masses containing from half a dozen to a score. They are a little brighter green than the leaf, and each egg is surrounded by an irregular ring of yellow spots. At least two generations a year are produced in Virginia.

The webworm may be controlled by arsenicals and by hand-picking on horseradish, and more readily on other crops by fall and spring plowing and frequent cultivation.

Wisconsin to Establish Shipping-Point Inspection of Cabbage

A shipping - point - inspection service on cabbage is being planned by the Wisconsin Division of Markets. Grades for cabbage have been established by the division, based on tentative cabbage grades proposed by the Bureau of Markets and Crop Estimates, United States Department of Agriculture. The service will be made effective beginning with the fall crop.

Although approximately 6,000 carloads of Wisconsin cabbage were marketed during the past season, about 25 per cent of the cabbage produced was unharvested for the lack of a market. In many cases the price received for cabbage that was marketed was not enough to pay for the actual cost of harvesting and marketing. It is with a view to preventing a similar situation the coming fall that shipping-point-inspection has been decided upon. The Wisconsin Division of Markets appreciates that carefully graded stock invariably commands a premium over products that are not graded. Careful attention also will be given the loading and ventilation of cars.

The tentative cabbage grades proposed by the Bureau of Markets were published in February, 1921. U. S. No. 1 grade consists of sound heads of cabbage which are of one type, reasonably hard, and neatly trimmed, which are not soft, withered, bursted or showing seed stalks; which are free from soft root and practically free from damage caused by discoloration, freezing injury, insects, disease or mechanical or other means. U. S. No. 2 grade

consists of sound heads of cabbage which do not meet the requirements of U. S. No. 1. Detailed specifications for the grades can be had upon application to the Bureau of Markets and Crop Estimates, United States Department of Agriculture, Washington, D. C.

Help Take Fraudulent Methods Out of the Fruit Business

Much has been said about "honest pack." Progress is being made, but an "honest pack" may not be honestly sold. "A" grade "2¼" minimum size, is rather inadequate description. The maximum size might be "2⅜" and the maximum color 30 per cent and pale. The seller must specify per cent of sizes and per cent of color as well as grade. He must not misrepresent the quality or keeping qualities of what he has to sell. We are not prepared to say whether the grower as packer, distributor, or retail dealer is the most holy or unholy. It is altogether probable that all three of these classes could have stood more training in ethics during their school or college days without making either class better than the Golden Rule. We need to get away from poor moral strains, and the first step after the "honest pack" is to discontinue **unlimited consignments.**

Consignment business is deficient in business principles in several particulars: It is irregular in supply and is seriously charged with being the father of double commissions. When too many cars are consigned to one agent the prices are cut; the agent is under strong pressure to reduce prices to relatives, friends and to persons to whom he is under obligation; the agent is tempted to buy of himself and as seller and buyer he is not likely to cheat himself.

Consignment business has a tendency to make congestion in central markets, and consequently lower prices. Most dealers who sell as agents, also buy for themselves. Naturally a dealer wants to make good profits on his investments. If the customer will not take the stock the dealer owns, it is easy for the dealer to be generous with consigned stock at growers' expense. The grower must be considerate of both the distributor and the retailer. Even the consumer's needs must be taken into consideration. Losses kill business.

The retailer must be educated to fair dealing as well as the grower and the distributor. The old game of ordering carloads and refusing with expectation of buying cheaper on arrival of a car should put such dealers on the "cash in advance" list. Let us work to cut out all fraud in the fruit business, standardize our methods of handling, have **approved** distributors on fixed basis which will bring wider distribution and stabilize the fruit industry.—G. H. Townsend, Madison.

Why Train Tomatoes.

This is not tomato planting season nor tomato training season, but it is just exactly the best time to observe the results obtained by training vs. no training. It's quite the fashion for penny-a-word writers in farm papers, who in turn copy U. S. Dept. of Agr. experts, to recommend staking and training tomatoes, usually taking the single stem method as a model. The claims set forth for this method are, economy of space, earliness in ripening and superior quality. Here is a sample from the U. S. D. A. hopper:

"It generally pays to stake and prune the tomatoes grown in the small home garden because by this method the fruit is held off the ground and is clean, a larger number of tomato plants can be grown on a given space and the fruit generally ripens earlier than if the plants are allowed to grow in the natural way. * * *

"Twenty-five to fifty tomato plants trained to stakes will supply the average family with all the tomatoes needed for use while fresh, also for canning. It pays to go to some little trouble to have them early, also to stake and prune them so that the quality will be the best."

Disclaiming any intention to convince the "stakers" that they are wrong, the writer merely offers the following hypothetical proposition: Fifty plants one foot apart requires 50 lineal feet and a feeding space for the roots two feet on each side, making 200 square feet; the time required in staking, tying and pruning will be not less than 50 hours during the season; twelve plants set 4 feet apart each way will require about one square rod, 272¼ sq. feet; no staking, tying or pruning. The twelve untrained plants will yield more fruit than the fifty trained ones; the loss from disease is not greater through a period of years; the first tomato may ripen on the staked row, but the second will be found in the "wild" patch; there will be less scalding during a hot spell and you can go fishing or read a treatise on staking tomatoes while the other fellow is doing it.

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The Summer Meeting

W. J. Moyle

The morning of August 17th found the writer in the audience room of the Public Library of Oshkosh, prepared to assist the Oshkosh people in celebrating this annual festival. The room was filled with flowers and vegetables and all the greater and lesser lights of horticultural fame from different parts of the state.

President Hays presided and Vice President Christensen acting as general supervisor, made the machinery run smoothly. Hon. G. A. Buckstaff gave us a real sensible talk in his address of welcome. Then James Livingston of Milwaukee, told us how we should grow, prepare and arrange our flowers for exhibition in order to get the blue ribbons.

After dinner Mr. Longland of Lake Geneva, gave us an instructive talk on how to grow and prepare vegetables for exhibition so as to favorably impress the judge.

C. E. Durst of Chicago, Ill., an active member of the farm bureau of that state, gave a very convincing talk on the benefits derived from co-operation of fruit growers in marketing their crops in southern Illinois.

Mrs. Strong of West Allis (Our Flower Lady) told us why she loved old fashioned Larkspur and many others of the easy to grow annuals.

Then Billie Toole
From Garry nee Dule
Talked for a whil-a
On the Gysopheli-a,
The hardy pinks and speedwell blue,
Coral Bells and Fox Gloves, too.
Hardy flowers are Billie's forte
To talk of them for him is sport.

The evening of the first day we all autoed out to the home of Mr. and Mrs. Wm. Nelson, where we were entertained in a royal manner; bushels of tender sweet corn roasted on a log fire with weiner sandwiches and coffee and doughnuts thrown in for good measure. Then followed a very high class programme, the principal feature being an address by Mrs. Lewis Morton of Omro, on the "Creation of a Village Park." Through the entire evening music was furnished by a first class orchestra which added greatly to the pleasure of the evening's performances.

The second day was spent in making an auto trip of about 50 miles over to Omro and back with short visits to the establishments of Rasmussen and Christensen and other prominent horticulturalists of Oshkosh, winding up the trip by stopping at the palatial homestead of J. W. Roe for dinner, when a repetition of the former days of good time was carried out by feeding the inner man a lot of good things. Professor Moore of the State University gave us a very edifying after-dinner talk on how to make and keep a good garden.

The Oshkosh Horticultural Society has long been noted for the royal way they entertain on these occasions and they truly lived up to their past reputation during this meeting, which was voraciously demonstrated by the visiting delegates and visitors by a unanimous expression of their appreciation.

Peach Stories

This is the time of year when crafty amateurs, both the mild and the violent insane of the tribe, invade the office with home grown peaches and tell you how little you really know about fruit raising in Wisconsin. "Why, these peaches were raised in my back yard and look at them, finer than any ever raised in Michigan." "All I did was to plant the pits," etc., etc. "Don't see why we can't raise peaches in Wisconsin, I raised these," etc., etc.

You really don't say it, but you feel like saying, "Yes, you poor fish, we could raise peaches in Wisconsin if we could raise the trees to hang them on." "Your blankety, blank, highly virtuous and consecrated peach tree that you have been telling me about for the last three weary hours

will be dead at a quarter past 6 in the morning of next April 12th, and you will say it was because "a worm bit a hole in the root." No, brethren, and sisters of horticultural Wisconsin, we cannot raise peaches in this state on a commercial scale, back yard trees to the contrary notwithstanding. Plant pits by all means and have lots of fun for a year or two, but don't plant an orchard. Ben Bones of Racine county tried it. He died. Take warning.

Not Many Cranberries This Year

The cranberry growers are all optomists or else how can they keep in the game. This year tip blight and the berry worm devastated the fields, while heat and drought depleted the reservoirs, thus preventing flooding. In 1918 and 1919 bumper crops were grown, but the scarcity of sugar killed the market for berries, many carloads of perfect fruit being thrown out.

Fall Planting for Wisconsin

What nursery stock may be planted in the fall? This is an ever-recurring question and an important one.

Currants, gooseberries, raspberries and many of the ornamental shrubs may be safely planted in the fall if heavily mulched after the ground freezes.

Fruit trees should not be planted in the fall. This has been so often and so thoroughly proven that nurserymen should know and do know that they are deceiving their customers when they advise fall planting of fruit trees. This practice may be all right for other localities, further east and south, but is not all right for this state.

Ornamental trees of the hardier varieties are often successfully transplanted in the fall if the trunks and larger limbs are wrapped, but spring planting is better. In fact with the exception of currants and gooseberries, which start growth exceedingly early, spring planting is best. This means early spring, as soon as the ground is fit and this means fall preparation.

Champion Cherry Pickers

How much do the Sturgeon Bay cherry pickers earn in a day, or how many quarts is a day's work? These questions are often asked by people "down state" and the answer is 200 quarts a day as a high mark down to 75 and 100 quarts. The following reports from S. B. papers show the high mark:

OCONTO, Wis.—Of the 40 boys of all ages from Oconto county, now picking cherries at Sturgeon Bay, Alfred McDermott, aged 16 years, has broken all records for this year by picking 268 quarts in one day and has been declared the champion.

STURGEON BAY—Jules Dubois, Sturgeon Bay, has been proclaimed champion cherry picker as a result of a record established during the season just closed.

In one day he picked 408 quarts, for which he received a day's wage of $12.24. The day before Jules picked 224 quarts in the morning, working only half a day.

A few years ago Jules held the record, but forsook the orchards when he went into the shoe repairing business, and his former record was beaten. This year, however, he decided to leave his cobbler's bench for a few days, to set a new record, and his pick of 408 quarts will unquestionably stand for some time.

Just Folks

Introducing ELIZABETH HELD

(Miss Held has agreed to write about Folks each month during the year, taking the place of "Johnnie," who is, figuratively, dead.—Editor.)

Dear Readers: The Editor has bidden me entertain you for a year, (if I can). He gave me permission to write about anything I wished, but in the course of our conversation he intimated that folks were mighty interesting. I agree with the Editor, they are, and the more you study them—actions, expressions, tones—the more interesting they become. I'm a bit like "Johnnie." I also learned some things when a child that I've never forgotten, though I didn't learn them in Grandmother's Garden as he did.

When I was about 12, a shrewd kindly old lawyer taught me this game of watching a person's face while listening carefully to their conversation.

I was called as a witness in the case of a neighbor who had a bad habit of shooting up the windows in the vicinity. I have said the old lawyer was shrewd—he was, because he understood children well enough to be perfectly honest with them. Frankly telling me that on my testimony hung the success or failure of the case, he said: "I want you to look right at the other lawyer, watch his face, listen carefully to his questions and just tell the truth, as you told it to your mother and myself."

Before I stepped down from the witness stand I knew why he had told me to watch the other lawyer's face; my child mind had grasped the fact that he was being beaten, for though his voice was smooth and even, his face showed anger. He didn't like to be looked at so intently. And though at last he waved me, contempteously aside, it was an exultant, happy child who ran to the good old friend and said: "We've beaten him, haven't we?' That was my first and last experience in a court of law, but the habit of studying folks grew on me, and it has proven most fascinating. Like most games, though, there are some things about it I do not like,—for instance, when some one whom I decide I do not like,—because,—well just because I don't, and I study them expecting, of course, I'll prove conclusively they haven't any good qualities,—and then they up and develop some of the most likable qualities any human being could possess, then I wish I hadn't watched them. And again, the folks I like just because I do, develop little habits that irritate me, and I find myself making all sorts of excuses for them, just because they are my friends and I don't want to see any faults in friends. Do you ever do that? Sure you do, Just think about it a bit; see if you don't excuse the same thing in your friends you condemn in others. Now, next time I'll tell you about other things I've discovered by watching folks. Sometimes it is tragic and sometimes it is funny, but always interesting.

More About Milwaukee Trees

The city forestry division of the park board has planted trees along 14 miles of streets this year. These consist of 2,000 elm and 500 Norway maple, 2 inches in diameter, according to O. W. Spidel. The division also has sprayed trees on 85 miles of streets for tussock moth and scale; has pruned 45 miles of trees, cut down in tree borders 550 dead trees, and planted 160 trees from 4 to 10 inches in diameter.—Milwaukee Journal.

While Milwaukee is our largest city and we naturally expect big things from there, we cannot but marvel at the efficiency of its park board. Is there any other city in the state that has done as much proportionate to size?

Door County Fruit

Door county fruit growers have solved all the big problems that confronted them, solved them one by one as they appeared until now their business rests on solid foundations. It is safe to say that the fruit growers of Door county are better organized than any other group of farmers or fruit growers in Wisconsin. Their

business is standardized, safe and profitable.

The first big problem was to produce fruit. It took twenty years to learn how to do that, how to plant, prune, cultivate and spray so as to produce big yields.

The next problem was to get the fruit picked. The cherry crop this year totaled over 8 million quarts, but it was all picked. An army of pickers, handled after the manner that armies are handled, solved the problem.

The most important problem was to sell the fruit. When the total output was 50 or 60 carloads it was more than a small problem, with a one-horse railroad, a highly perishable product and blood-sucking commission men at the other end of the line. This year, with six hundred carloads, the problem was no problem at all, because it wasn't necessary to ship the fruit. It was canned right at home and only as much fresh fruit was shipped as pleased the organization to ship in order to hold good trade.

Door county growers have a lot to learn yet, but they have done pretty well. The moral of this tale is that fruit growing in Wisconsin is a mighty good line of business when business methods are used, for Door county has few, if any, natural advantages over many other sections of the state. This statement may be disputed, but it will take considerable argument to disprove it.

Some people actually eat egg plant and claim they like it.

Did you attend the State Fair? If not, why not? Give an honest answer.

Bayfield Strawberries

The strawberry season in Bayfield county, just closed, has been the best for several years.. The yield was large and the price obtained by the growers the best for many seasons. The estimate for the yield for the county is 22,000 crates, which netted growers $75,000.

More than 5,000 crates were raised in the vicinity of Washburn. The largest single grower was Ed Carlson, with 704 crates which brought him $2,816, the average of $4 per crate from two acres of ground. S. Anderson had a field of half an acre and sold $560 worth of berries. Charles Olson had three-quarters of an acre from which he picked $895 worth of berries.

Bayview fruit ranch, owned by W. H. Irish, had only two acres of plants under cultivation this season, but sold over 400 crates for $1,500.

It is estimated that the average crop for this season has been 150 crates per acre, yielding about $600 in cash. Bayfield county strawberries are ordinarily the last on the market, and usually in season about July 1. They bring higher prices since other berries are gone a week or two before. The dry season this summer, however, hastened the crop nearly two weeks.

Mark Twain Says:

We are so strangely made; the memories that could make us happy pass away; it is the memories that break our hearts that abide.

If your home garden plot is big enough to be plowed have the plowing done this fall if weather permits.

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.

Annual Convention, December 8 and 9, 1921, State Capitol

We are now making up our program for the convention. We will soon be calling upon our beekeepers for papers. We hope that if you have someting to give you will send in your name for the program with the title of your paper, without our asking for it.

Dr. Miller Memorial Fund

A National Committee of Beekeepers, as indicated in several numbers of Gleanings and the American Bee Journal, has been appointed to raise a fund to provide a suitable memorial for Dr. C. C. Miller. To date, Wisconsin beekeepers have not been as responsive as they should be and we are at this time making a plea to the beekeepers of Wisconsin to give their financial support to this effort. The following abstract from a talk made by Dr. Phillips at the Chippewa Falls meeting expresses the feeling which every beekeeper in America should have, "There has never been a beekeeper in this country or any other country that has gotten as close to the hearts of beekeepers as did DR. MILLER. No man has helped you as much as DR. MILLER. If you have read his articles, I do not believe it was possible to do so without being a better person. He never did an unkind thing; personal intimate contact of his heart with ours—we cannot pay for that."

Some of our beekeepers have replied directly to the national committee and these are not included in this report. The Connecticut State Beekeepers raised $100 at a single meeting. Certainly, Wisconsin ought to do as well. To date we have received subscriptions through this office to the amount of $47, as follows:

State Association	$10.00
State Cooperative Assn.	5.00
H. F. Wilson	2.00
O. B. Bartz	1.00
Wm. Brenner	1.00
Jennie Matzke	1.00
A. C. F. Bartz	2.00
Emma Bartz	1.00
V. G. Milum	2.00
Harry Stebens	.50
Wm. Vollbrecht	.50
H. J. Rahmlow	1.00
E. W. Atkins	1.00
F. L. Schultz	1.00
Wm. R. Pember	.50
C. D. Adams	1.00
Dan Starman	1.00
Wm. Klessig	.50
Albert Peterson	.50
W. E. Krause	.50

Lake Region Honey Co.	1.00
Geo. Stowell	1.00
C. M. Tarr	1.00
Mrs. Fred Christenson	2.00
Lewis Francisco	1.00
A. W. Ewing	1.00
Dr. Robert Siebecker.....	1.00
Sam Post	1.00
E. K. Chaffey	1.00
E. P. Minsart	.50
Wm. Michaelson	1.00
Mr. Tobey	1.00
H. L. Hartwig	.50
Mrs. Hildreth	1.00
	$47.00

The following beekeepers have subscribed, but not yet paid:

Linus Brock	1.00
Dr. W. Lumley .....$	.50
H. V. Wilson	2.00
F. J. Mongin	1.00
Leo. Bentz	.50
Mrs. J. F. Furlong	.50
W. C. Ehrhardt	.50
	6.00

DON'T DELAY! SEND IN YOUR SUBSCRIPTION TODAY.

Changes in the University Staff

Mr. J. I. Hambleton, formerly apiarist of the University, is now with Dr. E. F. Phillips at Washington, and Mr. V. G. Milum, a graduate of the University, has taken his place.

Mr. H. L. McMurry, extension apiculturist, has resigned to enter commercial work, and Mr. L. P. Whitehead, a graduate of Kansas Agricultural College and experienced beekeeper, is now in charge of beekeeping extension work.

Summer Convention Well Attended

After three successful attempts to hold a Summer beekeepers' conference, we know definitely that such meetings are well appreciated by the beekeepers and that they have really more educational value than the Winter convention. While the registration at Chippewa Falls was not as great as during the past two years, still the attendance was excellent considering the short honey flows for this season. The officials in charge were somewhat handicapped because they were unable to provide the promised cafeteria in the City Park, but in spite of this, the beekeepers seemed to thoroughly enjoy themselves and everybody seemed to have a good time. One hundred twenty-six beekeepers registered from 24 different counties. A total of 5,889 colonies were represented, this making an average of 47 colonies per person, as compared with an average of 37 colonies per person in 1919 and 38 colonies per person in 1920. As in the past, the success of the meeting was largely due to the speakers from outside of the state. Dr. Phillips, Mr. C. P. Dadant and Mr. E. R. Root gave us some splendid material to study over during the winter.

According to the plans now under way, the next Summer meeting will be held at Green Bay, August 15 to 18, 1922. Begin making your plans for this conference. The Beekeepers of Brown County have promised us a big celebration.

Resolutions were passed as follows: "It is the sense of this body that sweet clover is not a noxious weed and that steps should be taken to prevent its being cut along the highways until after the blooming period is over."

'It is also the sense of this meeting that a resolution be sent to the State Association at their December meeting relative to a change in the present market reports, it being understood that at present they are somewhat deceiving to the beekeeper."

Our Future Beekeepers

The beekeeping industry is going to pass through a decided change in the next few years and there are certain characteristics which will be predominant among our future beekeepers. Many now in the business are going to go out of it, while some will die out. There are five important factors which must be followed by the future beekeeper.

1. In my judgment every beekeeper must be a cooperator. He cannot keep bees by himself, having nothing to do with other beekeepers in his neighborhood. He cannot do it individually. This is an impossibility. Individualism is the worst doctrine ever advocated. We are not living as individuals and we cannot live as individuals. The **future beekeeper is going to be a cooperator.** He is going to cooperate with everybody who will cooperate with him in protecting his bees and selling his honey. Maybe he will be a politician and go into the thing to protect the industry. To succeed we must pull together hand in hand and work together to control the disease situation and improve marketing conditions.

2. The future beekeeper will be more or less of a migratory nature. It is not necessary to move bees long distances, but most of our beekeepers in Wisconsin can move bees short distances with great success. The smart beekeeper will keep his eyes open and will move his bees to better locations in years when there is no crop at home. An example of this is moving the bees into the fireweed flow this season. I have never seen a universal honey dearth and it is well known that failures as a rule occur only in limited localities.

3. The future beekeeper must be a closer student of honey plants and nectar secretion. I believe that it pays to sow sweet clover for bees.

4. The future beekeeper must be an open-minded person open to conviction and not satisfied with his own methods.

5. There is another extreme to which beekeepers go and which they must get over: That is in their extreme method of trying out new things. One of the curses of beekeeping has been the continual change and experimenting with untried equipment and new schemes. Many things have already been solved for us, so what is the use of trying to experiment with things which have already been proven to be of no value? It does not pay to try out every new scheme given in bee books and journals. The beekeeper must conserve his time and not spend it experimenting. Leave the experimental work to the national government and to our colleges and universities. Use the knowledge we already have to make your business a **commercial success.** —H. L. McMurry.

Mr. McMurry gave some very pertinent remarks concerning the American Honey Producers' League and the advantages to be gained by supporting a national organization of beekeepers. He states that no beekeeper has a reason for not supporting the League and that we all have a dozen reasons why we should give it our full support.

Wisconsin Cooperative Associations and How the Division of Markets Can Help the Beekeepers

We are interested in cooperative marketing of all farm products and hope that in the future we may be able to help a great deal with the beekeeping industry. You have been spending your time becoming efficient producers of honey. What marketing has been done has been due to individual effort. The marketing end has been entirely neglected by the beekeepers. It has been almost entirely a peddling proposition. Your biggest problem is to find a satisfactory market for your surplus at a fair price.

In the past your methods of selling have not been satisfactory. Now what can be done? How large an association do you want? Shall it be a state association or a county association? Regardless of the kind of organization, there are certain fundamentals you must have as a basis for that organization. There must be a sufficient volume of honey to make a big business and your product must be standardized. Your product must also have a standard label. What have you done to advertise? How much of your income do you spend in advertising? Judicious advertising will make any honey product successful and if you have a good standardized product, it will not be a luxury but a food. In this work you must have a guaranteed volume of business. It must be **well financed** and **well managed.**

There are three things that are of utmost importance in an organization of this kind and you must keep them in mind:

1. You must have a contract with every member.
2. You must have a sufficient volume of business.
3. You must be well financed.

If you do not have these you better leave cooperative marketing alone. If you do have them you can give **Wisconsin Honey** the name it should have.

The Department of Markets offers you its services in any way that it can help. You now have Mr. Adams of our Department to help you work out your honey grading plans.

There is one other reminder which I wish to give and that is, do not expect to get an organization that will be satisfactory to everybody, because there are no such organizations. If there were, they would be no good. Remember that although we are in a way your boss, at the same time we are your servants.—L. G. Foster, Wisconsin Division of Markets.

The Influence of Weather on Beekeeping Practice

The knowledge of beekeeping which we now have has been accumulated through a great number of years. The actual influence of bee behavior upon certain manipulations has been more or less accumulating for many years, but it is only during the past ten years that these have been so prominently brought out. Dr. Phillips has done more to collect and bring out these things than any one else. Beekeeping is not simply a matter of having bees, putting on supers, taking them off, but something vastly greater.

In beekeeping we have every physical science to deal with. Although we may not be aware of the fact, we must study bee behavior which is a part of zoology; we must study physics, botany in connection with the development of plants and secretion of nectar, climatology, electricity and so on. The honey bee is one of the few animals that is influenced to a very minute degree by slight changes in temperature. All animals are influenced by changes in temperature to a more or less degree and perhaps in the future we may find that many groups are as closely affected as bees.

Weather conditions are in my opinion as important if not more important than any other factor in beekeeping. A study of the weather records for the past ten years will show that bees should not be put away in the cellar in the vicinity of Madison later than November 20. These records show that practically every year we have a cold spell or snow in October. Bees should therefore have some kind of protection in the fall. Through the winter months the bees have apparently only one thing to do and that is to keep the temperature up to 57 degrees F. around the cluster. As soon as the bees are set out in the spring, they raise the temperature up to 93 to 97 degrees F. The queen apparently will not lay eggs until this temperature is reached and once it starts in the hive, it continues until the brood rearing ceases in the fall. Ordinarily, our beekeepers do not set their bees out until April 10 to 15. For this reason bees wintered out of doors have the advantage over bees wintered in the cellar in that they have an opportunity to fly earlier in the spring. If bees wintered in the cellar are set out on or near March 20 and are given good protection, they will have every advantage of bees wintered out-of-doors and will be in better condition because they do not have to stand such low temperatures during the winter.

One very important thing which is now being neglected by beekeepers is spring protection. Spring protection is in my opinion much more necessary than winter protection because the bees are using up a great deal more energy in developing the brood nest and the development of the colony is limited to a very large extent by their ability to conserve heat which helps them to conserve energy. Bees should be set out as early as March 20 in the vicinity of Madison and should then be given plenty of proection as well as an abundance of stores and room.—H. F. Wilson.

Dr. Phillips gave us two very interesting and valuable talks, but before these can be printed they must be revised and O. K.'d by Dr. Phillips. It will also be necessary to have Mr. Dadant O. K. his talk before it can be published.

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 Such activities necessarily fall upon might be the improvement of market the producer himself. The Wisconsin prices affecting such organizations. 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.

The average Wisconsin county unit of honey producers has a membership of thirty to fifty active members. Should you take from that number in each county from five to ten of the largest beekeepers, you will have in such group throughout Wisconsin all the producers who are making a specialty of honey production for export out of their immediate community. It is such honey producer to whom organized action for the creation of a wider market for his product should appeal. It is such surplus producer also who will reap the benefit of the advertising of a standard product at a reasonable price. Wisconsin honey is honey of quality and has no equal on the market in America. Wisconsin is so favorably located both as to climatic conditions and attractive bee pastures that honey production should be especially profitable. We in Wisconsin might be able to attract the markets of America to the Wisconsin honey output if the merit of our product were more generally known. We might truly say with pride in the product, that American markets should

"COME OVERLAND TO CLOVERLAND, THE BADGER LAND OF HONEY."

The adoption of a certain brand for Wisconsin honey would do wonders in the way of creating a demand for our product. When we approach the question of branding Wisconsin honey, we also assume approval of the fact that honey qualities vary and should be put upon the market at prices that vary accordingly. Let us agree here that the State Department of Agriculture has taken a splendid forward step in the urging of honey grades, but I believe Wisconsin honey producers can improve upon what is being proposed by our State Department in the way of honey grades by merely adopting a brand of their own to which they subscribe their integrity and to which they will give every attention to their

effort to make their product equal to all that their brand would indicate. They then are grading their honey not because they must be law-abiding but because they have pride in their product. When the producer takes pride in his product, the consumer naturally will follow with an estimate of it that always will be in keeping with what his brand claims. I should like to see Wisconsin honey advertised country-wide so that every large market would literally

"MAKE BEE LINES FOR WISCONSIN HONEY."

Let us assume that Wisconsin bee men adopt a brand, calling it, for example,

"THE BIG BEE BRAND,"

or by suggestion let it be named,

"BADGER BUSY BEE BRAND."

Honey going out under such distinction would establish a market absolutely its own, and might eventually educate the average honey consumer to a point where he would insist upon goods stamped with such brand only. Should you be open for further suggestion we might offer

"WISCONSIN CLOVER MAID HONEY,"

lithographically decorated with scenes or views that might increase its appeal to the average consumer. I suggest these things only to add vision to those who have thought in terms of better honey markets, markets in which Wisconsin honey should appeal extremely by virtue of its standards of quality. Why would it not be possible for Wisconsin producers to pool their annual output and sell it on a brand basis? Advertise the merits of the product and deliver goods that always will be more than equal to all that the brand may mean.

Before we have mastered the market, there is the advertising campaign that must of necessity precede all. I need only cite a few examples of what has been done in the advertising world and the success that has followed such advertising investments. I may illustrate this by clippings from our household magazines which depict in beautifully colored plates in a most appealing manner the mreits of the products advertised. You need only to glance through our modern magazines to note what is being done to promote the market of some of the most unusual products and substitutes we know. To support this statement, let us take for example, the advertising plates which have for their aim the increased consumption of butter, lard, and honey substitutes. Oleomargarine advertisements fairly impose themselves upon the reading public. Advertisements of lard substitutes are in the same class. Vegetable oils never should be considered on a par with pure and unadulterated animal fats. We may also say that syrups such as glucose, etc., never should be thought of except as substitutes for honey. Honey is a primary product of outstanding quality, food value and merits which never should fear a competing product. Here you may consider advertising as a program of education, which it undoubtedly is. The sooner Wisconsin honey producers will turn their attention to the education of the consumers of their product, the greater will be the demand for their output and the greater will be the price that they will receive.

Agricultural production in all its phases probably is at its height. Greater markets must be developed in order that our surplus may be consumed. The limit of profit to the Wisconsin farmer has been reached as far as production is concerned. He must be paid reasonably for what he now produces before he can be induced to produce more. If he must market what he now has at a loss, it is evident then that should he double his a greater amount of attention to marketing, output, he would double his loss. Such procedure in the honey producing industry would be fatal. We must turn kets in the future than we have done in the past. Emphasis on that phase of the industry will bring favorable results sooner than any other that may be recommended.

There is one outstanding feature of honey production that comes to my attention. That is that our honey producers, after years or a lifetime of study of bees and their habits, have not taken from these creatures the lesson of organization and co-operation. The very fundamental trait of bees in which every beekeeper is vitally concerned, is organization. Without it, there is confusion and chaos. The good beekeeper would not tolerate it in his bee yard, but he evidently has tolerated a condition among his fellow beekeepers which has been just as destructive to them as disorganization would be in the bee yard. I may close by recommending that each take home with him this lesson from his own apiary. Profit by the example set—organize and success in your vocation is assured.

—R. R. Runke.

Downy Mildew in Lettuce

The first step in the control of downy mildew is to destroy all wild lettuce plants in the immediate vicinity of your greenhouse and hotbeds. Studies made here prove conclusively that this disease lives on both wild and cultivated lettuce, and, in many instances, the wild lettuce is a source of infection. The disease carries over the heated period of summer on the wild plants and infects the first crop of garden lettuce in the fall. Certain species of wild lettuce also live over winter and provides a friendly harboring place for the disease.

Different fungicides were used in our spraying experiments for control of mildew, but none of them proved superior to the standard 4-4-50 Bordeaux mixture. Lettuce mildew is primarily a seedling disease. This fact must always be kept in mind in making the spray applications. Spray measures, to be effective, must be focused upon the seedling stage of the plant. The first spray should be applied when the seedlings are about an inch high and the first true leaf is beginning to form. Coat the plants thoroughly, making sure that the under side as well as the top surface is covered with the solution. A second application about a week later will usually prove sufficient to control the disease. We have found that the control measures applied at this time are very effective, whereas, if they are delayed until the disease really appears as mildew on the under surface of the leaves, the spray is ineffective.—A. T. Irwin in Market Growers Journal.

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY.

Madison, Wisconsin, October, 1921

Volume XII

No. 2

How to Prune Small Fruits

J. G. Moore
(Circular 134, Extension Service College of Agriculture)

Raspberry Pruning

Raspberry pruning consists in removing the fruited canes, removing canes not needed for production, and heading-in the canes which are left. Growers do not entirely agree on the details of these operations, therefore pruning practice with the bramble fruits differs somewhat with the particular grower.

Raspberry canes, other than those of the so-called ever-bearing varieties, fruit but once, therefore they shiuld be removed. Opinion differs as to whether this should be done immediately following harvest or left until spring. Both times possess some advantages. In most cases removal immediately after harvest is preferable.

The removal of unneeded canes usually takes place in the spring. Although set out as individual plants the red raspberry tends to develop a matted row. It is a good plan in pruning to maintain the original plants more or less closely. In some cases the bushes are planted in check rows and the individuality of the plant is maintained rigidly. Home plantations are seldom handled in this way, however.

There is not much uniformity in the number of canes left to each plant or hill. Four to nine marks the ordinary range. The usual number left is five or six with the black and purple cane varieties and six to eight with the reds. Some growers prefer only four or five with the reds.

Heading-in: The greatest variation in pruning practice with raspberries is in heading-in. With the reds it usually takes place in the spring and may consist in cutting off only the portion of the cane injured during the winter to cutting back the canes to about 5 feet. Occasionally growers prune back the canes to 3 to 4 feet. During the past two seasons the Wisconsin Experiment Station has carried on trials in heading-in the red raspberry using approximately these three practices. The data secured in 1919 showed little difference in the crop secured from the light and medium pruning but a marked reduction in the crop resulted from cutting back the canes severely. In 1920 the plants receiving medium heading-in out-yielded those which were given only a light pruning. The differences in some cases were quite marked. As in 1919, the severe heading-in materially reduced the rop.

Either of two methods is used in heading-in the black raspberry. It may be pruned in the same way as the red, the heading-in, however, usually being more severe. As this method requires less attention it is the one usually followed in the home plantation. The yields received are ordinarily somewhat less than where the system of "summer pinching" is practiced.

The second method is commonly designated as "summer pruning" or "summer pinching." When this method is employed the tips of the new shoots are pinched out when they are 18 to 24 inches high. To carry out this method properly it is necessary to go over the plantation two or three times during the first half of the growing season, as all the shoots will not reach the desired size at the same time.

This "pinching back" will cause side branches to develop on which the fruiting wood of the following season will appear. These side branches are cut back in the spring leaving them from 8 to 15 inches long. It may be advisable, also, when the number of new shoots is large to remove some of the weaker ones during the growing season.

Under Wisconsin conditions if summer pinching is to be practiced it should be done as early as possible. Late pinching will often result in heavy losses due to winter injury of the immature side branches.

Purple canes: The heading-in of purple cane varieties is much the same as for the black caps. With strong growing varieties, as Columbian, the summer pinching method is usually preferable. The treatment differs from that given the black varieties only in that the shoots are allowed to become 2½ to 3 feet long before pinching takes place, and the side branches are left longer—12 to 18 inches—at the spring pruning.

Blackberry Pruning

The blackberry may be pruned in practically the same way as the red raspberry. The number of canes left to each plant is usually somewhat less—four or five. Strong growing canes may branch somewhat the first season. It is a good plan to leave some of these side branches, providing they have come through the winter in good condition. The tips of such branches should be cut back somewhat.

Some growers practice "summer pinching" with the blackberry the same as with the black raspberry. The pinching is usually done when the new growth is

about 2 feet high. The shoot should not be allowed to grow 4 feet and then be cut back to 2 feet, as is sometimes done, because the effects secured will be very different from pinching at 2 feet. Some of the weaker growths may be thinned out during the growing season.

The lateral branches produced because of the summer pinching should be cut back in spring. The length of branch to be left will depend largely upon whether the variety is one which produces buds close or relatively far from the main cane. Usually 15 to 21 inches of shoot will be sufficient to produce a satisfactory crop.

Currant Pruning

The pruning of currants, like that of grapes, is likely to be neglected. With both fruits the difficulty of pruning is greatly increased by neglect. Systematic annual pruning from planting should be followed.

If the root system of the currant is extensive it may be reduced somewhat at planting to make the operation easier. All weak canes should be removed and the strong ones cut back to two to four buds.

The proper pruning of the currant is determined by the habit of fruit bearing. The finest currants are produced at the base of one-year old wood and on one-year spurs arising from older wood. Older spurs produce fruit but the amount and size of the fruit decrease rapidly with age. Canes have usually passed their best fruiting after the third crop. The chief item in currant pruning is to remove canes which have passed their best fruiting and to replace them with new canes.

A good plan is to remove a definite number of old canes each year and leave an equivalent number of new canes to replace them. When a three-year system is followed six or nine canes to a plant makes it easy to keep the balance. If a four-year system is practiced, eight canes are probably most convenient.

The three-year plan can be operated as follows: At the beginning of the second season leave six strong canes. At the beginning of the third season remove two of the canes from the previous season and leave five strong, new canes. At the beginning of the fourth season, remove one 2-year cane, two 1-year canes and leave three new canes. Thereafter the three oldest canes, those in their fourth year, should be removed and three new canes left to take their place. This will give a plant composed of three 1-year, three 2-year and three 3-year old canes.

The canes which are left annually may or may not be cut back. Some growers do no heading-in while others cut back the new canes left each year, so as to cause them to branch nearer the ground. This is more commonly practiced if the canes are unusually long.

In removing superfluous new growths on spreading varieties, those canes which have a tendency to droop to the ground should be removed. Dense, upright plants should be opened up by cutting out the new canes at the center.

Gooseberry Pruning

The gooseberry is pruned much like the currant as they have the same general fruiting habit. The common practice in well-cared-for plantations is to remove wood after it has fruited two or three years, replacing the branches removed with new shoots. The gooseberry is inclined to grow thicker than the currant and will need more thinning out. It is not so much a question as to what system is used for renewing the wood but rather that the old wood be removed and enough young wood be left to give good crops of large fruit.

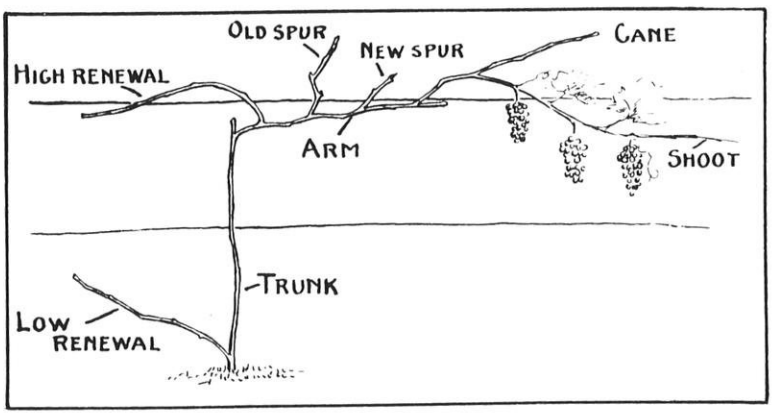

FIG. 1.—TERMS USED IN GRAPE PRUNING

Grape Pruning

J. G. Moore

Circular 134 Extension Service, College of Agriculture.

There are a number of ways of pruning grapes but the four cane

Kniffin system seems to be best adapted to Wisconsin conditions in most cases.

The best advice which can be given the grower is to prune annually, regardless of the system used. The failure to prune a grape vine even one season often necessitates two or more years to get it into proper form again. When neglected for more than one season the simplest and usually the best method is to plan to start over again at the trunk or often even at the ground.

A knowledge of certain terms is necessary to an understanding of grape pruning. The parts of the vine (see Fig. 1) are usually referred to in the following terms:

Trunk. The main stem or body of the vine.

Arm. A portion more than one year old arising from the trunk.

Cane. A one year old growth arising from the trunk or arm.

Shoot. The unmatured growth of the season. The shoot bears the fruit. It becomes a cane at the end of the growing season.

Spur. A short growth one or more years old, left when cutting back the cane for one or more seasons.

Renewal. A cane arising from the arm, trunk, or base of the plant which is to replace (renew) an older portion of the plant. A high renewal comes from the upper part of the trunk or from an arm; a low renewal comes from the lower part of trunk or from the base of the plant.

A shoot becomes a cane. A cane cut back moderately and allowed to persist becomes an arm. If it is cut back to two or three buds it is considered a spur.

Grapes are usually one to two years old when planted in the vineyard and possess from one to three or four canes. The roots should usually be cut back somewhat in planting to make the operation easier but it is desirable to leave a relatively large amount.

Top pruning consists in cutting off all the canes except a strong one as near the surface of the ground as possible. The one left should be cut back leaving only two or three buds at the base. (See upper left, Fig 2.)

If grape vines are to be laid down for winter protection the pruning is done in the fall. Otherwise it may be done any time after the leaves fall until early spring. In this description it is assumed that pruning is done in the fall.

During the first season's growth the buds left at pruning should have produced shoots of considerable length. If the grower is not satisfied with the development made, pruning in the fall may consist in cutting the plant back the same as when it was planted. This is frequently necessary with one-year old plants or weak two-year old plants. If the growth has been satisfactory, pruning will consist in removing all the shoots which have now become canes, except a strong one, preferably the one arising nearest the ground. This cane should be cut back so as to not quite reach the top trellis wire, which ordinarily should be about 4½ to 5½ feet above the ground. (See upper right, Fig. 2.)

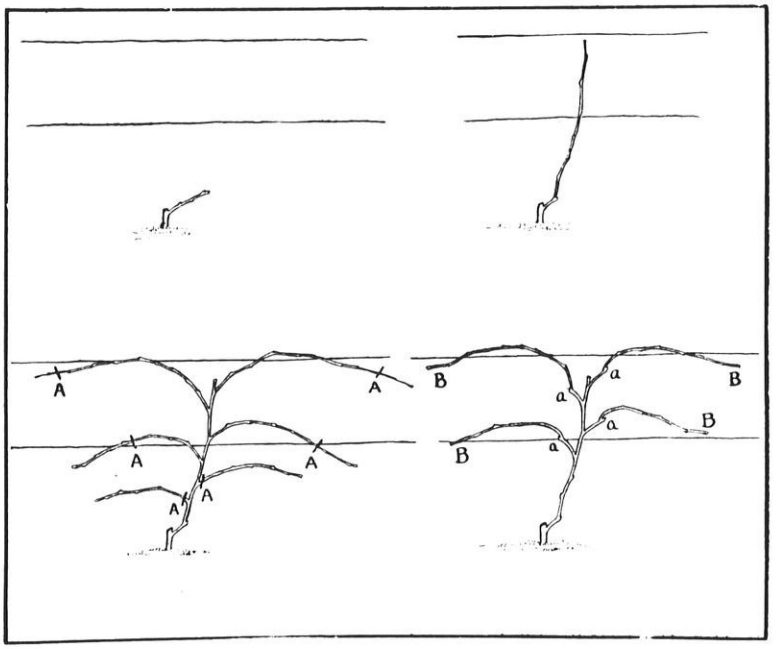

FIG. 2.—PRUNING AT DIFFERENT AGES

Several of the buds along the cane should produce strong growths during the second season. Pruning the second autumn will consist in cutting off all new growths except those desired for further developing the plant and in heading-in the canes thus selected.

In the four cane Kniffin system two canes are selected for each

trellis wire. These canes are then cut back leaving from six to eight buds on the upper ones and four to six on the lower canes. (See lower left, Fig. 2.)

Most of the buds left will produce shoots during the third season. Pruning at the end of the season will consist in removing superfluous wood and heading-in the canes left. In saving the canes for the fourth year it is desirable to select those nearest the trunk if they are sufficiently strong. (See lower right, Fig 2.) In selecting the canes it is better to save those of medium growth rather than the very large ones. This is particularly true on plants making very heavy growth, as Concord or Worden. On vines of comparatively light growth, relatively stronger canes may be saved.

The canes left should be cut back. The number of buds to be left on each cane depends somewhat upon the variety and the vigor of the particular plant. Usually a few more buds are left than in the previous season. The usual number is from eight to ten on the top canes and six to eight on the bottom ones.

The pruning for succeeding years is the same as for the fourth year. Sooner or later the first shoot arising on the cane will be farther from the trunk than it is desirable to have the new cane. When this occurs it is necessary to take out a renewal. This may be a cane arising on the arm, on the trunk, or even on one of the other old canes. As vines get older there is a lessening tendency to produce strong growth near the head of the vine so that frequently renewal wood is secured with difficulty. It is often advantageous in providing renewal wood to leave each season a spur or two on the trunk so as to encourage the development of vigorous growth from the trunk which may be used for renewals if desired.

At times it becomes desirable to renew the entire top. This is done by taking out a renewal from the base of the plant. This renewal should be selected at least one year in advance of removing the old top; and if it is done two years in advance less time will be lost in getting a full crop of fruit. A young vine produces many shoots from its base but as it grows older this tendency decreases and in some cases the plant refuses to develop shoots from the base. When the plant is young all of these shoots should be removed. Later on, however, it is advisable to remove all but one and cut that one back to a spur. This method continues the habit of growth from the base and makes it possible to secure low renewals if desired.

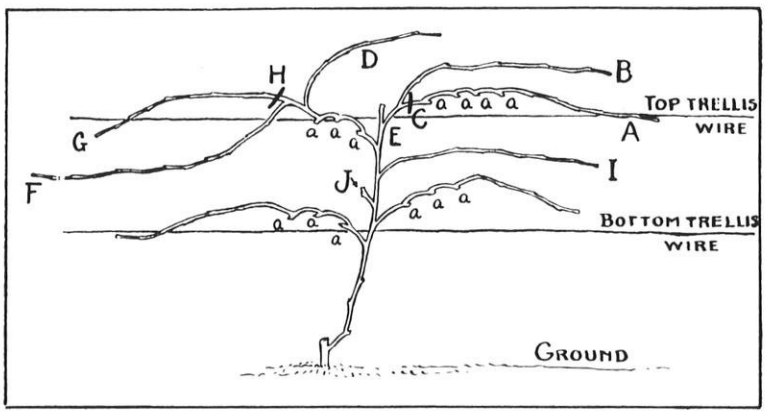

FIG. 3.—DIFFERENT SOURCES OF HIGH RENEWALS FOR CANE A

Winter Protection For Cuthbert Raspberries

A member submitted the following inquiry and it was submitted to twelve experienced growers in widely separated localities. The replies are given below:

Query: "I have one thousand Cuthbert red raspberries, set out this spring and would like to know whether any winter protection is necessary for them in this part of the state." Dated Waukesha.

The replies:

The Cuthbert raspberry should be hardy in Waukesha and winter protection will not be necessary though a mulch about the roots would be beneficial.

H. C. Christensen, Oshkosh.

In answer to the member will say I do not grow Cuthbert red raspberries but grow Kings and Latham or Minn. No. 4. I use no winter protection. A few Kings winter killed last winter, the Lathams come through in fine condition.

I don't think the member would need winter protection as far south as Waukesha,

J. R. Williams, Montello.

Generally speaking the Cuthbert is considered hardy enough

to stand the winter in Waukesha county. If these plants were ours we would take a chance on them wintering alright without protection. This variety freezes back badly however, in real severe winters in southern Wisconsin.

W. J. Moyle, Racine Co.

Answering the above, it is my firm belief that no bush berries grown in Wisconsin are safe unless they are put down each fall, except up in the Bayfield district where they are usually buried with snow and no frost in the ground.

With the considerable expense connected with the planting, growing and bringing into bearing of red raspberries I should consider the grower taking a very great chance if he did not put the cane down each fall, even in the Waukesha district.

In this district it often happens that some fellow will plant a small patch and neglect to put them down in the fall and invariably the cane kills back sometimes clear to the ground. Putting down the cane is the only safe insurance against winter-kill.

F. Kern, Sparta.

I know of one patch of Cuthberts that has wintered successfully for five years here in Jackson county, but it is in a very favorable location. To be safe I would lay down and cover lightly with straw or marsh hay. Laying down has its risks too, mice sometimes get in and damage the canes unless the bed is in a good clean place free from weeds and rubbish.

Hollis Sullivan,
Taylor, Wis.

In reply to your inquiry about laying down Cuthbert raspberries, will say in our section they will winter kill about 3 winters out of 4 if not laid down and covered.

Cuthbert is a fine berry but more tender than some of the other kinds.

E. W. Sullivan,
Alma Center.

We **never** have practiced laying down or protecting Cuthberts in any way and have had but very little loss. Do not think it necessary nor profitable.

N. A. Rasmussen,
Oshkosh.

Lay them down—often kills back. J. F. Hauser,
Bayfield.

I have raised this raspberry for a good many years and I don't think covering is necessary in location the first year.

Wm. Nelson,
Oshkosh.

About one year out of three Cuthbert will kill back with us unless they are in a sheltered position where the snow drifts in and keeps the ground covered,

Yours truly,
J. M. Roe,
Oshkosh.

Cuthbert will winter kill badly at Waukesha except when there is unusual depth of snow or unusually mild winter. Cuthbert raising will not be successful without winter covering.

G. H. Townsend,
Madison.

All of which shows that fruit men like doctors disagree.

A Delightful Postscript

Elizabeth Held

Dear Readers: There is an old saying, and I presume it's true, that when a woman writes a letter she makes believe she has finished, signs her name, then adds a postscript—in which she tells all the things she intended to tell when she started the letter. Well I'm a woman—and as such claim all the rights and privileges of my sex. Here's the postscript.

After I had sent the other letter to the Editor I thought real seriously of what I wanted to tell you this time, well there seemed to be something lacking, some things I hadn't explained. I felt as though you would have to be just a little bit better acquainted with the child Elizabeth before you would understand why she did some of the things she did when she grew older. You will understand I think when you have read this postscript why I am a firm believer in "As the twig is bent." The two little incidents that I am about to relate are still very vivid to me. If I forget that I'm not ten but,—well, considerably older, I am sure you will forgive me.

As a child I was not very strong and usually spent a considerable part of my vacations in the country, so when mother told me that I had been invited to spend several weeks at the home of some old friends whose two daughters were school mates of mine I was delighted. They had a beautiful home out in the country and I had often told my mother that these two girls must be very, very happy with such a beautiful house to live in. I could hardly wait for the great day to come when Mr. J.— would get me with the beautiful black horses

and shining buggy. But the day came at last and then I was a little bit surprised that none of the children came to meet their father. They evidently were not watching for him. The house was very beautiful inside, I thought at once how small and shabby our house looks, but presently there seemed to be something lacking. Everybody was nice enough to me but I just felt as though I had to be a real nice good little girl every minute I was there. I sat decorously on the edge of the chairs. I ate my meals in silence because nobody told stories or said funny things. It seemed to me everybody acted as though they had been told to "behave." Did any of you folks ever go visiting and feel that way? If you have, you know just how uncomfortable I felt, long before the first week was over, my mind was made up. I was never going to be rich, for rich folks were not happy, they didn't have homes, they just had houses. When Saturday came I insisted on going home. Didn't a little grey house with the windows filled with flowering plants and mother standing in the doorway look good to one homesick little girl. When I told mother I thought our home much nicer than the big house in the country and that I was glad we were not rich, she just smiled. And I wondered. A few days after this, mother sent me on an errand that took me past the "big house" of our town. I always walked very slowly down this block, hoping to catch a glimpse of the "Pretty Lady" whom I admired very much. She was a very beautiful woman as I remember her and nearly always wore a white dress. She always smiled at me and child fashion I adored her, she seemed like a fairy princess to me. Today as I walked slowly past the house eagerly watching the windows for her smiling face she called to me in tones that matched her smile. "Little girl don't you want to come and visit with me a little while. I'm lonely." Why I fairly flew up the steps and into a most beautiful room. I remember telling my mother it was like the woods when the leaves began to fall. The Pretty Lady was sitting in a big chair and pointing to another one just opposite, said. "Now you sit in that chair and tell me what you have been doing this summer." In a few moments we were chatting together just as though she was another little girl, or my mother, (You see my mother was like that). I wasn't sitting on the edge of a chair but curled up sitting on my feet just as I did at home. Presently in came Mr. B. and sat down beside his wife smiling at her, she smiled back and then he held out his hand to me saying with the funiest little smile in his eyes. "Why how do you do, little girl. I'm very glad to see you. Did you come prepared to stay? We've been looking for you quite a while." They they both laughed and so did I (You see he was that kind too.) He gave me a big bunch of purple grapes when I said I must go home and help mother. Both said to come again and it sounded just as though they meant it. I ran part of the way home, then walked slowly. Now here was a puzzle, these folks were rich and they had a home, not just a house—now why? I was in time to set the table before we saw father coming. We ran to meet him and when we got to the door mother was there and she smiled at father and he smiled back and it wasn't any puzzle at all any more. Mr. and Mrs. B. looked at each other just as father and mother did. Of course that was it and I almost forgot to eat my supper. I was thinking about the Indian legends father had been reading to us; all the different sorts of spirits that came to dwell with us, some of them were such queer funny ones but the best were the Spirit of Love and the Spirit of Understanding because if these two lived with you then the Spirit of Happiness came, and that's what makes a home out of a house and it doesn't make a bit of difference whether you are rich or poor. My but I was glad we had those three spirits in our house, and just then mother said, "you had better eat your supper because you know you have to wash the dishes." Well, if you were ever ten and had to wash the dishes you know just how I felt then. I'll stop now, this is positively the one and only postscript. Next time I'll tell you of another visit and how I discovered the Spirit of Contentment, also found out I wasn't the only person who played queer "games."

Ask questions, we will answer them.

Leaves are apt to cause trouble when used as winter covering, by smothering the plants they are supposed to protect.

Aim to protect plants from winter sunshine rather than from winter cold.

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

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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 ANNUAL CONVENTION

The convention this year will be held in Madison, as the constitution provides, Wednesday, Thursday and Friday, December 14th, 15th and 16th. It is set one day later in the week than usual so that we may not wholly conflict with Minnesota's convention, Dec. 13-16.

The Assembly Chamber has been promised and we hope that we will not be crowded out at the last minute as we were last year.

The fruit and vegetables will be shown in the Assembly parlor or in the first floor corridor.

There were twenty-five topics on the program last winter covering every phase of horticulture. There will be as many this year. If your heart is in your work you cannot afford to miss the convention. It consists of two parts equally valuable; the sessions where the papers are read and discussed and the times between sessions. It's the getting acquainted, the interchange of ideas outside the convention hall that is of as much lasting benefit as the other.

Late October is not too late to divide and plant peonies and other herbaceous perennials.

THE AMERICAN ROSE SOCIETY

Altho the American Rose Society is not as old as our society its history is not unlike ours in one particular. Organized in 1899 in 1907 it had but 111 active members while now its membership is nearly 2300.

This does not necessarily mean that there has been a great revival in rose culture, for that has been constant and steady, but it means that a group of earnest and unselfish people have undertaken thru the Rose Society to bring roses to every home. Mr. H. H. Hume, a great rosarian and a one-time president of the society states their standard in this way: "We are approaching the problems from the standpoint of a rose for every American yard, a dozen for every garden."

That surely is a worthy ambition. The Rose Society issues an annual of 200 pages. The 1921 annual contains many excellent articles of interest to amateurs and in addition descriptive lists of the new roses of all the world with name of originator and date of introduction. In addition an official list of American Roses, new roses registered in 1920-21, and other data valuable to rose experts. John C. Wister is secretary, 606 Finance Building, Philadelphia, Pa. The fee for annaul membership is $3.00.

THE A. B. C. OF STRAWBERRY GROWING

A new member, attracted by one of our leaflets, containing lists of recommended varieties, asks:

"You advise planting Dunlap and Warfield strawberries, which is best suited for canning?" The Warfield.

"Will you name best varieties of everbearing strawberry." Progressive and Superb. The Progressive is a better "plant maker" than the Superb and more prolific but the fruit of Superb is superior in size and quality. The Progressive is said to be a seedling of Pan American, the first of the fall bearing varieties, crossed with Dunlap.

"How many plants would you advise setting to provide fruit for an ordinary family?" One hundred and twenty-four; 50 Warfield, 50 Dunlap, 12 Superb and 12 Progressive.

"When is the best time of the year to set out plants?" Early in pring.

"How far should the rows be apart and how far apart the plants?"

The plants 18 inches in the row and the rows three feet apart.

"Are there male and female strawberry plants?" The terms used do not convey the right meaning, neither are the terms "perfect" and "imperfect" used by dealers correct but without haggling over technical terms, the facts may be stated as follows:

Some varieties, the Warfield is one, produce flowers having only

pistils and will not bear fruit if planted alone, but must be in close company, a few feet, with a "perfect" flowered kind, one that bears both stamens and pistils, like the Dunlap. Nursery catalogs indicate which kinds are "imperfect."

Increased Interest In Grape Growing

An unusual number of inquiries concerning grapes and grape growing have been received during the past year. It is safe to say that more questions of this kind have been asked in 1920 and to date in 1921 than during the 10 years preceding 1920.

Grape growing falls easily within the field of horticulture and it is our duty to give the fullest information possible. Well ripened Concord, Worden or Delaware grapes are delicious, while grape marmalades, jellies, etc., are scarcely less acceptable.

Grapes will not ripen more than two years out of five in the northern counties, and then only in favorable localities and situations. The term "northern counties" is indefinite as is in fact the grape belt. We might say with considerable confidence that grape growing north of an east and west line thru Appleton, or thereabouts, would be unsatisfactory from an amateur standpoint and wholly unprofitable commercially. Yet this would not be by any means correct for this society proved conclusively that grapes cannot be grown commercially at Sparta, while a few vineyards in Eau Claire county yield fairly well.

A few simple facts about grape growing follow:

The character of the soil is not a very important factor in grape growing, almost any fertile soil will produce a good crop.

Set plants four feet apart in the row and the rows six feet apart.

The plant as received from the nursery will have from one to 3 or more slender stems or "canes." Cut off all but one and cut this back to 2 or three buds.

Cultivate as for other fruit or garden crops, cropping between the rows if desired the first year.

The main difference between raising a satisfactory crop of grapes and one of gooseberries or raspberries lies in the manner of pruning the vine the second and succeeding years of growth. There is nothing complicated, marvelous or mysterious in this process, as many seem to believe. Grape pruning has been simply and briefly described by Prof. J. G. Moore in Circular 134. If possible we will print the circular in this issue. If you do not see it send for a copy to the College of Agriculture, Madison.

Save fruit and vegetables for the annual convention.

Sturgeon Bay shipped 90 carloads of apples of which 40 carloads were Wealthy.

The annual convention of the American Pomological Society will be held in Toledo, Ohio, December 7th, 8th and 9th, 1921. Prof. R. B. Cruickshank, Ohio State University, is secretary.

Bend roses to the ground, lay the canes securely in place and cover with waterproof paper, building paper secured with cord wire and brickbats.

Stand By Annuals

Mrs. C. E. Strong

Read at Summer meeting, Oshkosh, Aug. 18th, 1921.

From gardens that I have seen and my own experience, I will try and give you something about Standby Annuals. Standby in a flower means about the same as it does in a friend. They are dependable.

A few years ago I should have headed the list with the Aster—queen of all annuals, but stem-rot and yellows have taken this flower from its high position and while you may grow them beautifully—yet it is not a dependable flower.

So I will give the Larkspur first place instead, the old fashioned flower that grew in our grandmothers' gardens and that you see today in nearly every garden of any size. Sometimes the same small purple, white and lavender pink blossoms, but more and more frequently, the improved varieties with their tall spikes emulating the Perennial Delphinium.

Growing beside it in almost every garden is the Pot-Marigold or Calendula that too has changed and the great golden or creamy disks are seen even in the florists windows side by side with their aristocratic cousins of the greenhouse.

Driving around Waukesha last summer I saw Four O'Clocks grown as a sort of filler for foundation planting. They were very effective both as to foliage and bloom. This year I saw rose and white Balsams used in the same manner. While Balsams have always been a favorite of mine I never realized their effective uses as a decorative plant before.

In my trips to the city during the summer I, as well as every other passenger, view with pleasure a hedge of pink Cosmos bordered and mingled with Euphorbia—or Snow on the Mountain. There were just a few scattering plants at first, now it is most lovely, tho grown from selfsown seed and with absolutely no care.

Not far from there, is another garden whose owner is evidently an Iris fiend, for there is not another plant or shrub in the yard. But when the Iris are thro blooming it becomes a mass of blue and pink Centaurea or Bachelor buttons, also self sown. The owner evidently tolerates them, much to the pleasure of the passerby. On a little side street a few years ago was a window box filled with Petunias, now the yard is a riot of color, every sort of Petunia grows there. Evidently that little woman has decided Petunias are a standby annual.

In my own garden the Nigella, or as we used to call it,— ragged lady—is a favorite, no other early flower appeals to me, as does this sturdy blue one. It has decided that the vacant spots in the vegetable garden and the beet and carrot rows are improved by its presence.

Zinnias, not the old single brick red or muddy pinks and yellows we used to tolerate, but great dahlia like blossoms of glowing crimson, scarlet, rose yellow or bronze shades, delight us now—or, if you prefer, there are midget blossoms in the same clear colors. Verbenas, Phlox D. in the separate colors, or mixed, they are a garden all alone, from early until late, continuous bloomers.

So are the annual Dianthus, they invite you to linger at their side. Salpiglossis and Calliopsis, graceful, fairy like blossoms, waving with every breeze an invitation; "come see us." "No other flowers in the garden have our wonderful coloring." Celosias with their odd combs, and the plumed varieties, especially the Woolflowers, are always satisfactory. Godetias, as beautiful s Azaleas and much more easily grown. Still most people haven't even a speaking acquaintance with them. For two years this flower exhibited at the State Fair by Mr. Hauser has caused more attraction than any other annual shown there. Linaria with their dainty spikes of snapdragon like flowers in orchid colorings, will insist quite strongly on a place in your garden of standbys if you once grow them, as they self seed and you are not sorry, for they are especially

adapted for table decoration. Mignonette, we need her sweetness. You can suit your own taste as to whether you wish the small gray green blooms or the newer gigantic reddish sprays.

Those of you who have mourned over your failure in growing Hollyhocks, try the annuals, they never fail to bloom, and tho they lack a little of the stately beauty of the Perennial sorts, are very satisfactory.

Now, if I were to give you any more it would sound like a catalogue list. These I have chosen for freedom of bloom and freedom from insect pests and disease. Most of them are adapted both for show in the garden and for cutting. Most of them will grow in gardens, window and porch boxes, and are not very particular as to soil.

I saw nearly all of those I have named growing on a roof, in one of the dingiest, dirtiest parts of Milwaukee. If I have left out some of your particular favorites; why please remember I am not pretending to be an authority, just a flower lover with favorites in the garden just like yourselves.

Nicotine Poisoning In Greenhouse.

The following news item from a Milwaukee paper of July 23rd will be of interest to florists:

One of the most unusual cases ever brought to the attention of Milwaukee physicians was treated at the Emergency hospital Friday night when Sigmond Gogolewski, 34 years old, 763 Ninth avenue, was brought to the institution near death from nicotine poisoning.

Gogolewski was said to have been spraying flowers with a soiution of nicotine in the greenhouse of the Pollworth Floral company. He was overcome by the fumes within two minutes and when brought to the hospital was near death.

Physicians at the hospital stated that Gogolewski's nostrils and throat had the appearance of a man who had smoked to a great extent for 50 years or more and declared that only immediate attention given him saved his life.

This seemed important, if true, as nicotine sulfate is as commonly used in greenhouses as in orchard and garden, and if danger is connected with its application we should all know about it. A letter to C. C. Pollworth brought the following reply:

Dear Sir:

In reply to your letter in reference to the man poisoned by nicotine will say that this man was spraying with a solution of nicotine on an extremely hot day, and was overcome. We rushed him to the hospital, and they claimed it was due to nicotine poison.

However, we believe that the man was probably affected by the heat, which with the fumes of the nicotine made him pretty sick. However, he recovered very rapidly and left the hospital the following day, and he immediately went back on the job.

We think the heat had about as much to do with it as the effect of the nicotine, and the combination was very bad.

Very truly yours,
C. C. Pollworth.

Those who recall the terrific days of last July, and who cannot, will agree with Mr. Pollworth that the temperature was more than a contributory cause especially when we consider that it was probably ten to fifteen degrees hotter in the greenhouse than outside.

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.

STATE CONVENTION

Will be held in Milwaukee, December 8th and 9th, 1921

Up to November 1st we have received only 18 votes asking that the meeting be held in Madison as against 125 voting that the meeting be held at Milwaukee. The officials of the State Association have voted to hold the convention in Milwaukee and the next annual convention of the Wisconsin State Beekeepers' Association is therefore called to be held in the City Auditorium, Milwaukee, December 8th and 9th. The Board of Managers will meet at 2 o'clock Wednesday afternoon, December 7th. The place of meeting will be given in a letter to the Board of Managers later.

Program

Thursday, December 8
Morning 9:00 A. M.
Social meeting. Paying dues.
9:30 A. M.
Call to order.
Reading of minutes of last convention.
Report of Board of Managers.
Secretary's report.
Appointment of Committees for Convention.
11:00 A. M.
President's Address—L. C. Jorgensen, Green Bay.
Afternoon—1:30 P. M.
From Neglected Bees to Profit.....A. A. Brown, Juneau.
Worth Remembering.....N. E. France, Platteville.
Experience in Pasturing for Buckwheat Honey.....Conrad Kruse, Loganville.
Choosing a Location in Wisconsin.....H. L. McMurry.
Hubam Clover.....Wm. Brenner, Green Bay.
Beekeeping.....E. W. Atkins, G. B. Lewis Co.
Bee Yard Experiences.....H. H. Moe, Monroe.
Treating Diseased Bees out of Season.....A. C. Allen, Portage.
.....B. B. Jones, Div. of Markets.
Evening—7:30
Beekeeping Movie.
Friday, December 9
Morning—9 A. M.
The Next Step in Marketing Our Honey.....C. D. Adams, State Div. of Markets.
Better Marketing.....W. T. Sherman, Elkhorn.
Sweet Clover, Its Value to Agriculture and the Beekeeper.....H. E. Rosenow, Oconomowoc.
Out-Door Wintering.....L. T. Bishop, Sheboygan.
Advertising.....Jas. Gwin, Gotham.
Plans for 1922 Extension Work.....L. P. Whitehead, Madison.
Relation of Queens to Season Management.....G. H. Cale, Dadant Co., Hamilton, Ill.
Comb vs. Extracted Honey.....Dr. Robert Siebecker, Madison.
The Influence of Weather on Beekeeping Practice.....H. F. Wilson, Madison.
Afternoon—1:30 P. M.
Bee-Tight Honey Houses and Other Popular Fallacies.....S. B. Fracker, State Entomologist.
Open Discussion on How to Make our Associations More Valuable to Its Members.
Business Session
Report of Committees.
Old Business.
New Business.
Election of Officers.
Appointment of Standing Committees.

Are You Selling Or Holding Your Honey?

There is less than 40% of a crop in Wisconsin this year. Yet many beekeepers are complaining about not being able to dispose of their crop. On the other hand there are portions of the state where no honey is being sold because the local beekeepers do not have a crop. If we had an organized cooperative association, honey could be sent in to these sections and the entire crop disposed of without difficulty. Think this matter over and COME TO THE CONVENTION PREPARED TO HELP BOOST THE COOPERATIVE ASSOCIATION.

Wormy Combs

If worms are small fill combs with water and worms will drown in three minutes. If combs are webbed and cocoons formed, melt combs to save wax. If hive bodies fit together good, the combs can be spaced in bodies and fumigated either with sulfur or carbon bisulphide. Combs direct from strong colonies in good supers, a moth ball in each super and paper between the supers when piled up in bee house or tarred building paper between the supers, no moths will bother. I have had supers of extracting combs in attic of my bee houses for two years not in use and have had no moths. Pollen in combs easily removed after soaking in water.

N. E. France.

Winter Care Of Bees

Winter care of bees involves three distinct periods. The first period extends from about the first of September to the 20th of November and should be considered as the period of preparation. The second period extends from November 20 to March 21, this is the period during which the bees may be expected to remain in confinement and should not be disturbed except for special reasons and under extreme conditions.

The third period extends from March 20th or the time when the bees are set out until about the middle of May. This is the period for rebuilding the decrease in colony strength occasioned by winter conditions.

With suitable protection bees can be removed from the cellar on or about March 21st and the beekeeper may plan to examine the bees between March 20th and April 1 if it seems at all necessary. Bees packed out of doors will not need to be disturbed until May if properly prepared in the fall. Cellar wintered bees should be packed as soon as they are placed outside and on the day of the first flight may be looked into to determine their condition.

How Bees Are Affected By Winter Conditions

The relation of temperature to the honey bee cluster in winter has been well demonstrated by Phillips and Demuth, and while temperature has a great deal to do with successful wintering of bees, winter stores and the age of the bees are equally important. Under the very best of tem-

perature conditions bees cannot winter over under long periods of confinement if the stores are not easily digestible.

The fact that bees are only able to assimilate the sugars from their stores and that all indigestible materials are held as feces in the hind part of the alimentary tract until the bees are able to free themselves in flight, is evidence that successful wintering depends to a very large extent on the quality of the stores. Winter conditions may be said to start as early as September in Wisconsin because brood rearing is decreased at that time and may be completely stopped. Normally no eggs are found after October 1, although egg laying in a few colonies may continue until the first of November. The conditions which bring this about are not definitely known although the lack of a nectar flow combined with cold nights is probably the reason. If this is true, it is still more difficult to explain why the bees did not continue late brood rearing in the fall of 1920 when the temperature continued about 15 degrees above normal until the 20th of October and some colonies stored as high as forty pounds of surplus from aster. Out of some seventy colonies observed on October 1, only two contained eggs, four more had some unsealed brood and 11 had sealed brood. These same colonies were examined October 20th, and only two contained brood.

Bees are less active in the fall than in the spring and frequently when the temperatures are fairly high some colonies will have very few bees flying while others are quite active. Low temperatures at night followed by slowly rising temperatures on the following day have a tendency to check the flight of the field bees even when the temperature rises to 70°F during the day. At that temperature or slightly below young bees will freely engage in their play flights. We have observed when the temperature was as low as 35°F., but it was quite evident that the bees were suffering badly from dysentery and only a few managed to get back to the hives. Bees commonly fly when the temperature is as low as 48°F. But perhaps only to free themselves of feces, as individual bees fly out and after a short circle immediately enter the hive again. When the temperature goes as low as 50° F on the outside of the hive the temperature in the hive is about 60°F and the bees are found moving around freely inside the hive. With temperatures of 45°F to 55° outside the hive, the bees form a loose cluster in which the bees remain more or less together but move about freely and single bees may be seen moving about by themselves. The temperature at the edge of the cluster being 58° to 60°F. At these temperatures the bees do not form a definite shaped cluster but arrange themselves more according to distribution of the stores and if no combs are completely filled with honey, the cluster may extend clear across the broad chamber including 8 to 10 frames, or if the outside frames are well filled with honey, the cluster may extend nearly the entire length of the hive and covering three or four frames.

Below 40°F outside the hive, the cluster becomes more compact and rounded, provided the clustering space will permit.

Phillips and Demuth have shown that the temperature around the edge of the cluster is not allowed to go below 57°F and that lower outside temperatures cause higher temperatures inside the cluster. The temperature within the cluster is developed by the bees through muscular action such as fanning the wings, moving the legs and other body movements. The upper edge of the cluster will be found just above the lower edge of the honey until the top bar is reached; then the cluster moves sidewise toward the rear of the hive unless for some reason the cluster was first formed at that point. If the temperature surrounding the cluster is not too low, the bees will shift the cluster according to the location of the stores, but it is not uncommon in the spring to find all the bees dead within the form of the cluster and with plenty of stores but a few inches from the cluster. This is somewhat of a common occurence during a severe winter in Wisconsin when bees are left out of doors and unpacked. Apparently the bees will not break the cluster when the temperature around them is below a certain point and starvation occurs. In such clusters the bees are found packed tightly together with a bee in each cell, head inward.

Unless disturbed by some outside influence or abnormal condition within the hive the cluster is never broken as long as the temperature around it is below 57°F. Observations at the entrance of the hive while bees are in the cellar show that the cluster is effected by slight changes in the cellar temperature. While making observations during the winter of 1917-1918, it was noticed that wherever the cellar temperatures were below about 45°F nothing could be seen of the bottom of the cluster, but when the temperature was above 50°F, the lower edge of the cluster would extend below the frames to the bottom board and bees could be seen moving about more or less freely. If the cellar temperature rises to 60°F or above the bees may be driven to cluster outside the hive.

The Bee Cellar

During the course of our investigation we have visited many places used for winter storage some of which had been specially built for wintering bees. One of two conditions nearly always existed, either the storage places were so situated that they failed to give adequate protection and the temperature on inside was only slightly above that on the outside or else there was a more or less constant temperature which was not allowed to go below 40°F. Without exceptions the cold cellars were always unsatisfactory and much greater losses occurred than in the warmer cellars. Some few of the warmer cellars had not proven satisfactory but the main trouble was caused by light entering the cellars and this condition always caused the bees to be more or less active if the temperature is high in the cellar.

IF BEES ARE KEPT IN ABSOLUTE DARKNESS AND THE TEMPERATURE IS KEPT AT A CONSTANT RANGE OF FROM 45°F TO 55°F. IT MAKES LITTLE DIFFERENCE AS TO THE SIZE, SHAPE, OR LOCATION OF THE CELLAR.

Bees stored in basements with a furnace invariably winter better than bees in outside cellars where no artificial heat is provided.

Cellars in which no artificial heat or special insulation is provided should be completely below ground and the ceiling should be below the frost line. At the same time the top of the cellar should be well insulated from penetration of cold from above.

The entrance to the cellar should be through a vestibule and both the inside and outside doors should be padded and fitted so that the cold cannot penetrate through into the cellar.

It is a good plan to build the workhouse over the cellar and to fill in between the floor and the ceiling of the cellar with shavings or sawdust. A complete layer of a good grade roofing paper under the packing material will help protect the ceiling if made of wood. The packing material should be absolutely dry when put in place.

The size of the cellar will depend entirely upon the number of colonies which it is expected to hold. For example, if ten frame Langstroth hives are used, a space 18 by 24 should be allowed for each tier of hives and a distance of three feet between rows. A cellar 8 X 10 and seven feet high will very nicely accomodate fifty to sixty hives without crowding. A cellar 14 by 16 and seven feet high will hold 150 colonies without serious crowding and 200 in case of necessity.

Permanent benches or hive stands ten inches high and strong enough to hold ties of four or five colonies should be provided in the cellar.

Ventilation Of The Bee Cellar

Do bees need fresh air in the bee cellar? If so, how much and why? With-

out a full understanding of all the factors which influence the behavior of bees during the winter we have for a long time tried to regulate the health of bees in confinement by fresh air. Perhaps this is due to the fact that fresh air is so generally considered necessary for higher animals. The oxygen requirements for insects and warm blooded animals cannot however be adequately compared because of the great differences in body structure and the method of securing oxygen from the air. Bees should only be compared with other insects and since it has many times been demonstrated that insects may live indefinitely in air tight containers there is little chance for comparison. Even when the actual oxygen requirements of bees became known there is no probability that it will be of practical importance to the beekeeper. Furthermore, it is not likely that there is a bee cellar existing that does not have air currents passing through it sufficient for all the needs of the bees.

It is a mistake to believe that bees need special ventliation in the bee cellar to give them air. In fact, most systems of ventilation provided are more harmful than otherwise, because they lower the temperature of the bee cellar. It has been quite noticeable among the bee cellars visited during our investigations that in every cellar where extreme ventilation was given the winter losses were always heavy and in cellars where no ventilation whatever was provided the bees wintered well nearly every year. In years when the bees did not do so well the beekeepers all agreed that it was due to the poor quality of stores.

Mr. A. N. Hargraves of Hillsboro, Wisconsin has two cellars, one in which he has no ventilation and the other arranged so that ventilation can be given in the spring should the bees become restless before putting them on the summer stands. He gives the bees no extra ventilation during the winter and finds that bees winter equally well in each of these cellars. He reports that his winter losses are very small except for the winter 1919-1920 when he lost thirty colonies out out of 140 by starvation. He has wintered successfully 180 colonies in a cellar 12 feet by 16 feet and 8 feet high.

Mr. Martin Kreuger of Reedsville, Wisconsin, winters his bees under his dwelling house and there is one window in the outside wall. Mr. Kreuger covers this up with packing and does not open it until spring.

This cellar was visited on March 6, 1919, and the thermometer reading was 48°F. The bees were in excellent condition at that time and showed no signs of being restless and were not suffering from dysentery. This does not mean that bee cellars should be built without some means of ventilation, for it may be necessary to have ventilation in order to cool the cellar in case the temperature gets too high. It may also be found advisable to have some means of lowering the temperature near the end of the season to prevent bees that are suffering from dysentery coming out in the cellar. The beekeeper should remember that this is not a cure but a possible holding of the bees in the hive an extra week or two until they can be set out of doors. Bees that show dysentery early in the winter cannot be saved by lowering the temperature and presence of these bees in the hive causes a serious disturbance among those that may be in better condition. The effect of the lower temperature is to cause the consumption of more stores and greater activity which only increases the trouble.

IN PLACE OF VENTILATION, GIVE THE BEES GOOD STORES, KEEP THEM IN A WARM CELLAR, AND PUT THEM AWAY ABOUT NOVEMBER TWENTIETH.

Moisture running out of the hives is due to low temperatures and excess consumption of stores, and ventilation will not help unless the cellar temperature can be held at 45°F to 50°F.

Putting The Bees In The Cellar

Beekeepers in general differ a great deal regarding the proper time for putting bees in the cellar but usually they wish to wait until after the bees have their last flight which keeps them out until after Thanksgiving or longer. As a rule this is a very bad practice, for too often the last flight never comes and if we are to take full advantage of the bee cellar the bees should not have to remain out of doors for two or three weeks of very severe weather at the beginning of the period of confinement. Our observations show that bees may safely take a flight on a sunny day when the temperature is 48°F in the shade. They do not normally fly on cloudy days, at much higher temperatures. Bees in the shade will not normally fly at 48°F. We find in comparing the weather records for the past ten years that on this basis bees had suitable weather conditions for a flight only three years of the ten after the first of December, the latest dates being December 4, in 1913, and December 13th in 1920. During the same period the bees might have had a flight only four times after the 20th of November and three of these years were the same as for the December flights. In 1915 a suitable day for a flight did not occur after November 13.

If the weather is warm during the fall and up to the last of November the bees are likely to have a day suitable for a flight near December 1. But if there is a heavy snowfall in October or about the first of November there is likely to be no opportunity for the bees to fly after November 20th. It is quite evident then that bees have only a slight chance for a cleansing flight in December and less than half a chance after November 20th. For this reason the beekeeper should plan to put the bees in the cellar not later than November 20th except in seasons where little or no snow has fallen previous to that date. Following that period the bees should be put in the cellar with the first snow storm.

The season of 1920 was far from normal and bees might have been left out of doors until December 20th. However, bees in the cellar previous to that time were in no need of a flight and bees in outdoor cases did not fly to any great extent.

BEES WELL PROTECTED BEHIND A WINDBREAK AND WITH TIGHT OUTSIDE COVERS LINED WITH FELT OR PAPER MAY BE LEFT OUT OF DOORS UNTIL AFTER THE FIRST OF DECEMBER.

Putting the Bees Out in the Spring

The time when bees should be set out in the spring is generally based upon the blooming of the willows and the majority of our beekeepers plan to remove the bees between April 1 and April 15. A few beekeepers remove the bees as soon as the snow disappears.

We believe that if the bees are given no outside protection the time of removal from the cellar should be governed by the condition of the bees. If they are not restless or suffering from dysentery they should be kept in the cellar until the tenth of April unless the weather is warm enough for the bees to fly.

If bees are protected by a windbreak and outside covers they may well be taken out the latter part of March.

Here again the weather records of the past ten years give us an indication of how early the bees may be removed to advantage.

Bees should not be taken out while the ground is covered with snow. During the eight of the last ten years the temperature was high enough at Madison so that the bees could not have had a cleansing flight between the 10th and 15th of March if the snow was melted away. However, the snow does not usually disappear before the fifteenth of March and after that time a suitable day for a flight is not likely to occur before the twenty-third. Practically every year a warm spell occurs between the twenty-second and the twenty-sixth of March, so that if the bees need a flight they may be set out on the twentieth or sooner, with the assurance that they will be able to fly within a few days. In one year out of ten they may be able to fly before

March 10. During the same period there was one year when a flight was not possible until March 26.

If bees are known to be short of stores they should be set out during the warm spell in March and given an abundance of sugar syrup to carry them over until the time when they can gather nectar in the field.

Spring Preparation for the Honey Flow

Very few beekeepers realize the factor of success involved in just the right care of bees from March to June. They feel that if the bees come through the winter successfully, they have done their best and that success or failure depends upon the season to follow. But what of the one or two beekeepers in the neighborhood who secure a part of a crop although all others failed. Did the successful ones give the bees the needed care in the spring?

It is so easy to do and the results are so well known among practical beekeepers that it is sometimes hard to understand why ninety per cent of our beekeepers simply set the bees out of doors in the spring and leave them without protection and without sufficient stores, to build up as best they can. It is our belief that protection and a superabundance of stores is fully as important in the spring as during the winter and perhaps more so.

During the winter the temperature surrounding the cluster will be held at 57°F., as long as the bees have stores and energy to live, regardless of the cold outside. During that time the temperature may go below the zero point for a short period at a time, but it will range mostly from 20° F. or higher. The bees are then only required to develop an approximate average of fifty heat units. In addition, they are not at that time required to use energy in the production of wax and food for the young.

As soon as brood rearing starts in the spring the temperature inside the cluster and around the young brood is increased to 93 to 95° F. At the same time the temperature will in the Northern States run about 30° F., with fluctuations during March and April up to 65° F. Under those conditions the bees are forced to produce energy which will keep the temperature up to that of brood rearing, a difference of thirty to sixty heat units. During that time an excess of energy is also being used in producing larval food and possibly other products.

(To be continued.)

NOTICE

According to the 1920 agreement between the officials of the State Horticultural Society and the State Beekeepers association, beekeepers were associate or auxiliary members of the Horticultural Society, entitled to Wisconsin horticulture but not entitled to the Annual Report. Since January, 1921, beekeepers are full fledged members of the Horticultural Society and each will receive a copy of the 1921 Annual Report,—if the printers ever get thru with it and give us a chance to mail it.

For Postage Only

We have about two hundred surplus copies of the 1920 Report on hand and these will be sent free to members of the State Beekeepers association as long as they last, first come, first served, on receipt of postage. The parcel post rate is five cents up to 150 miles from Madison and six cents 150 to 300 miles, seven cents 300 to 600 miles.

The Report is a cloth bound volume of 150 pages containing several pages of very carefully complied lists of recomended fruits, flowers, ornamental trees and plants and other material of like nature. In addition it contains twenty-one articles by well informed horticulturists, covering almost every branch of horticulture. It is cheap at the price offered. Compute your postage rate and forward stamp.

Frederic Cranefield,
Secretary W. S. H. S.

Rosa rugosa needs no winter protection.

If you fail to have at least a few tulips, hyacinths and narcissus next spring it will be your own fault. The bulbs are again reasonable in price, may be had at 10 cent stores and may be planted any time before the ground freezes.

Wanted: At once: One hundred young men to engage in growing small fruit in Wisconsin. Unlimited opportunities.

Wisconsin may not be the leading fruit state but we lead in the excellence of our product.

Annual Convention

Wisconsin State Horticultural Society

ASSEMBLY CHAMBER
STATE CAPITOL

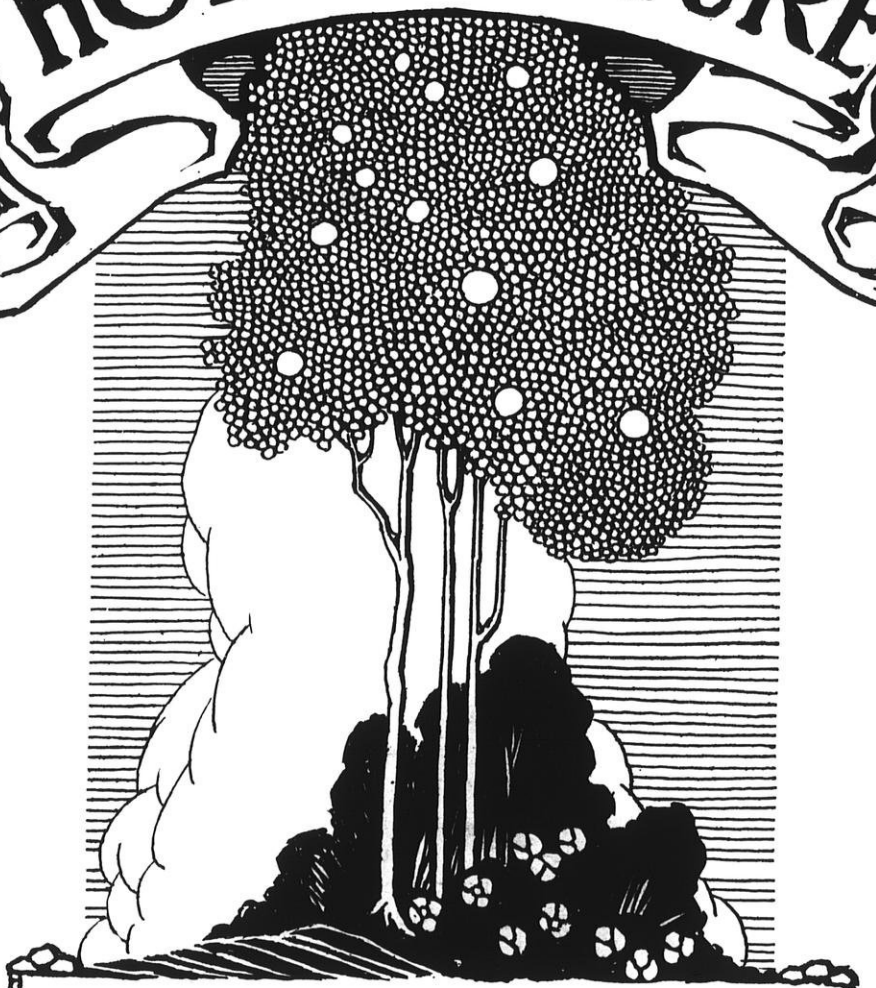
Wednesday, Thursday and Friday
Dec. 14, 15 and 16, 1921

The State Horticultural Society is for all the people of the state. It is not necessary that you should be a member to enjoy the benefits of the Convention. Everybody is welcome.

It is helpful to read a printed report of the proceedings, but it is more helpful to meet and talk to the persons who wrote the papers and to be able to participate in the discussions. The convention furnishes this opportunity. Even if you are well informed there is still a chance to learn; there are new things every day.

Attend the Convention and Learn

WISCONSIN HORTICULTURE



OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY.

Madison, Wisconsin, November, 1921

Volume XII

No. 3

Evergreens for Protecting and Beautifying the Home

A. Hill, Dundee, Ill.

(Read at Annual Convention, January, 1921)

The purpose of this paper is to suggest the importance of improving our surroundings and to show how unattractive conditions may be made appealing through the planting of Evergreens as windbreaks, hedges and ornamental groups.

The need of beautifying the home appeals to us more strongly every day. The home is the foundation of the nation. In clean and attractive surroundings the children become strong, upright, honorable citizens. Anything that will make the home better will tend to improve citizenship.

The essentials of a good home are a man and woman resolved by their mutual efforts to make this world a better place in which to live and a structure that will protect life and health from undue exposure to the elements. If the dwelling is to be really a home, it must be more than a place in which to eat and sleep. Inspiration to better living must be there, incentive to strive diligently for the highest ideals and to attain these ends. Not only must the physical needs of the family be supplied moderately well, but the home must be attractive.

The Evergreen is something nature has given man to typify eternal promise, the promise that Spring shall always come again. In snowy winter, it gives the only note of comforting color in the bleak landscape. In summer it adds serenity to the riot of colors that the smiling sun coaxes forth from nature.

An Evergreen is like an old friend, the storms of years, the strife of a life only make richer his noble character. So is a home surrounded by Evergreens like a man with many true friends.

In the store house of nature are many things beyond your power to possess, but any lover of nature can surround his home with Evergreens. In their manner is grace, in their color is rest, in their presence is inspiration, their influence is perpetual. An Evergreen is truly a tree with a great and noble character.

For purposes of discussion, I will divide the planting of Evergreens into two divisions:

Evergreens for the Farm.

Evergreens for the City and Town Home.

It is a source of great satisfaction to know that my father was a pioneer in preaching the gospel of Evergreen planting for our prairie farmers. His life work has been devoted to the development and growth of hardy Evergreens, to give the needed protection to wind-swept prairie homes. What could be a finer reward than the letters he receives each day, from the honest farmers who are enjoying to the fullest extent the beauty and protection of his friendly old Evergreen trees.

Evergreens planted by farmers are usually arranged in the form of a windbreak, screen or shelterbelt around buildings, orchards and fields, whereas Evergreens planted by the city or town dweller are selected and arranged for the artistic improvement of the landscape.

I will discuss fully the planting of Evergreen windbreaks on the farm and confine my remarks on the use of Evergreens for town and city planting merely to a list of varieties, such as can be recommended for ornamental use, under the soil and climatic conditions existing in Wisconsin.

The home owner who lives in town can take advantage of assistance from a Landscape Gardener or practical plantsman, in the selection of good varieties, and their proper arrangement to produce the right effect, while such service is not always available for the farmer.

In the discussion of windbreak planting for the farmer, my argument will be entirely from the practical point of view. Do not, however, get the impression that a fine well grown Evergreen windbreak is not a "thing of beauty and a joy forever," nothing could be more beautiful than the snow laden pines on a frosty winter's morning. When you know Evergreens, you feel in their presence the hush of the vast forest, you see the silent sentinels, Evergreens typifying permanency, defying time and the elements.

What Is a Windbreak?

What is a windbreak? For the benefit of those who may not be familiar with the term "windbreak," I will explain that any body of trees which gives protection to buildings or crops may be called a windbreak. This paper, however, will deal only with Evergreen trees. Deciduous or leaf-bearing trees, are also used for windbreak purposes, but they are less effective in checking the force of the wind than a row of Evergreens.

How a Windbreak Protects

The influence of a windbreak

upon air currents is purely mechanical. Its effectiveness depends, therefore, upon how nearly impenetrable it is. The ordinary windbreak of willow, cottonwood or ash, does not provide much protection from the cold winter winds. A good Evergreen windbreak will provide almost an absolute barrier to the wind, some air may force its way between the branches and foliage of the Evergreen trees, but the movement of air on the leeward side is stopped completely or nearly so.

An Evergreen windbreak is any row or belt or body of trees which checks the force of winds passing over an area in the lee of it. By reducing the force of hot or cold winds, a windbreak may help to make the home more comfortable for man and stock within the zone of its influence. Less feed is required in winter to provide bodily warmth and nourishment to farm animals protected by it and they will be more comfortable in summer in its shade. Less fuel is needed to properly heat a home in the lee of a windbreak and the buildings themselves will deteriorate more slowly if not exposed to the full force of the elements.

What a Windbreak Will Do

A good Evergreen windbreak will shield an orchard from winds which might strike the trees when they are heavily laden with fruit, or protect the trees from cold winds which cause the winter killing of branches.

Reduces Evaporation

There is no part of the United States, except small areas in the Appalachian and Cascade mountains, which normally obtain more rain or snow than is needed for growing the best crops. The farmer usually plows, cultivates and mulches with the object of conserving every drop of water that may reach the soil during the year.

Anything which helps to conserve the moisture of the soil is of direct benefit to the farmer. An Evergreen windbreak has this effect in a marked degree. The drying power of the wind is reduced by the windbreak very nearly in the same proportion as its velocity. In the immediate lee of the most effective windbreaks, evaporation is reduced as much as 65 per cent. The amount of reduction depends a great deal upon the density of the windbreak.

Windbreaks are especially valuable, therefore, in the middle west, where the cold freezing winds of winter and the hot dry winds of summer are of frequent occurence throughout the year.

Effect on Temperature

The farmer who has cultivated crops on a hot summer day, need hardly be told that the warmest part of his field is the portion which is sheltered from the wind. In the lee of the windbreak, there is not only no breeze to cool the body, but the actual temperature of the air is raised. Tests with a thermometer have shown that the area which is protected by a windbreak may be several degrees warmer during the day and several degrees cooler during the night, than adjacent areas not protected.

Evergreen Windbreaks for Orchard Protection

Orchards may be affected both favorably and unfavorably by the increased temperatures due to windbreaks. The rapid ripening of the fruit and of the wood of the trees in late summer, is just about offset by the danger of accelerating the growth of buds and the blossoms in Spring; on the other hand, where warm Spring winds, like the Chinook are involved, the effect of the wind break will be beneficial in Spring by preventing this warm air from striking the trees.

Most fruit trees, especially at time of blossoming, are very susceptible to the least frost. A lowering of 4 or 5 degrees in the minimum temperature might mean the difference between a mere chilling of the tender fruit blossoms and actual freezing. Damage, however, from slight dry freezing, is not apt to lead to a complete loss of the fruit crop, such as occurs when blossoming trees are subjected to a storm of rain, sleet, or snow accompanied by wind.

Temperatures

It is a well known fact that the same temperatures as registered by thermometers may very differently affect human comfort, owing to differences in the quality of the air, its humidity, or most of all its rate of circulation. Low temperatures which cause no discomfort when the air is calm, becomes unbearable when a wind springs up. This is so widely appreciated that windbreaks are, perhaps, chiefly valued for the protection they give against strong winter winds. That there is a considerable saving in fuel in heating a well protected house, requires no proof. A good windbreak may reduce wind velocity as much as 80 or 90 per cent immediately to leeward. Evergreens are, of course, much superior to

deciduous trees where winter protection is desired and even a narrow strip of spruce or pines, consisting of only a double row planted close together and 20 feet high, reduce the wind velocity at 100 feet to the leeward by four-fifths. In other words, if a 25-mile wind was blowing, the force in the shelter of such a windbreak would be only about 5 miles per hour. This reduction in wind velocity is equivalent to a reduction of 19 degrees F. in the cooling effect of the wind upon the skin. A French experimenter, Vincent, has calculated that the cooling effect of a wind upon the skin is about 1 degree F. for each mile per hour increase in the wind.

One, Two or Three Row Windbreak

The space to be devoted to the windbreak need not be large. One row of the right kind of Evergreens will give effective results. Two rows are better and three or four rows will make a windbreak which will be up to the standard which should be maintained on land that is worth from $300 to $500 per acre. Instead of considering the land occupied by a few rows of good Evergreens as waste, the farmer must realize that the space thus occupied, probably brings higher returns in money, comfort and attractiveness than any other equal area on the farm. For this reason the land which is occupied by the windbreak should not be given over too grudgingly for this purpose. The windbreak is a business proposition and is a financial asset.

Correct Location

The exact location of the windbreak with respect to the permanent improvement on the farm should be worked out with extreme care. Usually the windbreak is confined to the north and west sides of the farmstead, since in the central prairie states the severe winds are from the north and west.

Best Evergreens to Plant

After the location has been decided upon, the next important thing is the choice of the best variety of Evergreen to use. A fast growing conifer is always given a wide margin of preference. Hardiness also must be given attention. Only varieties that have proven their ability to withstand the extreme cold of the winter and the heat and drought of the summer, should be selected. There is also a question of beauty which should be given attention, since it usually is possible, from the list of hardy Evergreens, to select a pleasing tree, which also has the other necessary requisites. Since the windbreak trees are for the purpose of breaking the force of the wind, a tree of heavy foliage is to be desired, one which branches to the ground and retains its branches even though the trees are crowded and shaded somewhat.

The Best Time to Plant

The best time to plant an Evergreen windbreak is in the Spring. After the spring rain and sunshine have removed the frost, the soil is usually warm and mellow, which is just the condition re-

PREMIUM LIST

The following cash premiums are offered for exhibits at the annual convention, Madison, December 14th, 15th and 16th, 1921.

(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
(4) Best **tray** of any of above named varieties **except** Goldend Russett, Malinda, Newell, Northern Spy, Patten, Plumb Cider, Twenty Ounce, Utter	3.75	2.50	1.25	1.00

(5) Best 5 trays of any of the following ..... 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
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 Table Queen Squash	1.00	.75	.50

(Continued on page 38.)

quired for the planting of young Evergreen trees. There is nothing delicate about any of the hardy Evergreens, as they come from the nursery ready for planting in windbreaks, shelter-belts and hedges. If they get reasonable care in the planting, they are sure to live and thrive from the beginning. In spite of their natural toughness, it is important that every care is given in the planting and after care of the young Evergreen windbreak.

The very name, "Evergreen," suggests moisture. It is only at the moist points of the earth that green things grow. Such Evergreens as I would recommend for planting in the northern states do not require an excessive amount of moisture, nor special cultivation, but the attention they do require should be given them without fail.

Do not use green stable manure for mulching, you may damage your Evergreens if you do. They do not ask for much plant food, merely for an opportunity to send their roots down and about in a soil that is moist and not packed too solid.

If the ground is very dry, it is best to water the trees. As the trees grow older, they will shade the surface more and more and so will cover it with needles and foliage. The shade and needles make the natural mulch. However, as most windbreaks are only two or three rows wide, the conditions of shade and litter are not nearly so good as in the thick natural forest, and you had better apply more leaves, straw or decayed litter every two or three years, under the trees. Pine needles, or forest leaves, are the very best mulch and should be

used if you can get them easily. Be careful about fire while the trees are small, the burning of the mulch will surely kill them.

Varieties for Windbreaks

We are here today to consider chiefly the best Evergreens to use for various purposes.

Of the many European species, we may discard a number that are not of any particular value. Generally speaking, I believe it is best to confine our prairie state plantings to as few varieties as possible, selecting only those which are suited to our conditions.

Evergreens are not particular as to soil. They prefer a light, sandy land, but will do well in any well drained soil.

For Windbreak Planting:

Norway Spruce.
White Spruce.
Black Hill Spruce.
White Pine
Scotch Pine.
Ponderosa Pine.

All of these pines and spruces are entirely hardy, rapid in growth and long lived, maturing into tall well formed specimens.

Hedge and Ornamental Evergreens

Evergreens for ornamental purposes must be selected with reference to the position they are to occupy, the purpose they are to serve and their relation to the place where they are to grow.

For hedges and medium growing windbreaks, the American Arbor Vitae is recommended as the best. As a hedge plant it can be sheared into any desired form and is always green and attractive. As a screen or windbreak for the flower garden, vegetable garden or lawn, it has many points to recommend its use, mainly the fact that it may be clipped along the sides and made to occupy as small a space as is necessary.

For grouping at entrances, near dwelling houses, and for massing in formal plantings, **dwarf Evergreens are favorites.** They are always cheerful, in evidence and wide awake the year round. Among the best for this purpose are:

Dwarf Varieties

Juniperus Canadensis.
Juniperus Procumbens.
Globe Arbor Vitae.
Japanese Yews.

The list of Medium Large Growing Sorts is more extensive, some of the most valuable being:

Hemlocks.
Silver Cedar.
Pyramidal Arbor Vitae
Pfitzer's Juniper.
Concolor Fir.
Golden Arbor Vitae.

Some Tall Growing Sorts

White Pine.
White Spruce.
Douglas Fir.
Austrian Pine.
Black Hill Spruce.
Red Cedar.
Colorado Blue Spruce.

Diseases of Evergreens

The diseases of Evergreens are comparatively few, and as a general rule, mostly confined to a few species, and restricted probably to certain conditions of atmosphere and soil

Trimming and Shearing of Evergreens

Many Evergreens are spoiled through a mistaken idea of beauty, by having their lower limbs cut off, and thus forming a long naked stem, considered very distasteful to the intelligent Evergreen planter.

The entire system of pruning an Evergreen depends very much upon the same principles that govern the trees of other classes.

Most of the upright Junipers, Arbor Vitae, Hemlock and Ce-

PREMIUM LIST.

(Continued from page 37.)

6 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. Wednesday, December 14th. 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.

dars are benefited by an annual pruning, either in early Spring or late Summer. Shorten the ends of all over luxuriant branchlets, thereby causing them to thicken and otherwise vastly improve in appearance.

When the leader or main stem of an Evergreen becomes broken or destroyed by accident or otherwise, a new one can be readily formed by tying up a side branch in as nearly an upright position as possible.

Two leaders should never be allowed to remain. The stronger should be selected and the other cut away as soon as noticed.

As a general thing, don't be afraid to trim and prune your Evergreens. Keep the knife on them constantly, proper and careful trimming will keep them to a well formed outline for years.

Summary

In closing, I wish to say to you and to many other home owners, the economical and permanent improving of your property is a big problem. No matter how you look at it, Evergreens will give your property an air of coziness and hospitality all the year round, which can be gained in no other way.

Who Are the Friends of Our Native Landscape?

John G. D. Mack, State Chief Engineer, at Summer Meeting, Racine, August 18, 1920.

It is a double pleasure for me to attend a meeting of the State Horticultural Society, first on account of having been assigned a subject in which I am so greatly interested, and second, because one of my early recollections is about such an association. My father was a lawyer, but had been a farmer until 26 years of age, and he never lost interest in agriculture and horticulture, never missing a meeting of the County Horticultural Society, so that I heard the subject discussed at home from the time I had but the most vague notion what it was all about except that it had something to do with apples.

I am going to discuss an idealistic subject, "The Friends of Our Native Landscape," an organization of universal appeal.

The word "idealistic" is used with deliberation, for we are so filled with the idea that in education everything but the so-called "practical subject," a greatly overworked term by the way, must be eliminated, rigidly excluding the theoretical and idealistic.

A disciple of the practical school is destined to meet many a rude shock as he finds case after case in which the despised "theoretical trash" turns out to be more practical than anything taught in the empirical school.

Scarcely an illustration comes to mind in which any one of the great basic inventions which make the comforts of present life what they are, but at some time past was the serious plaything of a man whom his neighbors were sure was not quite right and who was frittering away his time.

The future, even for a year, appears an interminable period, but a year in the past seems but a moment.

The future being so long distant we do not realize that it will soon be here and thus do not lay the proper plans.

We do not plan to broaden our streets, when it might be planned with small expense, except in rare cases, until we suddenly find the expense is prohibitive on account of development.

We have not protected nature's beauties. If we do not protect them, critics of the future will regard us, who destroy the charming vista, the choice bit of woodland, the marvelous rock formations, such as there are at Devil's Lake and vicinity, as we regard the vandals who wrecked the architectural monuments of antiquity.

Fortunately an awakening is at hand and is getting more and more the force of law behind it.

Creative laws trail public sentiment, seldom if ever does the law go in advance.

One of the greatest stimulants has been "The Friends of Our Native Landscape," organized in Chicago some ten years ago, under the militant spirit of that true friend of nature, Mr. Jens Jensen.

Wisconsin has its new County Rural Planning Law, an immeasurable step in our state in advance in the preservation of nature's best works.

The Woman's Clubs have some great things to their credit in the preservation of landmarks, as has the Wisconsin Archaeological Society.

I am a member of the Landmarks Committee of the State Historical Society. Under the leadership of the Hon. P. V. Lawson, this committee took for its first work the arousing of public sentiment in the preservation of Aztalan.

Many cities have done wonderful work in planning and securing parks, drives and playgrounds.

The Friends of Our Native

(Concluded on page 48.)

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Secretary W. S. H. S., Madison, Wis.

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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 Annual Convencion

Our Convention will be held in the State Capitol building, December 14th, 15th and 16th, one month earlier than last year and one day later in the week than usual. The board of managers were of the opinion that most of the members prefer December to January and were also influenced in fixing the date by the dates of horticultural conventions in other states.

It is unfortunate that the program cannot be printed in this issue but it is planned to get the December number to you by December 1st.

Those who have made a practice of attending conventions know that there will be two and one-half days of papers and discussions that no up-to-date horticulturist can afford to miss.

For those in doubt about attending we give a general outline of the program.

Wednesday Forenoon

Call to order 10 o'clock: Assembly Chamber. Greetings by Governor Blaine or other State officer.

Introduction of delegates from other state societies, usually Minnesota, Illinois, Iowa and Indiana.

The forenoon of the first day provides an opportunity to get acquainted and time for the exhibitors to display their fruit and vegetables, so that they will have no excuse for staying away from the afternoon session.

Wednesday Afternoon

Amateur Gardens and Gardening.

There will be four or five short papers by carefully picked men and women, those who have been successful in some line, with ample time for questions and discussion.

Wednesday Evening

Program by The Women's Auxiliary.

This is a new feature and is certain to be the best one. In other years the W. A. have met in separate session with a separate program. This was satisfactory, in a way, but the women missed the regular program and the men missed the women, very much. Now we can all be together all the time and the Editor has no doubt that a program that will make us all sit up and take notice will be provided.

Thursday Forenoon

Topics, five or more, concerning public welfare, community parks, cemetery planting, roadside trees, memorial trees, defining the duty we as horticulturalists owe to the world about us.

Thursday Afternoon and Friday

Two sessions each day; 9 to 12 and 2 to 5. No definite announcements can be made at this time further than to say that about twenty subjects will be presented covering every aspect of horticulture. While many of the subjects will be presented by commercial growers of fruits, flowers and vegetables and by men from the Agricultural College, everything will be of interest to the amateur. It has been noticeable in the past that the most keenly interested listeners to papers on pruning, spraying, etc., by experts have been amateurs who owned but a tree or two. There is nothing remarkable about that. Where else can the amateur go for better help than to the professional? We promise a full and satisfactory program for these four sessions.

Thursday Evening

Our annual dinner. This is wholly informal and a part of the convention that old timers look forward to with pleasure. No invitations are issued but attendance is limited to membership. We just get together by ourselves, enjoy a good meal, a few jokes, some good music and leave happy. Several prominent members were called out by telegrams last year and it is not unlikely that something worse (or better) may happen this year. There is always something happening to drive dull care away.

The annual convention is the biggest horticultural event of the year. The best proof of the value of it is in the never ending demand from other states for copies

of the annual report containing the papers presented.

The questions and discussions are worth more than the papers and the contact with the men and women who are making horticulture in Wisconsin is worth more than all the rest. You can't get that from reading a book. Better fix it up now so you can attend.

The Convention Exhibits

We may not have as many apples on show as at the State Fair or as many as Indiana or Illinois show at their annual conventions, but we have them all beat on two counts,—quality of fruit and a Venetian marble back ground.

There is no other fruit growers' association in the world that has a million dollar setting for its exhibits. The rotunda, first floor, of the Capitol building is just exactly that; then, after looking at the fruit, if you lift your eyes to the dome you see another million dollars, please don't think of that, one of the architectural masterpieces of the world in marble and canvas.

With all this our apples seem to emphasize the beauty, to add a finishing touch. Can you paint the lily? Or gild the rose?

Educational Exhibit at the Convention

The exhibit which will be staged by Dr. Fracker, state entomologist, consisting of specimens of injurious insects, remedies used for their control, etc., will be worth the price of railroad fare at least.

Other educational exhibits of equal interest and value will be staged.

Bayfield Strawberries

An article in the September number of this paper, page 11, under above heading was printed without proper credit. It was clipped from a Washburn paper, according to our best recollection, the Washburn News, and should have been credited to the proper source. A further error was in the head which was the Editor's own and should have read BAYFIELD COUNTY STRAWBERRIES. The biggest mistake of all was in printing figures on yield and prices. It is the established policy of this paper to refrain from publishing figures on bumper crops. These are often misleading and often induce people without experience, common sense or capital to rush into fruit growing greatly to the detriment of the business. One of our best growers of small fruits insists that "bumper" returns, as this year, must be spread over three years in order to give the facts.

A reader, who lives far from Bayfield, but who knows Bayfield, says that Mr. Ed. Carlson lives just outside the city of Bayfield and not at Washburn. This is not a matter of great interest to most of our readers, but it would be only natural if Bayfield local pride should resent the theft of Mr. Carlson from their community in order to shed glory on Washburn. Such things led to bloody wars in ancient times.

This is the chrysanthemum season again. Visit the nearest greenhouse. It is worth while. Many of the pompon and some of the larger varieties can be grown in the house to advantage.

Blasted Narcissus Buds

An experienced grower of narcissus complains that many buds fail to develop. Submission of the question to five different growers brought but slight comfort. All agreed that the thing happened but only two offered a suggestion: C. C. Pollworth of Milwaukee, says: "There are a number of reasons. When we force these bulbs too hard they often dry off at the end of the stem just about when the bud is forming. We always find that when bulbs are not well rooted they are inclined to throw blighted buds. Again it may, in some cases, be caused by disease as from our own experience we find that from an original case of bulbs, some come perfect while others will blight under similar treatment, but we find on examination that the latter usually have a poor root development.

Mr. C. S. Hean, an expert amateur writes:

Your letter does not indicate whether your correspondent is attempting to grow these Narcissi out of doors, or to force them in the house. In either case the problem does not appear to be one of cover, inasmuch as all possible variations of covering have been tried without affecting the result. It would seem therefore, that the most likely cause for the blasted buds might be due to insufficient root development. This should be induced by plenty of moisture and very cool growing conditions during the fall. There must, of course, be good drainage, as the bulbs will rot if they are standing in stagnant water, but with good drainage they can stand large quantities of water. This applies to double varieties in particular. If the flowers are being grown out of doors, they should have no cover whatsoever until after the ground is frozen to a depth of about two inches. The cover should be left on rather late in the spring to prevent the flowers coming too early, and getting caught by severe late frosts. These will, of course, blight the bulbs.

For growing indoors, Kirby's book on Daffodils, Narcissus and How to Grow Them, gives the following directions:

1. Early planting. Procure the bulbs as early as possible and pot up at once.

2. Plenty of time to root thoroughly out of doors. Allow about twelve weeks for hardy varieties and six weeks for tender Tazetta varieties.

3. Slow growth when first brought into the house, giving ventilation and keeping the room or house cool: 50° until budded, then 60 and 65 for flowering.

4. Plenty of water when the buds are developing and when in flower.

If your correspondent is growing his bulbs indoors, it would seem likely that he has either failed to get good roots or has brought the flowers into too warm a temperature in the house. Caution him that the nourishment in the bulb must go toward root development and the roots will then see to it that the flower develops properly. If conditions are such that both root and top are developing at the same time, the bud will almost certainly fail to develop properly.

C. S. Hean.

Premature Blossoming of Fruit Trees

City dailies as well as country weeklies are blossoming these days with flowery tales of, "Apple Trees In Bloom," "Spring Advanced Six Months" and other exciting stories of like nature. It seems to be a never ending source of wonder to most people when a few blossoms appear on fruit trees out of season and to many it is a source of superstition. It happens every year to some extent and the numerous cases this fall could easily have been predicted by any experienced grower.

The crop of blossoms which would normally appear in May, 1922, began their growth as early as June of this year and were carefully packed away in what the specialist calls "fruit buds" or "blossom buds" distinguished

from other buds on the tree, which produce only leaves, chiefly by their size. This year a dormant, (dry), period was followed by a season of heavy rains followed in turn by warm weather. On the trees having buds fully matured and on branches of other trees, usually diseased, the "fruit" buds developed and we have a situation which every fruit grower expected and regrets for it means fewer apples next year.

Troubles Enough

I noticed an elm tree (planted by me several years ago) was not doing well. An examination today revealed that the bark for four or five feet is loose from the tree and crumbles off easily; that there are larvae and ants, etc., under the bark. It is possible to scrape it and cut down all deep affected places and treat it with some solution and it could perhaps be bridged although the withes would have to be five feet long. Have you an idea what the matter is and can anything be done? It is one of a row of street shade trees along a garden lot. Is it liable to spread to the other trees? The leaves were not even to start with.

Is there anything to do with the corn tassel worm that is riddling our green corn but swearing? The fall worms are certainly fierce. They are chewing the head lettuce and Chinese cabbage. Would pyrethrum powder do any good? I presume you have enough troubles of your own aside from this?

L. J.

Dr. Fracker, state entomologist answers:

Elm trees are rarely attacked by borers unless they are infected with some disease or are suffering from some harmful conditions. In most cases in Wisconsin they are first attacked by a fungus canker known as Sphaeropsis ulmicola.

No control measure for this disease has been worked out as the fungus which caused it was not discovered until about a year ago. Dr. Humphrey of the Forest Products Laboratory, who has carried on most of the work with the fungus, suggests that it would be highly desirable to cut down and burn infected trees to prevent the disease from spreading to the neighboring ones. Bridge grafting under the circumstances would hardly pay.

The corn ear worm is controlled in Illinois, Iowa, and Kansas, where its damage is serious every year, by dusting the silk with powdered lead arsenate. This is done, of course, before the worms enter the ear and should be repeated a few times shortly after the corn silks out in the summer.

I suppose you would prefer not to use arsenate of lead on head lettuce and Chinese cabbage for fear it would not be washed off by the rain before the vegetables were used. Either pyrethrum powder or hellebore is satisfactory under such conditions, helebore is more common for leaf-eating insects. It should be purchased fresh from the drug store as it rapidly loses its strength. There is no danger whatever in employing it, as it is not poisonous to higher animals or man.

Keep house plants clean and free from dust. Water thoroughly when the plants need water rather than a little every day.

The New Freesias

It is rarely in these modern days that a brand new flower is introduced, but in the new colored freesias developed in the last few seasons and which have taken the florists' world by storm, we have something new. Freesias are easily grown pot plants for the winter and can be bloomed in the window of the average city apartment without great difficulty. The earliness with which they are planted determines the time of their bloom.

Resembling in growth a miniature gladiolus they now come in a bewildering series of lavenders, roses, mauves, orange, bronzes and yellows, and the hybridizers have only started on their work. The old white and yellow varieties were fine but the introduction of the colored kinds makes an entire new race of plants.

They will grow in any good soil with good drainage and given enough water so that they do not dry out. If the temperature is too hot, a fault often found in city apartments, the buds may blast after appearing, but if placed in a sunny window at some distance from the steam coil and given an occasional syringing or spraying in the bathroom or sink, they will respond nobly.

They have a delicious fragrance which adds to their charm.

They have in two seasons become one of the most popular cut flowers in the florist trade, and the bewildering array of colors has proved a constant delight. Hybridists both in the United States and Europe are developing new shades and strains each year, and in addition to the great variety of color they have greatly increased the size of the bloom and the freedom of production of flowers.—Exchange.

Woodpeckers, Sap-suckers and Apple Trees

A member complains that "woodpeckers" are attacking his apple trees causing serious injury. The following by Dr. S. B. Fracker, state entomologist, throws much light on the subject:

The black and white woodpeckers which are attacking your apple trees are undoubtedly the species known as sap-suckers (**Sphyrapicus varius varius**). They may be distinguished from other woodpeckers by the velvet black chest band contrasting with the pale yellow of the lower breast, and by the scarlet spot on the forehead and front part of the crown.

This is the only member of the woodpecker family which is injurious. The ornithologists report that it punctures the bark of orchard and forest trees primarily to suck the sap of the trees and to eat the soft cambium layer of the wood. They also feed on the insects which are thus attracted to the flowing sap, about one-third of their stomach contents consisting of ants.

The only way to prevent their depredations is to kill the birds, which are unfortunately protected by the game laws. However, if you will write Mr. W. E. Barber, Conservation Commission, State Capitol, Madison, describing your trouble and letting him know that you can tell sap-suckers from other woodpeckers he tells me that he is empowered to grant you a special license which will enable you to shoot these injurious birds.

Timely Suggestions

By Prof. LeRoy Cady, Minn.

There is still time to plant bulbs in pots for spring flowers. Use hyacinths, daffodils or tulips. Tulips may still be planted out doors to advantage.

Almost any one can have grapes if they will be satisfied with Beta or Janeville varieties. Some better varieties may be grown in favorable places.

Hyacinths, daffodils and other bulbs should be set in a cool place until the roots are well formed when they may be brought into heat and forced as needed.

Greenhouse sanitation is becoming more and more important. We cannot be too careful not to allow the numerous insects and fungous diseases a chance to gain any foothold.

Better put a little good rich garden soil in the cellar or where it will not freeze. It will come in handy to start those early vegetables and flower seed in next spring.

Straight garden or orchard rows give the field a better appearance and are easier to cultivate.

Hoe all grass and weeds away from the trunk of the tree. This destroys a winter home for mice.

Prune the grape vines as soon as the leaves drop. They should be laid down before the ground freezes.

Don't try to grow house plants in a very warm room with a dry atmosphere for it can't be done.

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.

The Annual Convention of the State Beekeepers Association will be held in Room A Auditorium MILWAUKEE December 8 and 9

Beekeeping In The Far North

Very little is known regarding beekeeping in the far north, but a recent newspaper clipping tells of several beekeepers who are securing large crops and Mr. J. C. Dodds of Bowsman River, Manitoba, is cited as having sold $1500 worth of honey from 33 hives. The writer of this article says that Manitoba is a natural bee country, that the prairies are covered with a profusion of wild flowers and the blossoms of alfalfa and clover are widespread.

Dr. Miller Memorial Fund

To date we have received subscriptions through this office as follows:

State Association	$10.00
State Cooperative Ass'n	5.00
O. B. Bartz	1.00
H. F. Wilson	2.00
Wm. Brenner	1.00
Jennie Matzke	1.00
A. C. F. Bartz	2.00
Emma Bartz	1.00
V. G. Milum	2.00
Harry Stebens	.50
Wm. Vollbrecht	.50
H. J. Rahmlow	1.00
E. W. Atkins	1.00
F. L. Schultz	1.00
Wm. R. Pember	.50
C. D. Adams	1.00
Dan Starman	1.00
Wm. Klessig	.50
Albert Peterson	.50
W. E. Krause	.50
Lake Region Honey Co.	1.00
Geo. Stowell	1.00
C. M. Tarr	1.00
Mrs. Fred Christenson	2.00
Lewis Francisco	1.00
A. W. Ewing	1.00
Dr. Robt. Siebecker	1.00
Sam Post	1.00
E. K. Chaffey	1.00
E. P. Minsart	.50
Wm. Michaelson	1.00
Mr. Tobey	1.00
H. L. Hartwig	.50
Mrs. Martha White	1.00
H. V. Wilson	2.00
M. F. Hildreth	1.00

The following beekeepers have subscribed but have **not yet paid**:

Linus Prock	$1.00
Dr. W. Lumley	.50
F. J. Mongin	1.00
Leo Bentz	1.00
Mrs. F. J. Furlong	.50
W. C. Ehrhardt	.50

DON'T DELAY! PAY UP YOUR SUBSCRIPTION TODAY.

American Honey Producers' League Notes

Mr. H. B. Parks, secretary, American Honey Producers' League, San Antonio, Texas, reports that the league signs offering a reward for the arrest and conviction of anyone disturbing an apiary at which one of these notices have been placed are ready for distribution. Every beekeeper in our state who has paid in his dues to the American Honey Producers' League Section of the State Association is entitled to the right to use these notices and they can be secured from Mr. Parks on request at a minimum cost for printing.

Members of the League in Wisconsin who have not already done so should look up the honey advertisements in the September number of Good Housekeeping. The advertisement will be found on page 14. The secretary reports that he is receiving large numbers of requests from every part of the United States asking for the recipe booklet. It is the plan of the League to use additional methods in connection with these advertisements by sending circulars of information to the wholesale grocers of the United States.

Bee Diseases In 1921

As if the beekeeper did not have enough troubles this year between failing honey prices and a poor crop, he has also been compelled to fight American foulbrood harder than ever. In fact, in the counties where no control measures are being applied infections with this disease were disastrous and resulted in widespread infection.

The fall of 1920 and the spring of 1921 offered ideal conditions for extensive robbing. Long periods of mild weather gave the bees a chance to fly every day for weeks when no honey could be secured "honestly." Particularly in the spring, the very early flow followed by a three weeks' complete dearth of supplies maddened the bees until robbing would be started on the least excuse. As a result every exposed comb, partially cleaned honey container and sweet stuff of every kind was found and taken up at once.

The result of this condition may be illustrated by an occurrence in the western part of the state. An extensive beekeeper in a district infected with American foulbrood but who had not had previous experience with the disease himself, discovered a year ago that a few of his colonies were bringing in a fine quality of basswood honey after the main flow was over. He realized that his bees has discovered the supply somewhere and considered it a good joke on some unknown neighbor. The quality of honey was good and after being taken off was retained for feeding in the spring.

As might be expected, the feeding resulted disastrously to the entire yard. By the time it was examined in July, 87 of the 115 colonies showed typical symptoms of American foulbrood, a condition serious enough to discourage the most hardened and experienced victim of bee diseases.

The marketing situation for the past two years had also added to Wisconsin's difficulties. A larger proportion of the honey crop is being marketed locally than ever before and this means that owners of infected yards are providing more and more consumers with honey containing the spores of Bacillus larvae, the bacterium which causes American foulbrood. In the city of Madison this has been especially serious for it has increased the number of former honey containers to which the ever-searching bees had access.

Under these conditions the beekeepers in many localities have been able only to hold the disease to its former proportions. A policy of more drastic action than ever before was adopted for this season and it was badly needed, for certain beekeepers in some

counties had succeeded in retaining American foulbrood on their premises throughout a five year campaign in spite of treatment being applied every year.

Since the area clean-up method of foulbrood control was begun in 1918, campaigns have been undertaken in the entire belt of counties extending from Madison and Milwaukee north to the north boundary of the state, and reaching from Lake Michigan to a width of sixty or eighty miles west. The only counties in their entire belt in which no work has yet been attempted are Washington and Ozaukee, but large areas of Dodge and Waukesha also still remain untouched. In six or eight of the counties north of Green Bay, only general scouting trips have been undertaken and these have shown Marinette, Oconto and Kewaunee counties apparently free from disease. Isolated outbreaks have been discovered in one location in each of Door, and Forest counties and these were immediately cleared up. The amount of infection has been reduced to such an extent that American foulbrood is no longer a cause of serious loss in Langlade, Shawano and Calumet, and the disease is so scarce in Outagamie and Sheboygan that these areas, begun this year, will apparently offer little difficulty.

In the group of counties from Oshkosh to Madison and Milwaukee, the inspectors have been working under serious difficulties, and at times have been greatly discouraged. Jefferson county took four years to reduce the disease to an infection of twenty per cent of the apiaries, but the number of diseased colonies has gone down until at the time of writing practically no disease is known in the county except in the extreme northwestern corner. In other parts of the area the results of selling infected honey in the immediate neighborhood of the yards to be cleaned up has offered especially serious difficulties around the larger cities such as Milwaukee, Oshkosh, and Madison, and has delayed results.

The brighter side of the picture is the fact that there is no area in which clean up surveys have been carried on for even one year in which the amount of infection has not been reduced to less than 20 per cent of the total number of apiaries and less than 8 per cent of the total number of colonies. When it is remembered that in several counties from one-half to two-thirds of the total number of yards showed disease when the work was begun and that in a number of these counties American foulbrood is no longer a cause of serious loss, the amount of progress in the state can be seen.

In the older counties, which have known and suffered from American foulbrood for from ten to forty years, the problem has reduced itself to that of handling the larger yards and keeping the up-to-date commercial beekeepers from perpetuating the disease on their own premises. The two-colony "back lotter" is now supporting foulbrood clean-up work and is offering little difficulty. Everywhere he is suffering loss from his neighbor who is producing honey on a commercial scale and who is treating and shaking and shaking and treating until he has become so used to the idea of having disease in his yard that he would be lonesome without it.

Not all the results of the present season's work have been tabulated and a complete report of the results to date will be made at the meeting of the state beekeepers' association in December. The general statement can be made that all infected yards located by inspectors in the entire belt covering the eastern third of the state, and Richland county in addition, were cleaned up by the close of the inspection season, except in Dodge and Fond du Lac counties, where the survey was begun only this year and the owners of infected yards have not all had time to become familiar with and apply treatment.

S. B. Fracker.

Are We Overlooking Some Of The Sources Of Nectar?

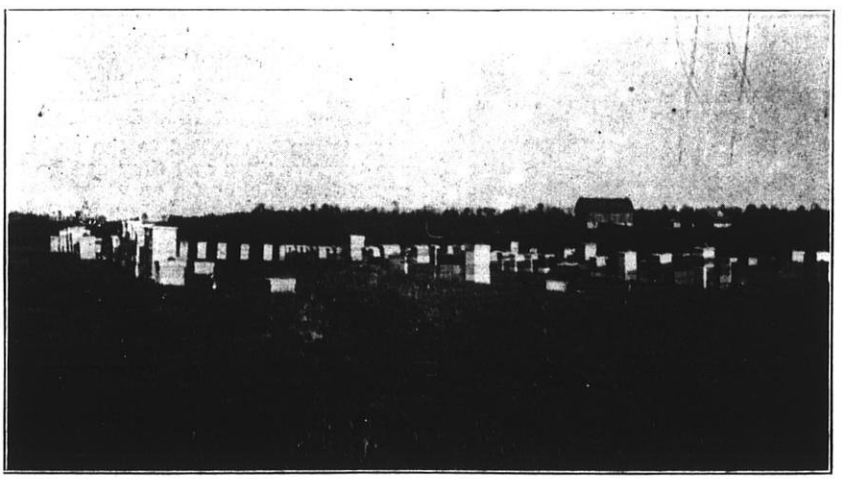
The season of 1921 developed some new wrinkles, so far as honey production is concerned. An unusually early spring enabled the bees to be ready for the clover flow which came at least two weeks before schedule time. A dry fall in 1920, followed by a large portion of the state being bare of snow during most of the winter was responsible for the freezing of the clover in the northern half of the state.

For some unknown reason, the basswood failed to yield, except in a small section in the extreme western part of the state and a small section in the extreme eastern part. There was a light yield of clover in the southern and eastern sections. In the northern section there was practically no honey gathered until about the first of July. Quite a severe drought affected the whole state during June and July. Late summer rains and favorable weather gave an unusually early development to the fall flow. Many of our northern people secured a splendid crop of honey after the 15th of July. The accompanying picture shows one of the yards of the Clover Land Apiary Company, which was moved from near Wausau to a fireweed section thirty miles away on the twentieth to the twenty-seventh of July. The picture was taken on the 15th day of August, at that time it was found that each colony had from two to four ten-frame hive bodies well filled with honey from willowherb.

Many of our beekeepers turned failure into success this year by a little wise migration.

A small yard of mine at Shawano county, Wisconsin, secured an average of fifty pounds from "wild buckwheat.' The honey is almost as dark as buckwheat honey, but has an entirely different flavor. It is not so strong and many people are very fond of it. The wild buckwheat is a vine which comes up in the grain fields after harvest, has leaves similar to sweet potatoes and the flowers are small. It gets the name from its resemblance of the seed to that of buckwheat seed.

Summing up the honey situation I should judge that we have about thirty or forty per cent of a crop of white honey, while we have perhaps



5000 Pounds of Fireweed Honey Secured After July 15, 1921

a very large surplus of the various fall honeys.

H. L. McMurry.

Observations On Sugar Feeding

Experiments carried on in the Department of Beekeeping at the University with sugar syrup indicate that there is a great deal to be learned by weighing bees before and after feeding to determine the loss in weight occasioned while the syrup is being taken down and ripened by the bees. Five pounds of sugar syrup fed to a fairly strong colony of bees is almost a waste as the increase in weight per colony is only about two pounds. Tests in which 40 pounds of sugar syrup were fed to colonies without stores showed that the total amount of syrup was reduced by from 10 to 12 pounds. In other words, 40 pounds of sugar syrup will produce only about from 25 to 30 pounds of actual stores. Considerable difference was noticed in feeding sugar syrup of various strengths. Sugar syrup made with one pound of sugar to one pound of water was considerably more reduced than 2 pounds of sugar to one pound water and syrup made with 3 pounds sugar and one pound water was much less reduced than either of the others. Tartaric acid was found to be necessary in making the best syrup.

The department recommends the use of sugar syrup two pounds sugar to one pound of water for early fall feeding, and three pounds of sugar to one pound of water for late fall feeding. In making the syrup mix the water and sugar, place on the fire and allow to come to boil or until the sugar is all dissolved and the liquid is clear. Then add a teaspoonful of tartaric acid to each five gallons of syrup stir well and remove from fire. Without the tartaric acid, the sugar syrup made on the basis of 3 to 1 cannot be kept in solution, the sugar crystalizing out in a few days time. When the tartaric acid is used, no sugar crystals are formed for many days and bees have been found to winter well on sugar syrup of 3 to 1 strength without any signs of crystalized stores in the spring.

While carrying on these feeding experiments four colonies with foulbrood were shaken onto clean empty combs and allowed to starve for twenty-four hours. At the end of that time each one of these colonies were examined and no honey could be found in the cells. Sugar syrup was then fed in 10 pound lots until the bees had taken down 40 pounds. In each case a few too many eggs were found in the 2 or 3 center frames. Later examinations showed that brood was being reared and from 10 to 20 square inches of sealed brood was found in two of the treated colonies.

When examined on October 27, practically no eggs were to be found and it appears that brood rearing has been discontinued. Only about half of the stores have been sealed but the remaining syrup seems to be well thickened. More and more our beekeepers are realizing that sugar syrup makes good stores for winter and as it is easy to give to the bees, there is no excuse for any colony of bees going into winter quarters short of stores.

H. F. Wilson.

Spring Preparation for the Honey Flow

(Continued from October number.)

A practical illustration of how temperature influences the development of brood in the spring may be demonstrated by watching these colonies, of minimum, medium, and maximum strength. By May the weak colony will have only a small circle of brood indicating the inside space covered by the cluster. This will also be more or less true of the medium colony, but the area of the brood nest will extend beyond the ordinary winter clustering space. In the strong colony the brood nest will be several times longer than the winter clustering space and several frames may be filled from end to end. It is, of course, a recognized fact that strong colonies in the spring are able to build up strong for the honey flow, but how many beekeepers have ever carried on trials with protected and unprotected colonies with extra brooding space and with more stores than **seemed** necessary. When a demonstration of this nature is carried on the results are truly remarkable and I believe this is the principle reason why beekeepers who have tried packing the bees out of doors have reached the conclusion that out door packing is better than cellar wintering. However, the cellar wintering was not at fault, but the fact that the bees had wintered out of doors had spring protection made it appear so. In the Northern states the bees are often removed from the cellar and placed in exposed locations where the north and west winds sweep over them, causing a loss of temperature which can only be made up by extra work on the part of the bees and a consequent loss of energy which should be conserved for a greater expansion of the brood nest. Whenever a cold wet spring occurs the bees have great difficulty in building up and always reach the honey flow in poor condition unless protected.

The month of April is always cold and the night temperatures frequently drop to near the freezing point. Perhaps there are only a few days when the bees can fly and in that case we say that bees were unable to gather pollen and nectar and could not build up. This condition may be true, but would not be if the beekeeper would only provide abundant stores. In truth the bees do not need to fly, but three or four times during the latter part of March and April and conditions without the hive have little or no effect on the development of the brood if conditions are right within.

There is also considerable evidence to show that too much packing in the spring is detrimental as in heavy winter packing. If the packing is too heavy, the heat of the sun does not penetrate to the hive and the bees do not come out and fly during the few days that are warm enough for a flight.

Our recommendations for spring are that, First, the beekeeper arrange to set the bees in location where they will positively be protected from the direct influence of the wind. Provide some kind of windbreak. **Second,** if the largest possible colonies are desired at the beginning of the honey flow, prepare to provide every colony with some outside covering or packing as soon as the bees are put on their summer stands. **Third,** see that every colony has more stores than **you think** it can use during April and May. If you do not have combs of honey, feed sugar syrup and give forty to fifty pounds because as a rule ten to twenty pounds is about half enough. The strong colony will need from 75 to 100 pounds of stores to build up during the spring and if they cannot get it in the field, the beekeeper must supply

it. **Fourth,** the bees must have brooding room and the beekeeper who has swarms in May should not be proud of the fact, for it is a sure sign of neglect in one way or another.

Some of the beekeepers in Wisconsin who have been content with one hive body full of bees at the honey flow, have, during the past two years been amazed to find that they could, by following the above recommendations get two ten frames hive bodies full of bees and from twelve to seventeen frames with brood at the beginning of the honey flow. Two beekeepers in late May, 1920, actually had most of the colonies two ten frame bodies with more bees than they could get into the hive. We do not put two hive bodies on when the bees are first set out, but wait until six or eight frames contain brood and then the second hive body is placed on top. As soon as the queen lacks space below, she goes up, if the upper body is packed and warm. In spite of evidence to the contrary, she will go down again when everything is filled above.

THE FUNDAMENTALS OF SPRING CARE TO GET LARGE COLONIES AT THE TIME OF THE HONEY FLOW ARE BEES TO BEGIN WITH: PROTECTION DURING APRIL AND MAY: SUPERABUNDANCE OF STORES; NOT LESS THAN TWO HIVE BODIES FOR SPRING BROOD REARING.

Who Are the Friends of Our Native Landscape?

(Continued from page 39.)

Landscape, however, is the all including organization where all the specialists may get together and by mass action arouse public sentiment before it is too late and the damage done beyond repair.

I have tried to think of a group who would not be interested in the work of the Friends, but with no success.

One large group, the children, will all be with us, for most of them would rather live outdoors than indoors. The native landscape appeals to them for their imagination is still unimpaired, and they regard the finest of man-made parks with some disdain, in comparison with the woodland, lakes and streams as left by nature.

Then we might consider the persons who like to hunt, camp, fish, drive or walk, in addition to other outdoor diversions. All will be with us. Also the farmer, who has quite as much, if not more, appreciation of these things than has the city dweller.

Why do so many persons choose for their vacation place the wildest spots they can reach? It is to get away for a time from the artificial places, back to places like the haunts of their distant ancestors, some authorities hold. These ancestral traits are in all of us in some form.

For those who can not go to the distant places the Friends propose to bring the distant places nearer home, that all may have opportunity to enjoy them, and thus add to the happiness of those here and those to come.

Is it idealistic? Possibly, but at the same time, it is so intensely practical that it should delight the narrowest exponent of the purely utilitarian.

My topic is, "Who Are the Friends of Our Native Landscape?" It will be easier to reverse the question and tell who are the enemies, for when the purpose of the Friends are understood, there are no enemies.—

Bitter-sweet makes a fairly good hedge when carefully trained over a fence or wall. Its orange-colored fruit adds greatly to its attractiveness in autumn.

Remember the winter meeting of the Horticultural Society in December. If you are interested in trees, fruits, flowers or vegetables it will pay you to attend.

Did you notice the high coloring of the Virginia Creeper this season? It is a splendid thing for autumn color or a brick or stone wall or when grown over an old tree or stump.

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY.

Madison, Wisconsin, December, 1921

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Planting and Care of Street Trees, a Municipal Function

One of the characters in an early-day American romance of the time when the Stamp Act was causing all kinds of trouble is recorded as declaring that New York never would be a real business city because Broadway and Maiden Lane were lined with trees. The Van Vrooms, the Stuyvesants, the Artavelts, and other early settlers of the country saved fine trees about their homes, on the village greens, along the country roads, and in the fields. But one will see no trees nowadays on Broadway, and Maiden Lane has been transformed from the pleasant, tree-bordered region of Dutch homes with flower gardens into the busiest wholesale jewelry district in America, if not in the world.

Business Streets Bare of Trees

Beauty and comfort gave way to the inroads of commerce, not only in New York but in most of America's great cities, so that today trees in a business street are a rare sight. There are elm-shaded villages in New England; maple-shaded towns in New York and the Ohio valley, and there are oak-tree streets to be seen in the southeastern states, but for the most part this refers only to small towns or cities—never to the congested centers of population where they should have been preserved. Washington, the national capital, is one of the exceptions, and even there the plantings were not always wisely arranged.

The tree growth on the streets of the average American town or city is ragged and unkempt in appearance, while that of the suburb or small village often is not much better unless the planting has been done under municipal control, and the plantings on a street have been confined to a single kind of tree. The telegraph, the telephone, the electric light, and the trolley car have added their share toward the mutilation or destruction of the good trees that were in existence at the time of their coming.

Faulty methods of pruning have caused disfigurement and ruin. "Success follows the careful planting of good trees which are given adequate protection and timely attention," says Farmers Bulletin 1209, Planting and Care of Street Trees, just issued by the United States Department of Agriculture. "Every tree should be trained to its proper form while tiquity.
young, so that severe pruning will not be necessary later. Guards are necessary, too, for several years.

"To the mutilation of severe pruning has been added the destruction of many trees in centers of business because they excluded a little light, or made the store less prominent, or were somewhat in the way of using the sidewalk for merchandise."

Unpaid Commission Does Best Work

The bulletin insists that providing shade on city streets is as much a municipal function as providing lights or sidewalks and should, therefore, be cared for by public officials. Probably the most efficient way of arranging for proper supervision, it says, is through an unpaid commission of three or five members which in turn employes an executive officer. Methods of organization are described, and numerous illustrations show how trees should be planted. There are chapters also describing pruning, spraying, transplanting, and other subjects of importance in every town or city whether it has trees or wishes to have them. The bulletin may be had free upon application to the Division of Publications, United States Department of Agriculture, Washington, D. C.

The Growers and the New Marketing Law

The purpose of the law which was enacted by the 1921 Wisconsin legislature establishing a Department of Markets, is, broadly speaking, to promote conditions under which products and commodities will be marketed to the greatest benefit of all the parties concerned in their distribution, namely, the growers, dealers and consumers. This law, which gives the Department of Markets extensive powers, aims to establish a better system of distribution of farm and other products by means of checking unfair practices in business and eliminating the waste and unnecessary expense incidental to the present system of marketing of such products.

The marketing law is based upon the idea that the present high prices to consumers and low prices to producers is due mainly to a lack of organization in the distribution of products. In many cases growers lack the necessary market information and as a result often ship their products to places where the price paid is less advantageous than to places where higher prices prevail. On

the other hand, the means of distribution of products, that is the system of transfer of products from producer to consumer, is costly and cumbersome. It has been found that there is a needless duplication of the middlemen concerned in the marketing of products and that this duplication is due to the fact that there are more middlemen handling products than is necessary for an efficient marketing system. The superfluous middlemen entail an unnecessary expense which is charged to the consumer and the producer. And finally, an undesirable thing has been found to exist in the marketing of products in the shape of unfair methods of competition, such as manipulation and certain forms of speculation, which give the persons practicing them an undue advantage over their competitors and thus destroy the benefit of free competition. In this connection it must be borne in mind that anything that destroys free competition hinders the free play of the law of supply and demand and has a detrimental effect on the prices of products, and consequently on the cost of living and on the remuneration of producers and growers.

The marketing law contains provisions which give the Director of Markets the power to eliminate many of the undesirable features of the present system of distribution. All these provisions, however, apply in a different degree to the different trades and businesses in Wisconsin. The fruit and vegetable trade, which is of the most interest to the readers of this magazine, is little concerned with the provisions regarding unfair practices for two reasons: First, because of the comparatively infrequent occurences of such practices, and second, because of the fact that if those practices do make their appearance they usually occur on terminal markets which are located outside of the state and which, by virtue of the interstate trade in which they are concerned, are subject to the jurisdiction of the Interstate Commerce Commission.

Of the utmost importance to fruit growers of this state, however, are some of the other provisions of the new marketing law. Thus a great drawback to dealers and growers of fruit and vegetables is the lack of systematic market information. The new law gives the department the power to obtain and furnish information relating to prices and commercial movements of products; information relating to the selection of proper shipping routes and to the adoption of advisable shipping methods. As mentioned above, a great deal of loss is entailed by dealers and growers because of the lack of definite information as to where and when it is best to sell. The Department of Markets is maintaining a market news service for the benefit of all the persons concerned in the distribution of products and it hopes to be in a position to considerably enlarge its activities in this field.

Another important provision of the marketing law relates to the assistance which the department is empowered to give to co-operative organizations. Aside from the lack of definite information as to markets an important item of unnecessary expense in marketing is due to the duplication of services in the transfer of products from the producer to the consumer. It is a recognized fact that growers, by co-operating in the marketing of their products, are able to dispense with the services of certain superfluous middlemen, thus saving for themselves the profits which these unnecessary middlemen realize. The Department of Markets has been active in the organization of co-operative associations and it will be in a position to render more substantial services in this field to the growers of the state because of the facilities which the new co-operative law places at its disposal. This law has been sponsored by the Department of Markets and its provisions tend to remedy certain defects of the old co-operative law, which hindered the growth and development of co-operative farmers' associations.

The question of standardization of farm products occupies considerable space in the new marketing law. There is a pretty general complaint of loss through failure on the part of the producer or original shipper to sort and grade his product properly. It is a recognized fact that much of the waste and unnecessary expense involved in the marketing of farm products can be eliminated if products were shipped on the basis of quality. This question has received a great deal of attention on the part of the Department of Markets. Some of the efforts of the department in this field were devoted to changing the law of 1917, which regulated the packing and grading of apples. Changes in the regulations were necessary in the general opinion of growers and dealers of the state as voiced at public hearings held

by the Department of Markets at six cities in the state.

The new grades which were made the official ones of the state and which were modeled very closely after the grades for apples proposed by the U. S. Bureau of Markets and Crop Estimates, establish three grades for apples: (a) Wisconsin Fancy Grade, (b) Wisconsin "A" grade, and (c) Wisconsin "B' grade. In addition ungraded apples are allowed to be packed and sold if they conform to certain regulations. It is provided that the Wisconsin Fancy grade shall consist of apples of one variety which are well formed, uniform in size, firm and mature and free from decay, dirt, disease, bruises, insect or mechanical injury and other blemishes or defects except those necessarily caused in proper packing. The Wisconsin "A" grade comprises apples of one variety which are firm and mature, free from decay and practically free from dirt, disease, bruises, insects or mechanical injury and other blemishes and defects, while the Wisconsin "B" grade apples shall be firm, mature, free from decay, worm holes and serious bruises and shall not be materially deformed or materially discolored.

The regulations governing the grading and packing of Wisconsin apples refer to the marking of containers. It is stipulated that every package containing apples produced in Wisconsin which is packed for sale, sold, or delivered must be marked to show the grade of apples, and in case of ungraded apples must bear the mark "ungraded"; it must give the true name of the variety and the minimum size of the fruit; it must bear the name and address of the person by whose authority the apples were packed. The facing of apples in a container has also received special attention under these regulations and a particular emphasis is laid on regulations governing the color. The rules provide that each apple shall have color to the extent of a certain percentage of its surface for its variety. The varieties, stipulated are: Solid red varieties, striped or partial red varieties, red cheeked or blushed varieties, and yellow or green varieties. The percentage of required color for these varieties is higher for the fancy grades than the "A" grade. There are no color requirements for the "B' grade.

These apple grades, as well as the grades established by the department on potatoes and cabbage, aim at solving an important problem of the fruit and vegetable trade, namely: Selling on the basis of quality. But even if all his produce were shipped properly packed and graded, it would not solve the whole problem for the grower, for the lack of marketing information and the unnecessary expense involved in marketing would tend to check the benefits of selling on the basis of quality. The efforts of the growers should be concentrated at the same time along the three lines of standardization, selection of the right markets and organization of co-operative selling associations. It is expected that the new marketing and co-operative laws will give them considerable facilities to realize this three-fold ambition, thereby promoting a more efficient marketing system, reducing the price for the consumer and increasing the profits of the growers.—Wm. Kirsch, Wisconsin Department of Markets.

The Peony

Peonies do not require very much in the way of culture. The best time to plant Peonies, of course, is in September. The sooner you can get them in after the first of September, the better it will be because they will have an opportunity to make a good root growth before winter. The tops of the Peonies should not be cut off until they are frozen, I would say, and a good many Peony growers do not cut them off then, because the stems are hollow, and water will get down into the crown, and cause rot. So I just bend mine over and leave them there to catch the snow, and in the Spring I cut them off. The Peony has very few enemies. Once in a while you do have a little root rot. Sometimes that is traced to manure. They do not like to come in contact with manure. I would advise bone meal as a fertilizer, and a little nitrate of soda, perhaps, in the Spring, to encourage leaf growth, although you do not want to give them an overdose of that, because you do not want all tops. Nitrate of soda is pretty strong, and liable to burn them. In order to secure fine exhibition blooms most Peonies should be disbudded. Most Peonies send up a large bud in the center, surrounded by other buds, and they will all bloom if you give them a chance. The surrounding blooms will not be as large as the center one, so if you want the finest blooms, take off all the little buds around the center one, and leave just the cen-

ter one, the same as florists do with the Chrysanthemums.

Now, as to varieties. Festiva Maxima is one of the old standbys. It was originated in 1850, I believe, and in some respects it has not been beaten yet. It is a strong grower. It has a large flower, and is very fragrant. It is a pure white, with a few crimson marks in some of the center petals. I think if I had only one Peony, I would want Festiva Maxima. Madam de Verneville is another good white Peony, a strong grower, and very fragrant. Mons. Dupont is another fine white, large, flat flower, with a few center petals tipped carmine. Al Patrie, which is practically the same as Avalanche—some growers say they are identical—is a very fine white, with a few petals in the center having a little edge of carmine or ruby. It is a fine Peony. These last two are midseason varieties. The first ones that I mentioned are earlier

Now, in the late white, we have Baroness Schroeder, which is a flesh white, changing to white. and a very fine flower.
Coronne d'or is another old standard white which is very good. It has a collar of yellow stamens around a tuft of central petals, and these central petals are tipped carmine. This is an ivory white.

Then in the pale pinks we have some very lovely flowers. Among the early ones are Eugenie Verdier. This is a hydrangea pink, very delicate and very fine.

Now, all the Peonies I am naming for you are moderate priced Peonies. I do not think any one will cost over $1.50 or possibly $2, and some very much less. I will give you a list later on of the higher priced ones. But you do not have to pay a big price to get a good Peony, and the price does not always indicate whether a Peony is good or not. When you realize that it takes about seven years for a grower to know whether he has got a good Peony or not from seed, and it takes about ten years more for him to work up a respectable stock of it, you can understand that he has got to charge a high price for his roots when he puts them on the market. And when they are new, they are high priced because they are scarce. The law of supply and demand governs. But they may not be much better than some of the older varieties, of which there is a large stock, like Festiva Maxima, for instance. You can get that for 50 or 60 cents anywhere, for it has been on the market so long that there is a big stock.

Octavie Demay is a hydrangea pink striped with carmine. It is a very fine flower. Then in the midseason we have Eugene Verdier, which should not be confused with Eugenie Verdier. This is one of the pinks they measure the others by. It is a stand ard variety, a standard pink, and a very fine all-around flower. One grower considers it—at least, so he says—the best Peony there is, although I do not agree with him on that. But that shows you that it is a very high Peony.

Among the late varieties we have Albert Crousse, which is of distinctive form, like a big flesh pink Carnation. Among the deep pinks and the early varieties we have Mons Jules Elie. This is also a pink to measure the others by, one of the very best pinks that we have. It is a very large Peony, and has a silvery reflex, and is very sturdy, and also fragrant.

Madam Ducel is another distinctively shaped pink. It has a collar of wide petals, and the center of it is a large ball that looks like a big Chrysanthemum. The petals are narrow, and they are curved in like a big Chrysanthemum. This is a very good pink, of distinctive shape.

For midseason we have Madam Geissler, a violet rose, tipped silver, one of the largest of the Peonies. Clair Dubois is a light satin pink, which is also very fine.

Among the late pinks we have Livingstone, which has a beautiful soft pink center, and the petals are flecked carmine.

In the red, the earliest Peony that we have is Officianalis Rubra. That is the old red Peony of our grandmothers' garden, but because it is a good red, a very good red, and very early, there is still a place for it. Augustin d'Or is a bright brownish red. Those last two are early. For midseason we have a very good red in Felix Crousse. This is a brilliant red flower, and one of the best. Souvenir d'Exposition Universal, is a violet rose, tipped purple, and a very good variety, very fragrant.

In the lates we have Delachei, which is a violet crimson, slightly tipped silver, growing on a long soft stem; it is a very good growing variety, although it is not as large as some of the others.

Then there is another group of Peonies which are called Japanese Peonies. They are really in the process of forming from a single to a double Peony. You know, the Peonies originally were single, but through cultivation they began to double, by the stamens

widening out and forming petals. The Japanese Peony is just about midway between the single and the double. One of the best of these is the Mikado. It has a dark crimson center, edged and tipped gold, and is a very striking flower. There are also a number of other very good ones, which are new.

Now, these are all moderate priced Peonies, and I think they are some of the best of the moderate priced ones. I have here a short list of some of the newer Peonies, which I think are a little higher priced, but still not up too high; around $25. You know they sell Peonies for $100, and some of the enthusiasts would give more than that for a good yellow Peony.

Primevere is a large sulphur white flower, with a yellow center. It is one of the rare Peonies, and is a good Peony. Elizabeth Barrett Browning, which was originated by Mr. Brand, of Fairibault, Minnesota, is an enormous pure white, and the American Peony Society voted that the best Peony of American origin. And by the way, Mr. Brand advertised in his latest catalogue that he has a ruffled Peony. He does not advertise it for sale, but he merely makes the announcement that he has a ruffled Peony. You know what the ruffled Gladiolus is like, —a big improvement on the plain petaled one; and he claims that this ruffled Peony is just as great an improvement over the ordinary Peony

Jubilee, by Mrs. Pleas, an American grower, is one of the very finest Peonies, and won prizes at the American Peony show held this summer. Lady Alexandria Duff is a delicate flesh pink, which has been a high priced Peony, but the price is coming down within reach. It is a very fine Peony.

Le Cygne, another French variety, is a pure ivory white, and one of the best Peonies.

Martha Bulloch is another of the Brand Peonies, and one of the best pinks in cultivation; an enormous ffower, some ten or twelve inches across. It is among the high priced ones, of course. Mary Brand is another Brand origination, which is one of the best reds. Solange is an orange salmon, which is very hard to describe. It is a very fine color, and a very fine flower. Therese is also a very fine pink Peony, one of the best. It is a fine flesh pink, and one of those Peonies that you want to possess as soon as you see it.

Now, there are others that I could name in that list. Mrs. Harding is a new Peony. I believe that it is on the yellow order. It sells for $100. There are other new Peonies that are high priced, but it is perhaps just as well to see if they are going to stand up before paying such a high price for them.

Now, I think that is all I have to say. I want to invite you again to join these two societies,—or three, in fact: The Northwestern Peony and Iris Society, the American Iris Society, and the American Peony Society. I am sure you will get a great deal of inspiration and help out of your membership, if you should decide to join. I thank you very much for having had the honor and pleasure of speaking to you this morning.—T. A. Kenning, Minneapolis, Minn., at Summer Meeting, Racine, August, 1920. From Reporter's Transcript.

Adventures With Hardy Perennials.

W. A. Toole, Baraboo

Read at Summer Meeting, Oshkosh, Aug., 18, 1921.

This is to be a paper without any particular beginning but I assure it will have an end, or at least stop, somewhere. One of the puzzling things in considering hardy herbaceous perennials is the lack of some definite standards as to what constitutes hardiness in Wisconsin. Some kinds, as the Forget-me-not, are quite hardy in winter but find difficulty in withstanding our hot dry summers. Some things are perfectly hardy at Bayfield where the snow is sure and comes early before the ground freezes much, while at Baraboo, where the winters may be more severe, but nearly snowless, some plants may survive but die with the freezing and thawing of spring. Some are hardy on sand but winterkill on clay soil. Just for the sake of some standard I will consider as hardy, any kind that will survive an average winter at Baraboo, with moderate protection and sufficient surface drainage of water.

One of the pretty perennials that seems to be very hardy is the Great Sea Lavender or Statice latifolia. The delicate lavender flowers work in with other flowers when cut much as does the Baby's Breath. With us it has survived all sorts of winters both with and without protection. Our greatest trouble has been in propagation as it seems almost impossible to buy seed that will grow. Every year a great many of the flower stalks turn brown and die just before or during flowering. I can see no signs of disease and the main part of the plants is not af-

fected. I do not know of any remedy.

I have always wanted to grow the Bears Breach or Acanthus. Something about the name seems to attract me but it does not seem to be possessed of any degree of hardiness in this climate.

A couple of years ago we received some plants of Dianthus, Red Grenadin from Mr. Hauser of Bayfield. We have found this very hardy and desirable. The flowers are like a brilliant scarlet carnation, sweet scented, many are double if grown from seed. It flowers in July and vies with the scarlet Lychnis in intensity of color.

Some of our friends from Lake Geneva had told me of the beauty of Rudbeckia triloba, especially if planted in masses in waste places. I could not find it listed in any catalogs but one of the gardeners sent me seed two years ago and they are flowering now. The medium sized golden yellow flowers are borne in greatest profusion and it is very attractive. This plant is a biennial, but self sows readily and after it is once established takes care of itself.

Like pretty nearly everybody who is kind of "bugs" on growing plants, I do my most enthusiastic gardening in the winter time, and usually buy a lot of seed that never flowers up to description, or never grows at all. Fortunately for my happiness, hope is a hardy perennial with me and I never fail to read the catalogs with interest. One of the things that sounded attractive last winter was the Greek Love Plant or Catananche coerulea. The ancient Greek ladies were supposed to have found it useful in making love potions to attract some desirable male. I don't know how the dope is made, but think there surely must be a little moonshine mixed in to be effective. If any of the ladies wish to try it out, our vice president would seem to be a good subject. You will find some of the attractive lavender blue flowers on exhibition. I am not sure about its hardiness, but rather doubt if it will live with us.

One of the very pretty spring perennials flowering in June is Heuchera sanguinea or Coral Bells. Among the different kinds we have tried, the one known as Walkers Variety pleases us the most. The brilliant though delicate stems of coral pink flowers are very attractive. We have found this variety hardier than others, as it seems to survive our winters with moderate protection if given a well drained place to grow.

Another attractive hardy plant not commonly known is the Leopards Bane or Doronicum. The flowers are yellow and daisy like in form. A few vigorous growing dandelions in full flower in your garden will spoil the effect of the Doronicums however. These (the Doronicums) also need a well drained soil to successfully carry over winter.

One of the new things hailed as something wonderful a few years ago was Meehan's Mallow Marvels, a variety of Hibiscus. The immense flowers like single Hollyhocks are showy because of their size, but after the first view of them there seems little to keep up one's interest. They seem to be hardy for a year or two and then after flowering they winter kill easily.

The above remarks remind me that the question of seed-bearing is important in considering hardiness. Many perennials do not survive if allowed to seed heavily.

The hardy candytuft or Iberis sempervirens is one of those plants that seems very hardy way up at Bayfield but will rarely winter over with us. The Iberis, Alyssum, Arabis and others of the cress family do not root very heavily and are not easy to transplant unless done quite early in the spring. Perhaps as easy a way to grow these as any is to sow the seeds where they are to grow to maturity.

One of the new things sent out not many years ago is Lychnis Arkwrightii, a hybrid between our scarlet Lychnis and Lychnis Haageana. At first I was disposed to be disappointed in it as it appeared no different to Haageana which has proved to be too tender with us and not very attractive. Arkwrightii seems perfectly hardy and flowers for a month or more if not too dry. In England it is recommended for an all summer bedding plant, but our summers are too hot for it to keep flowering all the summer.

During the war a new kind of hardy carnation was introduced in England, known as Dianthus Allwoodii. They are said to be a hybrid between the grass pink and the greenhouse carnation and over there they are creating much interest among flower lovers because of their continuous flowering qualities, as well as size and hardiness. We had high hopes of these and propagated them heavily but find they are lacking in hardiness and do not

(Continued on page 59.)

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Last Call

We present here for your inspection the program for the Convention, December 14th, 15th and 16th, along with a few comments. We have tried thereby to create a desire on your part to attend this meeting. We especially invite young men to come. A tremendous field is opening in Wisconsin right now for horticultural development. We want young men who will till this field and young women too. If on reading this program you should feel that it does not include a sufficient number of topics of interest to you, that it will not therefore pay you to attend please consider the opinion so often expressed by many members who have attended these conventions for a quarter of a century or more. In effect it is this:

(Continued on page 58.)

NOTICE

Change in Headquarters

The PARK HOTEL, on The Capitol Square at Main and Carroll Sts., Will Be Headquarters for Officers, Members and Guests. Write for Reservations.

PROGRAM ANNUAL CONVENTION.

ASSEMBLY CHAMBER, STATE CAPITOL, MADISON, DECEMBER 14, 15 and 16, 1921.

The **PARK Hotel** will be headquarters for members, delegates and guests.

WEDNESDAY FORENOON, 10:00 o'clock

(1) Greeting.....Governor J. J. Blaine

(2) Introduction of Delegates from Minnesota, Iowa, Indiana, Illinois and Northern Illinois Societies.

(3) Dahlias.....J. T. Fitchett
Just Dahlias, nothing more.

(4) The Front Yard.....Frank Merle Edwards
A commonplace subject which will be treated in a new way.

Our program is a full one this year and in order to give ample time for discussion we must **begin early.** You cannot afford to miss these two interesting topics, therefore be on hand **early.** The meeting will be called to order at 10:00 o'clock sharp.

WEDNESDAY AFTERNOON.

(1) (1:30 to 2:00) What's on Your Mind?
From 1:30 until 2:00 o'clock W. A. Toole will hold court. What's on your mind: About the Society and its affairs; about the convention and the manner it's conducted; about WISCONSIN HORTICULTURE, the paper? If you have criticism or suggestion be on hand at 1:30. Your time limit will be exactly two minutes.

2:00 o'clock.

(2) Our Native Ferns Under Cultivation.....Wm. Toole, Sr.
Who in Wisconsin has a more intimate acquaintance with our native plants? None. This will be the fourth of a series presented by Mr. Toole on our native Flora.

(3) Rural Cemeteries.....F. A. Aust
There are some things that are a disgrace to a community. Usually the rural cemetery is one. Prof. Aust will not scold but will offer helpful suggestions.

(4) Looking Outside from Inside a Greenhouse in Winter.....Wm. Kennedy
When you see beautiful roses at Christmas, or any time in winter, do you give a thought where and how these flowers are grown? Mr. Kennedy has spent a lifetime "under glass."

(5) The Gladiolus.....A. E. Kunderd, Goshen, Indiana
Mr. Kunderd is known wherever the Gladiolus is grown as well in Europe as in America. A breeder and grower second to none.

It is doubtful if there is any garden flower that excels in popularity the Gladiolus. It is doubtful if there is any one in America who can tell more about this flower than can Mr. Kunderd.

(6) Orcharding—1st, Location; 2nd, the Man and 3rd, the Varieties.....W. J. Moyle
Whatever Mr. Moyle may have to say we don't know, but we do know that it will be original and interesting.

WEDNESDAY EVENING.

Program by the Women's Auxiliary of The State Horticultural Society.

THURSDAY FORENOON.
9:00 o'clock

(1) Business session 9 to 10 o'clock. President's Address, Reports of Trial Orchard Committee, Delegates, Secretary and Election of Officers.
This is an open session and our guests are invited to attend. It will be short and snappy.

(2) Bettering Relationship Between County Agricultural Agents and the Society.....
.....W. E. Spreiter, Co. Agent, La Crosse Co.
There is a big field here for us. The county agents are in a position to know what the farmers need. Mr. Spreiter has always taken a keen interest in our work.

(3) Bringing Up an Orchard.....Ernest Gonzenbach
Mr. Gonzenbach has been busily engaged for many years in business affairs, bringing up boys, helping in bringing the German army to a stop, etc., but has found time to bring up an excellent home orchard.

(4) A College Education for the Farm Orchard.....F. R. Gifford, Horticultural Department, College of Agriculture, Madison
About a year ago the horticultural extension department of the College announced that Mr. Gifford was about to tackle the farm orchard problem. We said, editorially, at that time, "Go to it, Gifford." He did.

THURSDAY AFTERNOON.

1:30 to 2:00. Reports on Delicious and Golden Delicious Apples and Table Queen Squash.

(1) The New Pest Reporting Service—.....
.....S. B. Fracker, State Entomologist
Most of us would feel lonesome without the pests we have about us. Some have many legs, some only two and some are just bugs.

(2) The Weston Fire Blight Control Project.....
.....E. L. Chambers, Assistant State Entomologist
(Same as above)
In another manner of speaking we are seriously interested in any plan for eliminating fireblight or other pests and will seek to find a way to lend aid to Dr. Fracker and his department.

(3) The Development of Apple Culture in the United States
.....S. A. Beach, Horticulturist and Plant Breeder at the Agricultural College, Ames, Iowa
Prof. Beach will tell us a delightful story about orchards from Pilgrim days to the present time. You will enjoy it.

(4) The Farm Orchard Problem.....
....Prof. Laurenz Greene, Purdue University, Lafayette, Ind.

(4) Facts and Fallacies About Tree Surgery.....S. L. Brown
There are fallacies in this business and we ought to know what they are.

(5) Diseases of Trees.....C. J. Humphrey, Pathologist, U. S. Forest Products Laboratory.
Not too technical but told in a way we can all understand. There will also be lantern slides.

THURSDAY EVENING.
Informal Dinner.

FRIDAY FORENOON.
9:30 o'clock.

(1) Hardiness in Small Fruits.....J. F. Bartlett, Minnesota
Whatever interests Minnesota interests us. Mr. Bartlett is from Excelsior. Enough said.

(2) The Vegetable Growing Industry in America.....
.....J. W. Lloyd, Agricultural College, Urbana, Ill.
It is not only that Prof. Lloyd knows about vegetables both from the scientific as well as the practical side but he can tell what he knows. You have heard him other years.

(3) Better Packing in Better Baskets.....F. P. Downing
We want to know more about the basket as a package for apples. Mr. Downing was formerly in charge of "Weights and Measures" in Wisconsin, later held a responsible position at Washington and is now general manager of the biggest basket manufacturing firm in the United States.

(4) Overhead Irrigation for Berries.....J. R. Williams
Every grower of berries, whether the back yard gardener or the big grower, wants to know if the considerable expense involved in the installation of an overhead system pays. We picked on Mr. Williams because he knows.

FRIDAY AFTERNOON.

(1) 1:30 to 2:00 o'clock. Why Is the State Fair?....Prof. J. G. Moore
Mr. Moore will lead, you follow.

2:00 o'clock

(2) Has the Fruit Grower Any Rights That the Nurseryman Is Bound to Respect and vice versa.....
.....Lloyd Stark, Louisiana, Mo.
Mr. Stark is president of the American Association of Nurserymen and extensively engaged in fruit growing. He ought to know how relationships between these two closely connected lines of business may be bettered. He does.

(3) Apple Breeding in the Upper Mississippi Valley.....
.....Prof. S. A. Beach, Ames, Iowa
"Yes, the same Prof. Beach who spoke yesterday."
It will not, we hope, be violating a confidence to quote from a recent letter written by Prof. Beach to the Secretary of this Society:
"I am confident that if the entire list of apples now propagated in our nurseries and grown in that part of the Upper Mississippi Valley north of the Jonathan and Grimes Golden belt, were to be wiped out of existence, we could replace them from our seedling collection at Ames with varieties as good and in some cases decidedly better than the old kinds."
Fruit Growing; Its Decline, Its Future in the Middle West .....Laurenz Greene

(4) Prof. Laurenz Greene, Professor of Horticulture, Purdue University
Or anything else he cares to talk about for whatever topic Prof. Greene chooses will be of interest to all of us.

(5) Some Ways in Which the Department of Markets Aims to Help the Fruit Grower.....
.....B. B. Jones, Wisconsin Department of Markets
The very things we want to know. Quite likely after Mr. Jones has finished we may think of ways in which we can help the Department.

Last Call

(Continued from page 56.)

"Even if there was not a single topic on the program bearing directly on my work I could not afford to miss a convention. The association with my fellow workers is worth the price." This thought has been expressed to the secretary many times by men who have been successful in life.

It applies to amateurs as well as to commercial gardeners and fruit growers. We make no further plea. Here is the best that months of careful thought and a liberal outlay of money can provide. It's for you to decide.

More attention should be given to careful mulching of plants this year because of the dry condition of the soil. Evergreens should have been watered well to give them a better chance to come through the winter.

Change in Method of Electing Members of the Executive Committee

During the last minutes of the last hour of the last day of the last preceding Convention that portion of the Constitution providing for election of members of the Executive Committee was amended. This amendment had been considered for three or four years but its presentation had been delayed for various reasons.

The old method: The Committee consisted of the three officers and one member from each congressional district nominated (elected) by the local horticultural societies in the districts. If there was no local society in a congressional district the member from that district was elected by the members present at the convention.

The new method: Members of the Committee are to be elected by the members present at the convention without regard to any district lines and in the same manner that other officers are elected.

Those who have considered the matter carefully are convinced that the new method will be more satisfactory than the old. In some Congressional districts we have a strong membership but no local societies, in others a single, often weak, local society may control the election of a Committee member.

There are other eventualities and possibilities that are set aside by the new method. If you have political ambitions get in the game. Fleas, a few, are said to be good for a dog. Politics, not too much, should also prove good for our Society. There is a weak spot in the new method that can readily be remedied by resolution or amendment if the members see fit. It should be so arranged that, following the first election, the terms of one-third of the Committee should expire in one year, one-third in two years, etc. In this way there is always a majority of "seasoned" members on the Committee. This is for the convention to decide.

Adventures With Perennials

(Continued from page 55.)

flower over the whole summer here. In reference to these flowers and their behavior with us, Mr. Kruhm of the Garden Magazine has the following to say: "I was very much interested in what you say. You but corroborate the impression which we have received in many instances. Things that do well in Europe will do well on the Pacific coast but will not do so well east of the Rockies. Our soil and climatic conditions east of the Rockies are very much different from those found in Europe and in California. This is a big story and some day it might be interesting to check up the same experience with other plants of European origin."

This brings us around to this fact; that many of the most satisfactory of our hardy perennials are but developments of plants that are native to this country. Many of the best are to be found growing wild in our own Wisconsin woods and fields and swamps. If you love to go adventuring, hitch up your auto of a Sunday afternoon and go out seeking what you may find. Get off the main trunk highways and look for spots that have not been pastured heavily. If you see a pretty plant, dig it up with plenty of

PROCLAMATION

of the

Thirty-Eighth Convention of the American Pomological Society

We hereby proclaim that the American Pomological Society is to hold its thirty-eighth convention in the city of Toledo, Ohio, on the days and evenings of December 7th, 8th and 9th, being Wednesday, Thursday and Friday, in connection with the National Farmers' Exposition. In pursuance of the time-honored declaration of the constitution, the conclave is called for "the advancement of the science of pomology." To this end we cordially invite all friends of fruit-growing to attend the convention and to take part in the discussions, and request that horticultural societies, organizations and firms send delegates.

We solicit specimens of good fruits, fresh and preserved, for the exhibition tables, as also manufactured fruit products, machines, devices, apparatus, materials, nursery stock, and whatever else may contribute to the attractiveness and educational value of the general display. It is the desire to make the convention, both in its speaking program and its exhibition, a worthy expression of the best development of pomology in the United States and Canada.

It is expected that the program will outline the large forward movements in organization, transportation, marketing, governmental oversight, and the prospects of the fruit industry, as well as to consider problems of production and the valuable knowledge of species and varieties. It is purposed not to duplicate the work of state and provincial horticultural societies, but to give the meetings a national and international character. The convention should be a clearing-house for the problems of both the commercial grower and the amateur.

The student fruit-judging contests and the participation of collegiate members from the colleges of agriculture should be attractive features.

The American Pomological Society stands for an educational policy and program, and we ask the cordial cooperation of the fruit-loving public as a renewal of fellowship and a contribution to the public good.

L. H. BAILEY, President.

R. B. CRUICKSHANK, Secretary-Treasurer.

October 25, 1921.

Mulch the strawberry beds with clean straw or hay put on from four to six inches deep.

Protect young fruit trees from mice. Wire screens about the trees are good. Tramp the snow well about each tree. This will often discourage the mice working around it. They like to burrow in grass and other refuse near the tree under the snow and eat the bark.

dirt and carry it back home. Give it careful culture and you will be surprised to find the improvement in size of flowers and vigor of growth. No matter on what kind of soil or exposure you find them, most of our native plants will respond to careful culture in good garden soil. Among the desirable native perennials are two kinds of Phloxes, Shooting Star, Hare Bell, Aquilegia, several Hardy Asters, Cardinal Flower, Hepatica, Heliopsis, Helenium, Euphorbia, Butterfly Weed, two kinds of Eupatorium, Physostegia, Polemonium, Tradescantia and many others.

Probably some imaginative nature lover will get off some sentimental bunk protesting against devastating the beauties of our native landscape by digging our wild plants. This may be perfectly good criticism near our large cities but through a large part of our state, there are thousands of acres of beautiful native landscape where the flowers will be forever doomed "to blush unseen and waste their sweetness on the desert air". Sooner or later most of these spots will be pastured and that will be the end of the flowers. I think it far better to transplant some of this beauty to some place where it can be enjoyed. I am however strongly in favor of preserving unmolested as many beauty spots as is really practical.

Like many other interesting subjects, there is much more that might be said. I hope that these remarks will suggest something to your mind to add, or criticise, as it has always seemed to me that the discussion is the most valuable part of most papers.

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 Room A, City Auditorium, Milwaukee

Changing the meeting place of the State Association is establishing a new precedent and no doubt some of our members will feel that this is not the best thing to do. However, the secretary was requested to place the matter before the members of the Association by the Executive Committee of the Wisconsin Markets Exposition and only seventeen votes were cast against changing the meeting to Milwaukee, so that the officers felt duty bound to make the change.

In general our newspapers are giving the exposition their full support and a great deal of publicity both inside and outside the state is being developed.

This exposition is not a fair but is being conducted to advertise Wisconsin farm products and to acquaint buyers with the farm resources of our state. Every producer of farm crops should avail himself of the opportunity to visit this show.

During the week of December 5 to 10 many of our Farm Crops Organizations will hold their annual meetings in the Milwaukee Auditorium and practically every farmers' society will have a booth for the display of their wares.

The Wisconsin Honey Producers' Association has arranged for a booth and sample jars of 8 ounce size will be sold under the Association label. Orders for honey will be referred to a number of retail stores where arrangements are being made to have honey on sale. The big question now is to get the honey to sell.

State Beekeepers' Convention December 8 and 9, 1921.

Meeting of Board of Managers, Wednesday afternoon December 7, 2 P. M. Milwaukee Auditorium, Milwaukee. Committee Room "A".

Program

Thursday, December 8

Morning

9:00 A. M. Social Meeting. Paying dues.

9:30 A. M. Call to order
Reading minutes of last convention
Report of Board of Managers
Secretary's Report
Appointment of committees for Convention.

11:00 A. M. President's address, L C. Jorgensen, Green Bay.

Afternoon

1:30 P. M. From Neglected Bees to Profit, A. A. Brown, Juneau.
Worth Remembering, N. E. France, Platteville
Choosing a Location in Wisconsin, H. L. McMurry, Madison
Experience in Pasturing for Buckwheat Honey, Conrad Kruse, Loganville
HUBAM Clover, Wm. Brenner, Green Bay
Beekeeping, E. W. Atkins, G. B. Lewis Co.
Bee Yard Experiences, H. H. Moe, Monroe
Treating Diseased Bees Out of Season, A. C. Allen, Portage
The Association, Wm Sass, Jr., Fond du Lac
Cooperative Marketing, Representative, Div. of Markets.

Evening

7:30 P. M. Beekeeping Movie.

Friday, December 9

Morning

9:00 A. M. The Next Step in Marketing our Honey, C. D. Adams Div. of Markets
Better Marketing, W. T. Sherman, Elkhorn
Sweet Clover, Its Value to Agriculture and the Beekeeper, H. E. Rosenow, Oconomowoc
Out-Door Wintering, L. T. Bishop, Sheboygan
Advertising, Jas. Gwin, Gotham
Plans for 1922 Extension Work, L. P. Whitehead, Madison
Relation of Queens to Seasonal Management, G. H. Cale, Dadant Company
Comb vs. Extracted Honey, Dr. Robt. Siebecker, Madison
The Influence of Weather on Beekeeping Practice, H. F. Wilson, Madison.

Afternoon

1:30 P. M. Bee-Tight Honey Houses and Other Popular Fallacies, S. B. Fracker, State Entomologist
Open Discussion on How to Make Our Association More Valuable to its Members.
Business Session
Report of Committees
Old Business
New Business
Election of Officers
Appointment of Standing Committees.

CROP REPORTS

Many of our beekeepers have complained regarding the crop reporting system and say that such reports are not reliable. It is only fair to those who are attempting to secure such data to say that if the reports are unreliable, it is not always their fault but rather the fault of the beekeepers. While it is well known that reports on crops are not always authentic, yet the averages secured are of sufficient value to make the system valuable to both the producer and the dealer. The big difficulty is that the producer does not always take advantage of these reports.

During the season of 1921, the Department of Entomology attempted to secure a report of the average production for the state of Wisconsin. This report is made on a basis of figures furnished us by the beekeepers themselves and without making a special visit to such beekeepers, a more reliable report could not be secured.

The Extension Committee of the State Beekeepers' Association in cooperation with the Division of Markets proposes to try and work out a satisfactory plan for getting reports on the honey crop each year for Wisconsin. The only way in which this can be done is to secure the cooperation of **every beekeeper** throughout the state and each beekeeper who is willing to send in reports will be included in the crop reporting organization.

We submit the following data as representative of the average report. We would appreciate having our beekeepers examine this carefully and would ask for their cooperation and suggestions. We would like to have the name of **every beekeeper** who is willing to cooperate with us in securing an authentic report on conditions in this state.

County.	No. Reports	Total No. Colonies	Average Production Colony
Adams	1	5	50
Ashland	2	109	77
Barron	1	13	15
Bayfield	4	246	58
Brown	9	262	56
Calumet	11	907	48
Chippewa	3	437	60
Clark	9	200	42
Columbia	6	171	46
Crawford	1	160	62
Dane	17	510	30
Dodge	11	144	44
Door	4	80	51

County.	No. Reports	Total No. Colonies	Average Production Colony
Dunn	1	75	37
Eau Claire	5	215	39
Florence	1	3	25
Fond du Lac	5	215	39
Forest	1	110	45
Grant	9	489	11
Green	8	693	24
Green Lake	2	165	31
Iowa	3	104	15
Jackson	2	155	17
Jefferson	8	267	38
Juneau	5	89	34
Kenosha	3	67	35
Kewaunee	1	1	22
La Crosse	2	184	9
La Fayette	4	165	11
Langlade	3	283	57
Lincoln	1	9	0
Manitowoc	7	517	43
Marathon	7	143	54
Marinette	2	64	51
Milwaukee	23	702	64
Monroe	9	133	27
Outagamie	8	260	47
Ozaukee	6	56	45
Pepin	1	70	71
Pierce	7	510	26
Polk	3	92	27
Portage	1	5	40
Price	5	169	59
Racine	3	39	47
Richland	6	378	41
Rock	1	42	40
Rusk	1	65	39
St. Croix	6	381	12
Sauk	11	652	25
Shawano	6	416	25
Sheboygan	14	313	44
Taylor	3	26	47
Trempealeau	8	385	18
Vernon	8	478	32
Walworth	6	270	26
Washburn	1	650	25
Washington	6	170	63
Waukesha	14	426	41
Waupaca	8	224	20
Waushara	3	285	21
Winnebago	8	302	25
Wood	5	199	50
	340	14,965	37½ lbs.

The average per colony secured from this report, 37½ lbs. per colony, is practically the same as the average secured by the Government Crop Reporting Service. Their Report gave 37 lbs. per colony as the average for the state.

Business Is Good

The honey market is rapidly getting better and honey is getting scarce. Many of our producers have sold out and are buying from their neighbors. From present indications there will be very little honey on hand by spring.

Some of our beekeepers have sold out early at a low price, but the market has held firm and prices are improving all the time.

The Wisconsin Honey Producers' Association

Now is the time to lend your aid in building for the future. At the time of the last convention an organization was started for getting better distribution for Wisconsin Honey. The Association started with a capital of $1,000.00. This year it is hoped that the capitalization can be increased to $10,000.00 and that a state bottling plant can be started. Such a plant can be made a success if the majority of our beekeepers will help in the building. Every single one of us can save on our cans and supplies. Furthermore, we can secure a better retail and wholesale price for our honey.

The following clipping from the monthly news letter of the Texas Honey Producers' Association well illustrates the value of better cooperation.

"The Price Cutter"

"We said a good deal last month about the price pirate. We find that a great deal of the fault lies with the beekeepers themselves. Some will persist in selling a few cases at a time to retailers at the wholesale price or even less, and this always has a tendency to demoralize the regular channels of trade.

We want to quote a case in point. A man wrote from Afton, Tennessee as follows:

"Have you any bulk comb honey for sale? I want to buy 1,000 lb in 10 pound pails. I recently bought a big lot of Mr.———— at Clint, Texas, for 15c per pound f. o. b. my station. It was nice honey in 10 lb pails.

We have looked up the freight rate and find that our member at Clint got about 11 cents basis for his honey and had to furnish 10 pound pails to pack it in. At the same time that the Association was praying for permission to sell the honey for him at 13½ cents in the same size can f. o. b. his station."

This association reports sales of $8,000.00 more for the month of October 1921 than in 1920 and $5,000.00 more than for October 1919.

Why not do this for Wisconsin? Michigan beekeepers have organized a selling organization and have hired a full time manager. Minnesota is doing the same. If we do not get into the game, we will soon be far behind?

The Beekeepers' Section of Wisconsin Horticulture

Is this section of value to Wisconsin beekeepers? It is hard to tell for we never receive any comments good or bad. Furthermore, most of our beekeepers do not seem to realize that the paper needs help from each and every beekeeper to keep it going. Although we have nearly 800 members, in the Association only a very few of them ever contribute material for publication and we have to beg for that. Send in notes so that we may know something about conditions in your neighborhood. Tell us about the condition of the bees and the honey plants. Make it a point to send in one little paper each season.

Stamping and Labeling Honey

By C. D. Adams

There has been considerable complaint of the ink used on stamp pads fading when exposed to the light. In many cases we find labels have been stamped with the grading stamp but so badly faded that it requires close inspection to find it.

We took this matter up with G. B. Volger Manufacturing Company, one of the largest manufacturers of stamp pads, and they admit that it is very hard to make a satisfactory ink that is to be exposed to strong light. They say that their Black Stamping Ink No. 211 will be satisfactory when stamping wood or paper that does not come in direct contact with the honey but probably could not be used for stamping sections on account of its odor. For sections they recommend their Black Excelsior Stamp Pad and Black Rubber Stamp Ink.

None of the purple ink commonly used seems satisfactory. It is intended to be used in letters and books not continuously exposed to the light.

But why use the rubber stamp at all? The Marketing Department has for some time been urging the printing of the desired information in the body of the label and dozens of our beekeepers have been doing this. It is not even necessary to have a rubber stamp. Some do not have. They simply wrote to the Department requesting that they be given a "Packer's Number." There are no charges for this. Then they went to their local printer and asked him to print them an attractive label giving their name and address and some information about granulated honey. At the top of the label are the words "Wisconsin No. 1 Honey." Let the word "Honey" be the outstanding feature of the label. If any red ink is used here is the place for it. In some other part of the label, usually at the bottom, is found color....., net weight ....., and Packer's No..... The Packer's number should be printed in. The color and weight may be left blank and filled in with ink.

Of course it is better to have the labels printed by some of the firms making a business of such work. Up to the present time there has been little space left on the lithographed labels for extra printing and when the rubber stamp was used it marred the otherwise attractive label and often was not legible.

This matter has been taken up with

some of the leading firms and we hope now to have colored labels designed especially for Wisconsin honey.

As yet we have found only one comb honey producer using a printed label for each section but we believe it is a good idea. We must not forget that people buying food pay too little attention to flavor. They are attracted by that which pleases the eye and what is so unattractive as a leaky, travel-stained, propolis-covered section of honey? On the other hand, few foods are more alluring than clean, uniform, beautiful comb honey nicely displayed under glass, with an attractive label on each section. The cartons often used are sanitary and the very fact that the producer uses them indicates that the contents are above the average but they do not catch the eye of the housewife who is probably thinking of buying something else.

So let us use more and better honey labels and thereby help create a demand for one of nature's best foods.

C. D. Adams,
Wisconsin Department of Markets

NOTES

In traveling over the state we find most sections short of comb honey. Of course there is always a shortage of fancy comb honey, but if you have Wisconsin No. 1 the Secretary of the cooperative association can quickly put you in touch with some grocer who is just as anxious to buy as you are to sell. If they do not find you they will be buying the western honey with high freight charges added to the cost.

We are finding beekeepers in several sections of the state who report that bees harvested a good crop of alfalfa honey this year for the first time. Let us not be deceived—this does not happen often. The unusual weather conditions made it possible.

The big crop of honey gathered by the bees in Milwaukee County this year came as usual largely from sweet clover. Only one or two farmers as yet are sowing it for pasture and hay but they are enthusiastic about it.

Notwithstanding the good crop in the eastern part of the state many of the beekeepers are diligently searching for good honey to finish supplying their trade. In most cases they insist it must be quite similar to their own honey. Some overlook this and in so doing lose a few good customers. People as a rule like the honey they are accustomed to and suspect adulteration in other honey.

Many beekeepers on our main traveled roads have for years been regularly supplying tourists from other states. We found one who had a considerable trade of this kind but had never received a mail order. This year he had some attractive labels printed including the grading requirements and to his surprise he soon began receiving mail orders from friends of the tourists he had sold to. They probably never knew his correct address before. "It pays to advertise."

Honey bottlers complain that nearly all the last year's crop of honey they bought this year is souring. Mr. H. L. McMurray says it is another result of the unusual season this year, that during the hot, dry weather, honey in sealed cans gave off some of its moisture which collected at the top of the can where it condensed when the metal cooled. Later this started fermentation. His remedy is to remove the cover in the future and tie over cheese cloth which will allow the moisture to escape.

Origin and History of the Grimes Golden Apple

Most of the popular and valuable varieties now in cultivation were children of chance and Indiana's greatest apple, the Grimes, is no exception. The exact date of its birth or the circumstances surrounding it are not definitely known but the mountains of West Virginia near the town of Wellsburg was the home of the original tree. Like many other pioneers it lived many years before its true merits were recognized by the world. I am not able to fix the exact date of its discovery from the data at my command, but it was evidently about the year 1789. The following extracts from an account written by Thomas Grimes, Jr., in 1874 fixes the date of its origin approximately at this time, which would make the variety 132 years old.

"The original tree is on my farm, bought by my father sixty-seven years ago, and, from our best information, it is not less than eighty years old; my father sold fruit from it to the New Orleans traders as long ago as 1804. From my earliest recollection, this tree has never been known to fail producing a good crop, excepting in 1834, when a partial failure was occasioned by severe late frost in spring. Our belief is, that it has not failed to produce fruit each year for the past three quarters of a century.

The tree has not been pruned for the past forty years, and has had no sort of cultivation for the past twenty years; yet it is quite healthy, making fair growth, and bearing an average crop of fruit every season.

From a grafted tree of this variety, planted eighteen years ago, I picked, last season, ten barrels of fine fruit. If I could only plant one variety of apple, I would choose this in preference to all others, for the following reasons: The fruit is beautiful, and unsur-

passed in flavor; the tree is without a rival in hardiness, productiveness, longevity, and symmetry of growth; the fruit is fit for cooking in September; and for eating from December till April, thus combining the good qualities of many in one."

Its popularity continued to be local for many years. There seems to have been no concerted effort to introduce it into elite apple society, but as the pioneers drifted westward from this section into Ohio and Indiana some of them brought scions of this, their favorite fruit and grafted into the seedlings they found growing in their new home, some of which undoubtedly were planted by that historic character, the pioneer apple booster, John Chapman.

The farm, where this original tree grew, descended from father to son, Thomas, Jr., the writer of the above account sold the place at about this time.

In 1896 Professors L. C. Corbett and A. S. Hopkins of the West Virginia University visited the tree and reported it to be on the decline and something like ten years later it was reported by the owner of the farm, David Councilman, to be lying prone upon the ground, the cause of its death is not given, but it was probably old age with complications. There seems to be no direct evidence that its untimely end was caused by that dread disease collar rot, which has laid low so many of its descendants.

The first general distribution of this variety of which I find record was on the Ohio side of the river from the nursery of Nathan L. Woods in the town of Smithfield near Mt. Pleasant, Ohio, not later than 1860, seventy years after its discovery. It was about this time that the variety was given its name which was originally Grimes Golden Pippin, this was later reduced to Grimes Golden and even that proved too long for the present age, and it is now most commonly known as Grimes. When you hear the name Grimes it makes your mouth water just the same as if you added Golden Pippin.

Like many other varieties it has proven more popular in the states of its adoption—Ohio and Indiana—than it ever did on its native hills. The public was slow to recognize its splendid quality and superior merit as a commercial variety, even yet there are sections of the country where they are not fully appreciated, but Hoosiers who have once learned to eat Grimes prefer them to all others, and in most Indiana markets it heads the list. Some of the northern markets do not take kindly to this apple on account of its color, but color like beauty is only skin deep, and the Grimes is gradually making its place more secure in the markets each year, and will continue to hold its own until we find a red apple which has all its good qualities and none of its faults.

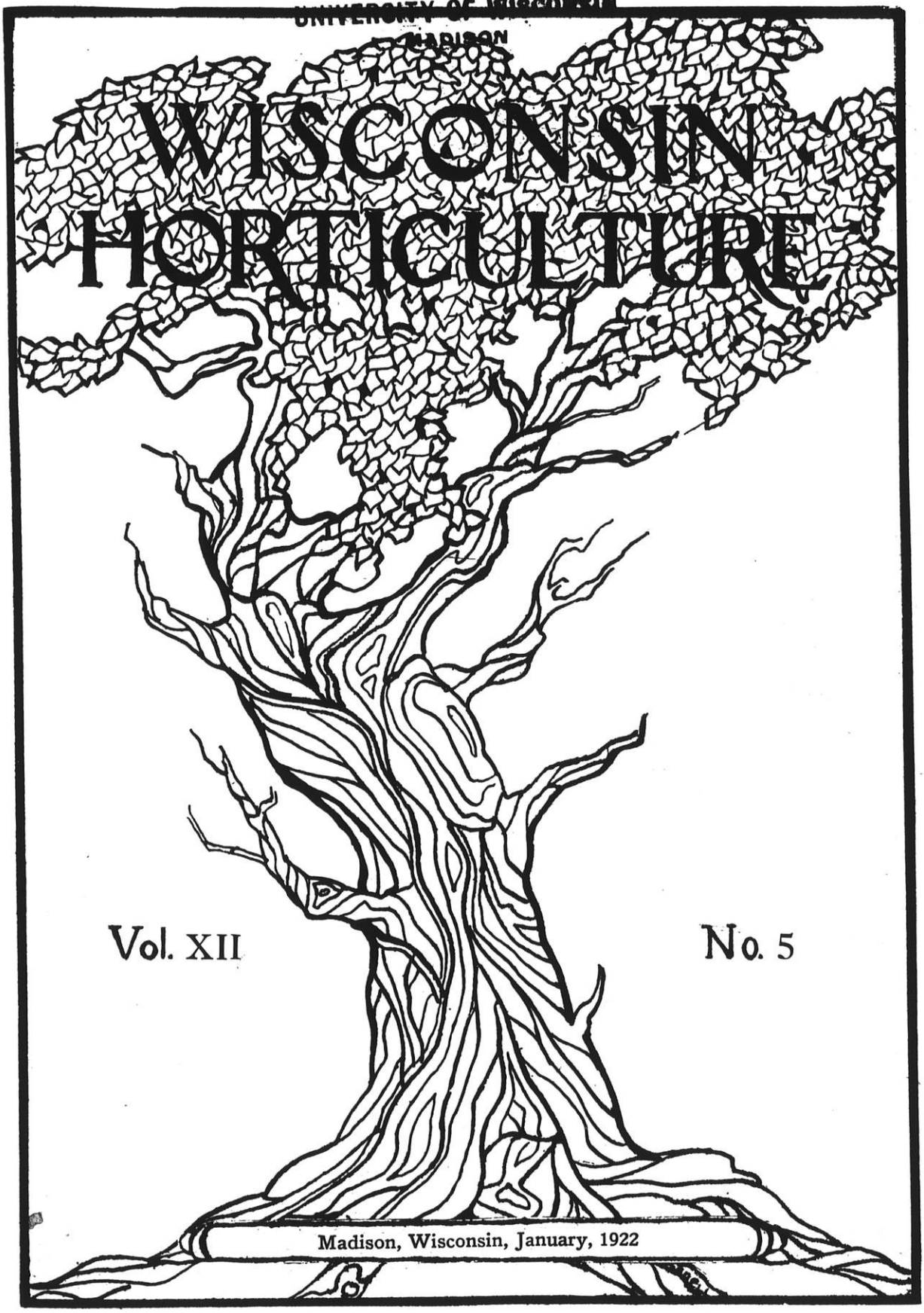
The excellent quality, and its adaptability to so great a variety of conditions places the Grimes among apples in the same position as that held by the Bartlett among pears, and the Concord among grapes.—Hoosier Horticulture, April 1921.

Get under cover now all hot beds, lawn seats and other garden furniture not needed outside. Winter weather wears them fast.

Have you a few plants of rhubarb in the cellar for spring forcing. Put in a few if they can be dug now.

Japanese barberry, wahoo, highbush cranberry and Rosa Rugosa were among shrubs the fruit of which was still ornamental Nov. 1.

WISCONSIN HORTICULTURE



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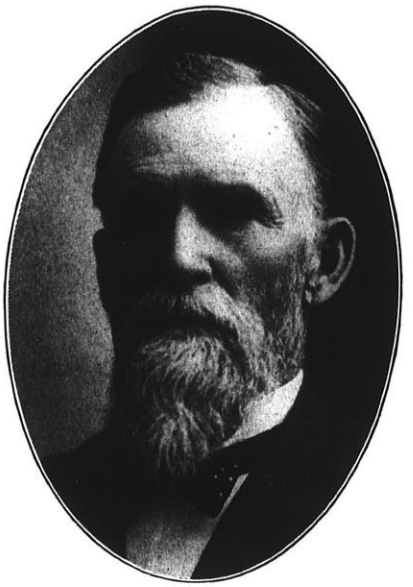
Charles G. Patten

Charles G. Patten, born November 4, 1832, died at his home in Charles City, Iowa, November 10, 1921. While he had retired from active work and while physically infirm, his mind was keen and alert to the end. Among the memories of the writer, one that he will retain always is a pleasant day spent with him scarcely two weeks before his death. C. G. Patten was a remarkable man; there are not many of his kind. He labored unselfishly for over half a century in improving fruits, in producing varieties that would withstand the rigorous climate of the prairie states without expectation of financial returns or hope of other reward. His life was a life of service to his fellow men. While not lacking in business ability he set for himself the task of producing hardier apples and blight resistant pears and spent so freely on this work the profits derived from a modest nursery that at times he was in doubt about being able to continue his experimental work through lack of funds. Finally the city grew out of his farm, enveloped it except the experimental grounds. These were later taken over by the state of Iowa, enabling him to spend his declining years in comfort and yet close by were his beloved seedlings. There was none richer than C. G. Patten. While over half of his life was spent in Iowa, he yet belonged to all of us.

The following excellent account of Mr. Patten's work was written by Prof. H. L. Lantz of the Iowa State College at Ames, at the request of the writer and published in the Bulletin of the American Pomological Society June, 1920:

Charles G. Patten has long been widely recognized as a pioneer and leading plant breeder. For fifty years he has labored with fine public spirit in an untiring effort to develop new fruits for the Upper Mississippi Valley which would be hardy enough to withstand the rigors of the exacting climatic conditions of that region. Mr. Patten's pioneer effort in fruit breeding has given to the people of the Upper Mississippi Valley region a number of new hardy apples, pears and plums. More than that, he has developed



CHARLES G. PATTEN

a unique collection of foundation plant material which should be used for further advancement in the development of hardy fruits of good quality.

I shall never forget my first visit at Mr. Patten's breeding and testing grounds located at the edge of Charles City, Iowa. It was in September, 1917. The fruition of a life time of effort was a tangible reality expressed by hundreds of perfectly hardy trees which were ripening loads of beautiful fruit. New apples, pears and plums were fruiting under the trying climatic conditions of a formerly fruitless prairie.

Mr. Patten was born in northern New York in 1832. He was a farm boy and was brought up amidst the general farm husbandry of northern New York, receiving what advantages the common schools of New York gave up until the time he was about 14 years of age. Following this he had one winter in a poor school in northern New York, and three winters in Wisconsin, only one of which he considered a good "common" school. "Nevertheless," said Mr. Patten, "at the close of the winter following my nineteenth birthday I could have obtained a certificate to teach."

He then spent about two years in the construction of railroads, being a contractor part of the time. His "school" education was completed by studying two terms at the Delton Academy, Sauk County, Wisconsin.

He followed general farming in Wisconsin from 1856 to 1864, and then moved to Charles City, Iowa, engaging for two years in mixed farming and lumbering.

Mr. Patten is by nature a lover of plants. He saw at once the great need of fruits and ornamentals for northern Iowa, so he immediately set himself to the task of supplying that need. In 1866, without ever having seen a graft made he began in the nursery business.

"In 1866," said Mr. Patten, "I made quite a large planting of apple seeds with a view of improving the well known varieties. I had made some effort in this work in Wisconsin." From that time on his fruit breeding work was studiously carried on, twenty acres being entirely given over to the work. This was done in the midst of a business carried on for a livelihood and in spite of a constant struggle for health.

Mr. Patten's methods were not haphazard, but born of foresight well planned and always looking toward hardiness and fruitfulness of tree as well as to quality of fruit. He had no training in plant breeding, but nevertheless began

contributing articles for the papers in the early seventies, and from 1875 contributed many of the leading papers on fruit breeding to be found in the reports of the Iowa Horticultural Society. These articles show the vision and prophetic eye of the true plant breeder.

None of the standard eastern varieties such as Baldwin, Northern Spy and Rhode Island Greening were hardy enough for this region. Even many of the Wisconsin varieties failed in northern Iowa. In the early days winter killing repeatedly eliminated nearly every variety tried except Briar Sweet Crab. Consequently most of the farmers relied mainly upon this variety to supply their needs for fruit. Even Oldenburg, Wealthy, Fameuse, which are classed among the more hardy sorts, were sometimes severely injured or killed outright by the fierce winters. Clearly it was necessary to breed a new race of fruits. In looking over the standard varieties grown in the United States, Mr. Patten observed that nearly all were of American origin. He did not believe that the hardy Russian sorts were adapted to northern Iowa. Neither did he believe advancement would be made by hybridizing with native crab, the Soulard or the Siberian crabs. These were too small in size. Indiscriminate planting of seeds, trusting that something of value might come out of it did not appeal, although Peter Gideon did produce the Wealthy in this way. This method he considered too unscientific.

He began then, after considering all these theories, to plant seeds only of the best and most hardy varieties of apples. These were his foundation. Seedlings of superior merit were preserved and these crossed with other varieties of merit. The results were concrete almost from the start.

In 1869 Mr. Patten planted a number of seeds of Oldenburg from Wisconsin from which he secured his Patten (Greening) a variety well known, reliably hardy and productive in the Dakotas, northern Iowa, Minnesota, Wisconsin, and even in Canada it has proved its worth. Mr. Patten's success in producing this seedling further convinced him that the best winter apples for the Upper Mississippi Valley region would have to be produced in that region. He did not believe that a good winter apple would come out of the Russian importations, and constantly set before the people the necessity of planting and testing thousands of seedlings.

Out of the thousands of seedlings grown by Mr. Patten a number of varieties have been named and distributed. Other promising new varieties are being tested.

Patten (Greening), a seedling of Oldenburg, originated in 1869. It is probably the most widely known of Mr. Patten's originations.

Eastman is a fine large and striped apple, a seedling of Fameuse originating in 1880.

Brilliant is another seedling of Fameuse originated in 1881 which bids fair in Mr. Patten's estimation to become an important variety in Michigan and Wisconsin.

Silas Wilson, a bright red, attractive, sprightly, subacid apple, is a seedling of Ben Davis and evidently a cross with Jonathan, showing as it does many of the characteristics of Jonathan in both tree and fruit. It is of good quality, but not reliably hardy in northern Iowa unless top worked.

These are a few of the most notable varieties which Mr. Patten originated and introduced. Other new promising sorts are being tested, some of which no doubt will prove to be of value.

Developments in Pear Breeding

In the early eighties Mr. Patten secured several trees of a hardy, blight resistant Chinese pear which was first thought to be Pyrus sinensis, but which was later identified as Pyrus ussuriensis by Prof. F. C. Reinmer. Pyrus ussuriensis is perhaps at present the most talked of blight resistant pear of all the Chinese species which have been introduced in the United States because of the possibilities which it offers as a blight resistant stock for the varieties of pears now grown in America. Mr. Patten came to recognize its value as a new foundation upon which to breed for hardiness of tree and blight resistance. Today there are growing on the grounds a number of seedlings of Pyrus ussuriensis which are without doubt crosses with Seckel. These seedlings are "hardy as an oak," one of which has been a regular and consistent bearer for more than ten years. Several thousand cross bred seedlings of these particular hybrids, crossed with such varieties as Bartlett, Flemish Beauty, Howell, Anjou and Winter Nelis are now coming into fruiting. These seedlings are very vigorous, and to date have shown no injury from blight, although they show much variation as to hardiness, vigor, type of growth, leaf area, etc. Out of this collection with such remarkable blood lines, if one may judge from results heretofore obtained by Mr. Patten's work, will no doubt come a distinct advance in the breeding of blight resistant pears of superior hardiness.

Several hardy pears have been introduced by Mr. Patten. Seckel No. 1 is a seedling of Seckel. It is perfectly hardy at Charles City and is a vigorous grower and regular bearer. The fruit resembles Seckel in form and color, but is easily a third larger in size and quite similar in quality and season.

The most notable seedling in point of size and quality is a cross of Orel 15 and Anjou. It favors Anjou in form and size, is an attractive green pear with a red cheek, juicy, sprightly, fine in grain and ranks very good in quality. Season September.

Other promising new seedlings have fruited which bear out Mr. Patten's early prediction that hardy and blight resistant varie-

(Continued on page 71)

System in the Orchard

WILL J. PLATTEN
(Contributed.)

Most orchards are planted with some regard to system. Their trees are at regular intervals, the varieties are in rows and blocks; some sort of a sketch or map is kept, and occasionally the trees are marked in the orchard. Usually, however, with small orchards and home orchards, dependence of location of varieties is left to memory and recognition by appearance.

With large commercial orchards it becomes an impossibility to remember the many details of varieties, location, and condition that are essential to the modern management of them on a profitable basis. In olden days but few businesses kept accurate record—some branches made money, some lost money—as long as the net balance was favorable, they were satisfied. In general, this condition is still true of fruit growing in Wisconsin.

The questions that modern business continually ask are—Does it pay? Will it pay? What rate does it pay? Every orchard man should be able to answer those questions regarding his orchard as a whole, each variety, and each tree, just as the dairymen are doing with their cows.

An accurate tree record is the basis of a successful cost accounting. I will not attempt to discuss the bookkeeping end, the apportioning of costs, etc., but will confine the topic to tree records as I keep them.

The numbering and labelling of trees, maps of the orchard, individual tree records, and field note books are all necessary for a complete tree record system.

I use the coordinate system of numbering, numbering rows from north to south, and trees from east to west. Thus number 22-37 would be the twenty-second tree from the north and the thirty-seventh tree from the east; always giving the row first and tree second. Each tree bears a label or tag of copper, in size about 1x2½ inches, having punched thereon its number and its name, abbreviated, i. e., "Wel." for "Wealthy." These tags are fastened to each tree on the south side a foot above ground by a long galvanized finishing nail driven into the trunk about one-half inch, the tag out about three inches by the head of the nail. This will allow about ten years' growth before readjustment is needed. I have tried both zinc and copper tags; the zinc is inferior as tags get brittle and break. Large loops may be used instead of nails to fasten the tags on. These tags are very convenient in helping locate certain trees that might need special attention. Give the man the number and he can go almost directly to the tree instead of hunting through a whole section of the orchard to find, for instance, a tree that had blight on. The numbers are necessary also to keep the production records by tree.

A large wall map or blue print of the orchard should be made to a scale, such that trees show as dots about one-half inch apart. For a forty-acre orchard, this will give a map about thirty inches square. This should show the outside row and tree numbers, blocks of varieties, odd varieties in a block, vacant positions, roads, drains, and main topographic features. This map should be kept up to date by pencil changes as replacements are made. After a few years if it becomes illegible, a new revised map should be made. When there are many varieties intermingled in the orchard, it is very handy to have some photographic reductions made of this map down to a 6x8 inch size. These can be folded to pocket size for carrying into the field. With good photographic work, the variety names should still be decipherable.

The real tree records are kept in a card index; one card for each tree. I use a standard 4x6 inch card made by the printer. For forty acres on an assumption of 2,500 trees, two filing drawers each twenty inches long are required. Cards are indexed and tabbed in rows and varieties as they occur in the orchard. Using both sides, each card should care for the record of a tree for thirty-five years. In the upper left hand corner is the row number, tree number and block letter. In the upper right hand corner is the name of the variety. The cards are lined on both sides, one line for a year's record. The years are down the left margin and a double column on the right margin is for pounds of fruit production. The center is used for remarks. Current operations, such as spraying, pruning, etc., that are applicable to all trees alike, are not mentioned in the remarks. Special work, such as blight removal or any unusual condition or treatment is noted. Notes are taken in a note book for all such special work, and also during the harvest time, crediting each tree with the pounds of fruit picked at each picking. The man in the orchard always carries his note book. About once a week the items from

the note books are posted to the cards, and changes, if any, are indicated on the large map.

In addition to one card for each tree, a few general cards complete the system. One card should show the total production of the entire orchard for each year; and one give the total production of each variety. One for pruning done, one for fertilization, another for cultivation, one commenting on insect pests of the year, and finally a card should give a brief summary of weather including the last spring and first fall frost. Other cards may be kept according to the individual desire. It is not near the task of keeping these up as might appear, because there is only one line entry made per year per card.

With records like these, consistently kept up, the productivity of the different varieties, and that of individual trees is known beyond doubt. Guess work for future planting is eliminated. Poor varieties and drone trees are found out and may be top worked. Many other ways may be found to use the records in an experimental way or to increase the orchard efficiency. For the small amount of time required, it is very nice, in after years, to have a complete life history of each tree. Each grower could modify the system to meet his own requirements. More general use of some such system would eventually result in a more successful fruit growing industry in the state.

Green Bay, Wis., Dec. 20, 1921.

Many of our shrubs or trees are as ornamental with a covering of snow as when in bloom during the summer. Plant for both summer and winter effect.

The Story Of The Building Of A Village Park

Mrs. Lewis Morton, Omro.

Read at Summer Meeting, Oshkosh, August 18th, 1921

If the building of H. C. Scott Park had been merely the planting of trees, shrubs and flowers, the laying out of walks, the erection of bridges or even the digging of canals, there would have been no story, just the dry compilation of financial reports. But because the effort of building the park has produced something bigger and better than the park itself —a by-product greater than the product, "community spirit"— there is a story founded on vision and developed through persistence and sacrifice.

In the good old days of the Arabian nights when an Aladdin wished a garden or a palace, he rubbed his wonderful lamp and while he slept a magician made trees grow, waters flow or palaces arise. It was good for Aladdin; it saved him the difficulty of blue prints and contracts and labor problems, but he never knew the constructive joy of bringing into reality little by little, day after day, the object of his dreams. H. C. Scott Park is a dream materialized, but only after "long days of labor and nights devoid of ease."

We think of Omro as being a typical Wisconsin village of the last century, built by the lumber industry; left decadent by the receding forests; rehabilitated by the farming interests; justly proud of its ancestry, its historic river, its schools and its cemetery. Strangers invariably characterized it as a sleepy, old, unenterprising, torn by jealousies, and handicapped by prejudices; but its citizens knew its faults and loved it just the same. They loved it because they looked past the rubbish strewn river banks, and the weed grown vacant lots, beyond the unostentatious buildings and the dusty streets, and saw that Omro was a village of homes; that her first business had been and must be to make good citizens; and they knew the spirit that had erected fine schools must be enlarged; the community must have a playground as well as a workshop. So the seed bed was right in the hearts of the people for the planning of a project, the germination, growth and fruition of which has astonished even its promoters. The planting was done by an old lumberman who had spent his years among the trees of Wisconsin.

Long before the citizens knew that they wanted a park, H. C. Scott had determined to give the village a strip of land which he owned along the river bank, and upon which he had already planted trees in furtherance of his idea. Declining years and multiplied business cares delayed the transfer of the property until a new organization had sprung into life in connection with the Presbyterian Church of the village. This organization was called the Men's Improvement League and was headed by Rev. O. W. Johnson, pastor of the church. To them the land was given and the first organized effort was made by these men when they went down to the site and began to cut the weeds and to remove the cans which had given the place its disreputable name of "Tin Can Alley".

Now for a second time failing health interfered with the pro-

gress of the park. The Rev. Mr. Johnson became ill and was obliged to resign before the work had advanced for enough to proceed without his leadership. At this time the Omro Study Club, an organization of women, began to feel an impulse to accomplish some tangible improvement in the village life. At one of their afternoon meetings a casual remark about the Men's Improvement League's needing help in their park undertaking aroused enough enthusaism to result in a special meeting being called at the school house to discuss organization along broader lines. Thus far physical disability had been the only handicap in the whole project, but now a new little imp of disaster sharpened his arrows. At this special meeting the introduction of an entirely foreign subject created such ill feeling that if it had not been for the frantic appeal of one of the promoters, the matter would have been consigned to oblivion.

The second special meeting was more successful than the first. A constitution and a simple code of by-laws were adopted to regulate the new organization which from that time has been identified as the Women's Civic Improvement League of Omro. No sooner had the new women's society materialized than the Men's Improvement League, with a characteristic gallantry that has marked the men of the village, handed over their accumulated funds to finance the first money-making enterprise for the benefit of the park. This was in the nature of a sane Fourth of July celebration. Now for a third time misfortune seemed to threaten the park, for the weather took a hand.

The morning dawned rosy and promising and continued so until the tables for the big community picnic were spread on the school grounds. Then came a deluge of rain, unexpected as April and as persistent as November. The picnickers, seizing baskets and provisions, rushed into the schoolhouse for protection. Outside, the rain proceeded to reduce the carnival grounds to bottomless red clay. The amateur sideshows were literally swimming in mud and water. But what was rain or a spoiled dinner or dripping tents when there was a park to build! With courage born of inspiration the crowds slopped and slushed from one show to another, getting as much amusement from their predicament as from the performance itself. In one of the tents thrilling patriotic dramas were staged. The entrance fee was two cents. Mr. Clyde Terrill, now an authority on wild ducks, was acting the part of George Washington in the "Making of the First Flag." The play had passed successfully through the first act, the second act, and then came a halt. The curtains parted and a pretty young lady General Manager announced, "We are sorry, but we can't give the third act now. George Washington had to go and play in the band. You may come again at 3 o'clock, or you may have your money back." "We want our money back," came in stentorian tones from County Superintendent of Schools H. B. Patch, and the laugh that followed fully reimbursed the crowd. This little tent with its two cent shows netted over $17.00 at the close of the day. The sane Fourth was a financial success, and better still, it had taught the Civic League its power. It was only a step to the next big undertaking, the "Greatest Five Day Industrial Fair Under One Cover in the State of Wisconsin." This mammoth boast was made possible because of the building that had been termed "Omro's financial tragedy." The old three-story, brick woolen-mill had been built on honor with the funds of another generation, but had never produced anything except failure and disappointment. There it stood, empty and forlorn and disgraced. It had failed as a woolen-mill; it had failed as a carriage factory; it had failed as a shoe-tip factory.

Mr. S. Leighton, the owner, gave the use of this building to the Civic League for their fair, and the lonesome old building teemed with preparations. Scores of busy workers transformed the dingy cobwebbed interior into a fairy-land of festoons and draperies. All the skill, art, talent and ingenuity of the village were concentrated on the old mill, and its prosaic old walls became a palace of flowers, a garden of fruits, an emporium of needlecraft, the fine arts, antiques, a labyrinth of mystery, and all this pageantry of wonders for five days for the exorbitant price of 25 cents. Of course, that was only for entrance —it cost much more to get out. Everyone must eat in the cafeteria, drink at the lemonade booths, check the babies at the rest room, laugh at vaudeville, patronize the rummage sale, fish in the magic canal, find a fortune at the gypsy's booth. One visitor from a northern city became so interested in the magic geese that he paid one dollar for the privilege of operating them. But

bigger than all this pomp and display and merriment was the community ambition to realize its dream park. This spirit of happy co-operation made it possible to present a vaudeville utilizing over one hundred people, from the grey-haired hero of an old time farce to the infant prodigy of the musical drama. With six complete changes of program, extending over a period of nine hours a day, this committee made the remarkable record of not having a single failure on the part of an actor to respond at the appointed hour.

It made it possible also to manage a cafeteria in which the work was divided along denominational lines, and yet was without sectarian differences—Methodists serving with Presbyterians, Baptists with Catholics, Lutherans with Episcopalians, and finally the Big Brothers with some of the weaker churches. And when the first thousand dollars lay safely deposited in the bank to the credit of the Civic League, what a community handshaking and congratulating and rejoicing took place.

By this time legal intricacies had demanded an incorporated Park Association and a Park Board. How well I remember the day we slipped into our rubbers and met at the park site to determine which of the native willows should be sacrificed for the artificial canal. We were following a blue print prepared by Professor Hatch of Madison. We felt our responsibility as watchdogs of the people's money, and we were determined that every penny should bring definite returns.

The story of the development of the park is the usual story of dredging and grading, drilling and building, with the unusual touch of "bees" when business men and farmers donated labor, teams, money; when women gave vines and flowers and organized themselves into committees for transplanting them into the park flower beds. But it was happy work for it was **our park** that we were beautifying. Of course, there were discouragements—how blue we all felt the first spring when the river rose the highest recorded in years, and the whole park was under water. Everyone laughingly told us it was caused by the large fountain we had drilled in the park the previous fall. One venturesome lad went out in a rowboat to get a drink from the fountain.

But the park is past experiment now. The merry laughter of picnickers daily testifies to the attractiveness of the place. Each year adds beauty and interest to the locality as the personal associations increase. High on a pole stands a beautiful bird-house, the gift of a Manual Training Teacher of the school; while in lesser corners are tiny houses donated by his pupils for the birds that throng the trees. At the entrance of the driveway is an iron pillar crowned by a large electric globe. This is the gift of a one-legged man whom the citizens had helped at the time of his misfortune. He had not forgotten in the days of his prosperity and he returned to pay his tribute to the village. A rustic settee is the handiwork of a man over eighty years of age. In one corner of the park stands a circle of trees planted by the Logan Circle in honor of the boys who gave their lives in the great war and in memory of C. O. Marsh, a much beloved teacher of the village school who had suggested the plan.

H. C. Scott Park is a dream come true, but it is more—it is a monument to the power of a united community's organized effort.

Charles G. Patten

(Continued from page 67)

ties could be and would be originated by scientific breeding. He lived to see his prediction realized in a measure in already developed pears suited to northern Iowa, Minnesota, Wisconsin and the Dakotas.

Plum Breeding

A prominent nurseryman not long ago stated that if all the known varieties of American plums now grown in the Upper Mississippi Valley were wiped out and the plums of Mr. Patten's origination were to be placed on the market in their stead, plum growing would be advanced twenty years.

Mr. Patten has bred, grown and selected from thousands of seedlings, always preserving the best. Out of this effort have come many plums of fine size and dessert quality. Several are freestone.

The best of these plums are now being distributed for further testing as fast as cion wood can be produced.

These are a few of the things Mr. Patten accomplished in a life time of unselfish effort. He gave the people of the Upper Mississippi Valley, where climatic conditions were not conducive to fruit growing, new varieties of apples, pears, and plums of superior hardiness and of better quality. His contribution to horticulture will not only benefit the immediate region of Iowa and its contigious territory but the whole of American horticulture.

Pine cones or pine wood makes good fireplace fuel.

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

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The Convention

It is probably best to dismiss the convention held in Madison December 14-16 with a few words. For two reasons: the usual trite statements that it was the "biggest and best ever held" coupled with an account of those present, etc. ,etc., is of no interest to our readers; secondly to give a worth while summary of all the papers and discussions would require at least two issues of the paper. Those who attended, some from a distance of three hundred miles, enjoyed every hour and went away satisfied with their investment of time and money.

It is estimated that California will produce half the beans raised in the United States this year, or about 4,000,000 bushels.

What's On Your Mind?

This half-hour session, lengthened to an hour Wednesday of Convention week, proved highly interesting. The topic on the program was as follows:

WHAT'S ON YOUR MIND?

What's on your mind about the Society and its affairs? About the Convention and the manner it's conducted? About Wisconsin Horticulture, the paper? If you have criticisms or suggestions be on hand at 1:30. Your time limit will be exactly two minutes.

The discussions brought out by the chairman, Mr. W. A. Toole, centered about the paper and the criticisms offered were for the greater part constructive and helpful.

Certain things were brought out concerning the editing of WISCONSIN HORTICULTURE that can now be brought before the reader by the editor without any feeling of embarrassment. One question asked was "Why is not the paper larger?" Another member gave it as his opinion that the paper is not as good as it formerly was. A scathing criticism was made of the cover designs. All who participated did so in the best possible spirit and great good will result.

Best of all was the hearty response on the part of members present to an appeal by the chairman for help for the editor. At least fifty members agreed to furnish contributions during the coming year.

Many, many times as editor, I have sent out appeals for help, pleading, begging, coaxing readers to write of their own rich experiences for the benefit of others. For three years there was scarcely a copy of the paper but contained an appeal of this sort. The returns were meager. I have not complained nor do I mean to do so now. The busy men and women who are readers of the paper too often feel that the things that they know so well, know frontwards, backwards and crosswise, are too simple and too trivial to write about. No greater error is possible. The most successful publication ever issued by this Society was the garden supplement of 1918, reprinted in 1919 and 1920. Over 150,000 copies of this supplement have been distributed and the effort to fill the demand for other copies strains our financial resources. Why is it so? Because the five subjects in the supplement were written in simple language and tell the elementary things about sowing seed, transplanting, hoeing, etc.—the A. B. C. of gardening.

The purpose of the Society is to create in the hearts of people a desire for things horticultural and then through the paper and other means furnish help to do these things. No editor writes or can write all that is in his paper. Even if he had the necessary knowledge to do it, which is never the case, the paper would soon become stale and very unprofitable. It is his business only to **edit.** He buys, begs, or steals his material. In the case of papers published for profit the problem is an easy one. There is an editor-in-chief, with money at his disposal to buy material, with one or more assistants, a circulation manager, an advertising manager and a trained office force. We are not in that field nor do we want to enter.

The secretary of this Society edits Wisconsin Horticulture, incidentally; it cannot be his sole thought. The foundations on which the Society rest, must, with

the aid and under the direction of the officers and members, be kept propped up. The extensive field work must not be neglected, the convention programs must be built up; the daily correspondence must be attended to and plans evolved for new work. We do not want to entertain an ambitious publishing program, we do not expect to enter the field of horticultural publications, or do we? We want a little paper just our own for Wisconsin only, do we not? Will you help make it that? Otherwise, George will have to do it as best he can in such time as he has to give to it, and will aim to do it cheerfully. Which brings us back to the questions asked at the convention, "Why is not the paper larger and why is it not better?" It was founded as a sixteen-page paper and is advertised as such. Since publication it has averaged a fraction less than eighteen pages exclusive of supplements. For the year following the addition of four pages of "bee" matter the paper was a twenty-page paper. Beginning with January the editor began preparations for a sick spell and for several months thereafter the paper edited itself, or was missing entirely. Between September 10 and December 10 five issues were edited, after a fashion, and mailed. Wisconsin Horticulture is a sixteen-page paper. All you get over that is clear profit. We do not want a big paper, do we? Or do we? Just a little one all our own. Will you help? I cannot conclude without extending my sincere thanks to all at the convention who offered help; to the scores of members who have from time to time sent cheerful letters with compliments which I know are undeserved, but which none the less do hearten one a bit. Nor will I be quite satisfied to stop until I have whispered a secret to you, my dear readers: During the twenty-eight years that I have been a servant of the public, although in a minor capacity, no other task that has fallen to my lot has given me greater pleasure, nor served to make me more content with life's duties than editing this paper. We will now turn our attention to other matters.

FREDERIC CRANEFIELD, *Editor.*

Honor Where Honor Is Due

Not all Milwaukeeans are of Scotch birth or descent, but many of them are of that sturdy race. About five hundred of them, members of St. Andrews Society, foregathered about banquet tables in Milwaukee recently. A full account of their meeting is not of interest to us, only a printed line or two:

"In the business session which preceded the banquet, officers were installed as follows: James Livingstone, president;" etc., etc.

The Scotchmen of Milwaukee will now call him "President Livingstone." Because we love him we call him "Jim," as we have always done.

Balsam and other evergreens from the bogs and marshes make good Christmas trees and are of no value for other purposes. A few spruce planted in or near the windbreaks on one's own land are easier to get and as a rule more lasting than those shipped in.

Flower buyers are becoming more particular as to variety now. Formerly purchases were made as to color only. Now varieties are called for.

The Spirit of Contentment

By Elizabeth Held

Dear Readers: One of the best places to study "folks" is in their own homes. They are much more likely to be themselves, to forget the veneer they sometimes use when you meet them out in the world.

I was not thinking of studying folks though when I went back to my childhood home, I just thought of having a pleasant time. Among those whom I visited were two sisters who live together in the old white house on one corner of the farm their father wrested from the wilderness. The place had not changed much. The orchard was a bit more gnarled and twisted, perhaps, and the row of evergreens that shielded the house a trifle more stately. Inside the house was just about the same, sunny, pleasant rooms filled with blooming plants. Everything had the air of being carefully looked after, down to the well cooked daintily served meals. It was a pleasant place to visit and I thoroughly enjoyed myself as we talked of old friends and bygone days.

Being a horticulturist of course I asked them if they had much of a garden. Imagine my surprise when I was told that they cultivated two acres of ground. Perhaps you may not wonder at my amazement when I tell you that both of these sisters are close to the seventy mark. "Why, it must be dreadfully hard work, isn't it?" I asked. "Oh, yes, it's hard, of course, but we enjoy it. You see, we raise things no one else around here bothers with, and that people in the city are glad to get. We think of this all the while we are working, of the pleasure it will be for our customers to get these things we are raising, and we don't mind the work at all. Besides we feel that we are very fortunate in being able to work. That is the way we earn our living," she added simply. "Of course we have a little laid by for a rainy day, but we do not wish to use this until we are obliged to."

I looked at them more closely. Their faces were calm, placid. But above all there seemed to be something else, an indefinable something I could not quite grasp. "Don't you get dreadfully lonesome here in the winter time?" I asked one evening after the dishes were washed and we had each found a comfortable chair. "Oh, no," came the smil-

ing reply. "We usually find something to keep us busy—and we travel quite a good deal."

"Travel!" I was surprised for I had never known them to go very far from the old home:.

"Well, we call it 'travel,'" said the younger sister. "It's a game we invented to pass away the time when we're tired of everything else. We find it real interesting."

At my request they started on one of their imaginary journeys. At first I sat listening with a sort of smiling tolerance. It seemed funny to think of these two women playing a game of make believe. But all at once I sat up straight, for the imaginary traveler was saying: "It's about time for us to start back home, but I think we will stop and see Cousin Will at Denver. We will surprise him; stay over night at the ranch and in the morning our genial host will drive us down the mountain road to the station with his ponies and buckboard." You see, I had known Cousin Will when I was a child. There was a never-forgotten Sunday afternoon when, on one of his rare visits to the old farm home, he had gone with us to slide down hill. After doing all the hair-raising stunts he could think of, he voted the hill tame, and taking a sled to the roof he poised it for one brief instant on the ridge pole, then, with a whoop that would have shamed a Comanche Indian, he slid down the long sloping roof of the house into the snow banks below. I was not sitting in an easy chair by the side of a glowing coal fire, listening to an imaginary account of this drive. Indeed not. I was holding fast to the sides of a swaying swinging buckboard watching a pair of plunging ponies as he drove down that steep mountain road at break neck speed. I saw a hatless driver with a well remembered smile on his face, his capable fingers held the lines. Though I was enjoying the ride I didn't draw a real breath until we reached the valley below. All at once I heard a jolly little laugh. "Aren't you going to get out of that rig? We won't get home tonight if you don't hustle."

"It does get 'real,' doesn't it?"

said my hostess. "We think it's more fun than going to the movies."

There was silence then for a while, but I didn't notice it. I was busy with my thoughts. I was beginning to understand that indefinable something that had puzzled me. These two people were contented in spite of the fact that they had to work hard at an age when most people feel they are entitled to a rest. They enjoy it because it helps to give others pleasure; they are thankful because they are able to work, and instead of grumbling and finding fault with cold stormy weather, they play the game of "make believe." In other words they live out Ella Wheeler Wilcox's advice: "If you can't have what you like, like what you have." "The Spirit of Contentment," I thought, as I went slowly up the stairs to bed.

The best part of a visit is the memories you bring back with you, if they are pleasant ones. If they are not, why I usually try to forget them.

The memories of this visit are both vivid and pleasant. They have helped, for when things don't go as I like, I just play the "game." And do you know that when I'm contented and happy without, I usually get what I desire. So I really believe the Spirit of Contentment has come to abide with me. Do you think this is a queer way to tell about "folks?" Well, I suppose it is, but then, I have to keep up our reputation, you know. They've always said you could never tell what a woman would do next.

A little sand over beets, carrots, and other roots will keep them from shriveling.

Do Not Be Led Astray

Unless tremendous climatic changes occur soon or varieties hardier than any now known appear, grape growing in the northern half of the state is very unlikely to prove a profitable investment. The following from an Ashland paper is misleading. We are not apt to have as much grape weather in some time as we had last summer:

Raising grapes as a commercial proposition in Bayfield county may become profitable. On the Pine Tree farms vines of three varieties are bearing fruit and the first shipment of Concords made to the Duluth markets proved the fruit was of the best variety.

Since the Pine Tree farm has shown the way other persons are becoming interested in the project and grape growing should soon become an important commercial enterprise.

Begin now to make up the seed and shrub list for next year. Try a few new things each year but rely mostly on the standard sorts.

Tramp well about the apple and tender ornamental trees. This will discourage mice from finding homes near them. Now is the time to get the rabbits that are waiting for more snow to girdle apple trees.

Don't forget the birds this winter. Put up a bit of suet or tie a sheaf of grain on a post or tree. Birds soon find it. Quail or other wood fowl may be kept on the place if a pile of straw with some grain in it is left in a sheltered place near their haunts.

For Sale: A good-as-new berry box wire stapling machine, adjustable to fit any size box. Wire enough for car load of boxes. $15.00 for both.—N. E. France, Platteville, Wis.

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. S. F. Stelling, Reedsville. **Treas.** C. W. Aeppler, Oconomowoc.
Vice-Pres. Conrad Krues, Loganville. **Secy.** Mallitta F. Hildreth, Madison.

Annual Membership Fee $1.00.
Remit to M. F. Hildreth, Secretary, Madison, Wis.

43D ANNUAL CONVENTION

Wisconsin State Beekeepers' Association

Milwaukee Auditorium, Milwaukee, December 8 and 9

The annual meeting of the Board of Managers was called at 2 p. m. December 7, at Committee Room A, Milwaukee Auditorium. The President, Mr. Jorgensen, appointed the following committee on credentials: Mr. Hildemann, Mr. Brenner and Mr. Hassinger. The committee reported the following associations as having delegates with credentials:

1. Baraboo Valley Bee Association—Frank Hanley.
2. Brown County Bee Association—William P. Brenner.
3. Dodge County Bee Association—A. A. Brown.
4. Fond du Lac County Bee Association—William Sass, Jr.
5. Fox River Valley Bee Association—Edward Hassinger, Jr.
6. Jefferson County Bee Association—Arthur Jaeger.
7. Northeastern Wisconsin Bee Association—F. F. Stelling.
8. Price County Bee Association—H. J. Rahmlow.
9. Richland County Bee Association—James Gwin.
10. Shawano County Bee Association—E. S. Hildemann.
11. Sheboygan County Bee Association—A. E. Walkow.
12. Washington County Bee Association—A. H. Seefeldt.
13. Waukesha County Bee Association—Phillip Rudolph.

Mr. Sass of the Fond du Lac County Association and Mr. Rahmlow of the Price County Association did not have credentials but as both of these men were secretaries of their respective associations, the board of managers voted to allow them to vote. Other beekeepers attending the meeting were allowed to remain and take part in all discussions but were not allowed to vote.

The minutes of last year's meeting were read by the secretary and approved by the board.

The matter of continuing our arrangement with Wisconsin Horticulture for 1922 was then brought up by the secretary and after considerable discussion as to the value of the paper, a motion was made and carried that we continue our arrangement with Wisconsin Horticulture at 50 cents per member.

Whether or not the state association desired to hold a summer meeting in connection with the beekeepers' chautauqua held by the University in August was the next matter brought up. Mr. Brenner extended the invitation of the Brown County Beekeepers' Association that the summer meeting be held at Green Bay. After a rather lengthy discussion a motion was made and carried to the effect that the State Beekeepers' Association hold their summer meeting in connection with the beekeepers' chautauqua at Green Bay. A motion was also made and carried that this meeting be held the third week in August as arranged by the University.

The report of affiliated associations was then read by the secretary and approved by the board of managers. This report will be included in detail later. It was the general opinion of the board of managers that each delegate present should explain to his association when he returned the necessity of having every affiliated association send a delegate to the board of managers meeting and if necessary that a special meeting be called by the local association to elect that delegate. Each delegate present agreed to ask their secretary to send in their annual report by the time set by the secretary of the state association.

The report of the extension committee was then read by the secretary and approved by the board. This report will be printed later in detail.

The American Honey Producers' League was then discussed and the question as to whether or not the Wisconsin State Beekeepers' Association should continue its section in the national organization was considered. One of the directors suggested that we increase our dues to $2, $1 of which was to go for membership in the league, but the majority of directors did not think this would be satisfactory and this motion was not carried. A motion was then made and carried that we continue our membership of at least 100 in the American Honey Producers' League.

A motion was then made and carried that a committee of three be appointed at this convention to study during 1922 all beekeeping matters which might come before the legislature in 1923 and to report back at the convention in 1922.

A motion was also made and carried that the state association ask for an appropriation of $3,000, at the next legislature for the purpose of promoting the association and the beekeeping industry.

A discussion on the value of monthly reports followed and many of the directors requested that we have a crop report for the state sent out from the secretary's office just after the honey flow.

A motion was made and carried that the salary for the secretary for the ensuing year be $180.

It was decided that the nominating committee meet the following morning at 8 o'clock.

The meeting of the board of managers adjourned at 5 p. m.

Thursday Morning

The convention was called to order at 9:45. The minutes of the last convention were read by the secretary and approved by the convention.

The recommendations of the board of managers were then presented to the convention as follows:

1. That the present arrangement with Wisconsin Horticulture at 50 cents per member be continued.
2. That a membership of at least 100 be continued in the American Honey Producers' League to keep our state association affiliated with the league.
3. That a committee of three be appointed at this convention to study during 1922 all beekeeping matters which might come before the legislature in 1923 and to report back at the convention in 1922.
4. That an appropriation of $3,000 be asked for at the next legislature for the purpose of promoting the association and the beekeeping industry.
5. That a crop report for the state be sent out from the secretary's office just after the honey flow.
6. That the salary of the secretary for the ensuing year be $180.

The convention voted to take the matter of approving the recommendations up later at the regular business session of the convention on Friday.

The report of the secretary was then read and approved by the convention.

Greetings from Brothers Allen, Dittmer and Bartz, who were unable to attend the convention, were read by

the secretary. An explanation of our affiliation with the American Honey Producers' League was then given by the secretary and the convention decided to consider this later.

President's address (to be printed later).

Just before the president finished, Mr. E. R. Root came in and our beekeepers were happily surprised since we did not know he was coming. We were all very glad to have Mr. Root with us and the president asked him to address our convention. Some notes were taken on Mr. Root's talk and these will be published later.

Mr. C. P. Norgord, commissioner of agriculture, being present, was called upon by the president to address the beekeepers. His remarks covered the present beekeeping situation very well and will be published later.

Thursday Afternoon

The afternoon session was called to order at 2:15. Mr. C. W. Aeppler, treasurer, read his report which was accepted by the convention.

Mr. A. A Brown then read a paper "From Neglected Bees to Profit," which will be published later

Mr. N. E. France was unable to attend the convention and his paper was omitted. It will, however, be published sometime during the year.

"Choosing a Location in Wisconsin," by H. L. McMurry was next on the program, but Mr. McMurry was not able to be present and this paper was omitted.

A paper on "Experience in Pasturing for Buckwheat Honey," by Mr. Cruse was also omitted and will be published later.

"Hubam Clover," as discussed by Mr. Brenner was very interesting to our beekeepers. Mr. Brenner has had some actual experience with Hubam clover and we are very sorry that Mr. Brenner did not have a copy of his talk to leave with the secretary. Some notes were made, however, and these will be included in a later issue.

Mr. Atkins then gave us some very interesting and enlightening figures on beekeeping as a business. He showed quite clearly that one must secure a yearly average of at least 60 pounds per colony in order to make beekeeping pay. Mr. Atkins did not leave a paper with the secretary but it is hoped we will be able to secure this data for publication.

"Bee Yard Experiences," by H. H. Moe was not given since Mr. Moe was unable to attend.

"Treating Diseased Bees Out of Season," by A. C. Allen, was also omitted as Mr. Allen could not come. We have a paper from Mr. Allen on this subject which will be published later.

Mr. Sass, in his talk, "The Association," brought out the value of live local associations, what they have done for their beekeepers and how they helped the state association. This paper will be published later.

Mr. L. G. Foster, assistant director of the state division of markets, in his talk, "Cooperative Marketing," brought out the following three essentials which are necessary to make a cooperative association successful:

1. "You must have a sufficient volume of business guaranteed by a contract. By a sufficient volume of business we mean enough business to pay for efficient management. The volume of business determines to a very large extent whether or not your association can succeed. That is the first fundamental need."

2. "You must have good management. You must have a manager who knows something about the demand, the market, etc. He may be a producer or he may not be. That depends upon whom you select. If you fail to get proper management, I don't care what other things you have, you had better not start. What does good management consist of? Good common sense applied in the business of marketing honey."

3. "You must have proper financial backing so your manaegr can go ahead without hindrance. You cannot get a manager to start your machine going without sufficient finances."

The president then appointed the following committees:

Auditing—Mr. Wolkow, Mr. Edward Blumer, Mr. Gwin.

Resolutions—Mr. Brown, Mr. Rahmlow, Mr. Hanley.

The following recommendations made by the board of managers were voted on separately and adopted by the convention:

1. That we continue our arrangement with Wisconsin Horticulture at 50 cents per member.

2. (a) That a summer meeting of the state association be held in connection with the Beekeepers' Chautauqua held by the University the third week in August, and (b) That this meeting be held at Green Bay.

3. That we continue our membership of at least 100 in the American Honey Producers' League and secure more members if possible.

4. That a committee of three be appointed to study during 1922 all beekeeping matters which might come before the legislature in 1923 and report back at the convention in 1922.

5. That a crop report for the state be sent out from the secretary's office just after the honey flow.

6. That the salary for the secretary for the ensuing year be $180.

Thursday Evening

The evening meeting opened at 7:30 when a movie showing how Lewis Beeware is made was given by Mr. E. W. Atkins. An informal discussion followed until a later hour.

Friday Morning

This session was called to order at 9:45. The president was unable to be present and since the vice president, Mr. Bartz, was not in attendance, Mr. Mongin consented to act as chairman.

Mr. Hassinger brought the following recommendation of the board of managers before the convention: "That the secretary be given authority to take a mail vote on whether or not the state convention be held in 1922 at Madison or Milwaukee in connection with the Markets Exposition as was done this year."

A motion was made and carried that the secretary be given this authority.

"The Next Step in Marketing," by C. D. Adams, brought out very clearly the grading and marketing problems. This paper will be published later.

Mr. Sherman's paper, "Better Marketing," could not be given as Mr. Sherman was not present. This will be published later.

"Sweet Clover, Its Value to Agriculture and the Beekeeper," by H. E. Rosenow, was also omitted as Mr. Rosenow could not be present on account of the unexpected death of his little girl.

Mr. L. T. Bishop explained his method of out-door packing and an open discussion was held on outdoor wintering. Mr. Bishop has had very good success with his out-door wintering and has promised to prepare a paper for us on this subject.

"Advertising," by Mr. Gwin was next. This paper will be published.

"Plans for 1922 Extension Work," by L. P. Whitehead was omitted in order to give Mr. Cale and Mr. Root more time on the program.

"Relation of Queens to Seasonal Management," by Mr. G. H. Cale was very interesting and valuable to our beekeepers. Mr. Cale gave the beekeepers an opportunity to ask questions and many of our members took advantage of this. This paper will also be published.

Dr. Siebecker was unable to be present and his talk, "Comb vs. Extracted Honey," was omitted.

Mr. Root then gave our beekeepers a talk on wintering bees without sugar honey. Some notes were made on this talk and as soon as they can be assembled will be published if we can secure Mr. Root's permission.

"Bee-Tight Honey Houses and Other Popular Fallacies," by S. B. Fracker, was the next paper given. This will be published.

As all the papers had been given the business meeting was next in order.

The following resolutions were recommended by the resolutions committee and adopted by the convention:

Resolutions as Adopted by the State Convention

1. Whereas, in His infinite wisdom,

God has seen fit to remove from the midst of our beekeeping fraternity. Mrs. A. I. Root, loyal friend, a charming personality and a tireless coworker, and

Whereas, the loss of the most inspiring coworker of our beloved and revered friend Mr. A. I. Root, will be felt more and more as time passes, therefore,

Be it resolved, that we, the beekeepers of Wisconsin in annual convention in the city of Milwaukee assembled, extend to Mr. Root and other members of his family who mourn the loss of so noble a woman as Mrs. Root, the heartfelt sympathies of the Wisconsin Beekeepers' Association, both collectively and individually, and

Be it further resolved, that the secretary of our state association send a copy of these resolutions to the bereaved family and cause same to be spread upon the records of our association.

2. Whereas the State Bureau of Markets has established a Market Exposition or Winter Fair for the display of farm produce to encourage better marketing and

Whereas, the Wisconsin Cooperative Honey Producers' Association has seen the advisability and benefits to be derived from the display of Wisconsin honey in a booth at the exposition,

Be it resolved, that the State Beekeepers' Association set aside the sum of $25 for the purpose of defraying the expenses of such an exhibit at 1921 Markets Exposition. The treasurer is hereby authorized to pay the above amount to the treasurer of the Wisconsin Co-op Honey Producers' Association.

3. Whereas, Wisconsin beekeepers have derived a vast amount of knowledge and therefore considerable material benefit from the teachings of Dr. C. C. Miller, and

Whereas, Wisconsin beekeepers have derived a vast amount of pleasure and enthusiasm from the inspiration we have received from Dr. Miller's teachings and exemplary life, therefore,

Be it resolved, that the State Beekeepers' Association in convention assembled, pay the amount of $40 to the Dr. Miller Memorial Fund and we further recommend that all Wisconsin beekeepers contribute as liberally as possible to this fund.

4. Whereas, the State Department of Agriculture finds it difficult to eradicate American foulbrood from all the counties of the state as fast as beekeepers desire to have this work done, due to limited funds, and

Whereas, certain county boards have appropriated money to help the state defray the expenses of this work in their respective counties,

Be it therefore resolved, that the Wisconsin Beekeepers' Association encourage the various county associations who have not already done so to appeal to their county boards for financial aid in eradicating this disease and that the state department of agriculture be hereby encouraged to give precedence to those counties offering such financial aid.

5. Whereas, sweet clover is not a noxious weed, and

Whereas, sweet clover is one of our best honey plants, and

Whereas, our highways and railway right of ways are extensively cropped with this plant; and

Whereas, it is a practice of the section crews and patrolmen to destroy this plant from time to time thus cutting off a good supply of nectar for honey production, therefore,

Be it resolved, that we both individually and collectively through our associations both state and county appeal to the railway maintenance of highway departments and the state and county highway departments to instruct their section crews and patrolmen to delay the cutting down of this plant until after the blooming period.

6. Whereas, the State and Federal Bureau of Markets and Crop Reporting Service have given a large amount of valuable information and assistance to the beekeepers of Wisconsin and other states, and

Whereas, crop reports and assistance in marketing are most urgently needed in this time of general business depression,

Be it therefore resolved, that the Wisconsin State Beekeepers' Association in convention assembled, extend their thanks to the above departments and pledge their support and cooperation to the fullest extent.

7. We, the members of the Wisconsin State Beekeepers' Association in annual convention assembled, realizing that the value of honey as a food is not generally known by the consuming public, most earnestly request the Agricultural Extension Department of the University of Wisconsin to add to the Agricultural College instructional force a party whose subject will be the value of honey as a food and the value of beekeeping to agriculture and horticulture.

8. Whereas, the beekeeping industry of the state of Wisconsin has advanced in the past few years to its present status as one of our important agricultural industries and has grown to a live association and

Whereas, the Wisconsin State Beekeepers' Association under the help and inspiration of Professor H. F. Wilson, and

Whereas, Professor Wilson has seen fit to sever his relations as secretary of our association, therefore,

Be it resolved, that we extend to Professor Wilson a rising vote of thanks for all he has done for the beekeeping industry of this state.

9. Be it further resolved, that a like vote of thanks be extended to other retiring officers for their untiring efforts for the advancement of beekeeping in this state.

H. J. Rahmlow,
A. A. Brown,
Frank Hanley.

The following label committee was appointed: C. W. Aeppler, C. D. Adams, R. L. Siebecker.

The nominating committee gave the following report:

For president—F. F. Stelling, H. L. McMurry.

For vice president—Conrad Kruse, H. J. Rahmlow.

For treasurer—Edward Hassinger, C. W. Aeppler.

For secretary—M. F. Hildreth, Frank Hanley.

The following officers were elected: President, F. F. Stelling; vice president, Conrad Kruse; treasurer, C. W. Aeppler; secretary, Malitta F. Hildreth.

The convention adjourned at 5:30 p. m.

FINANCIAL REPORT OF THE SECRETARY FOR 1921

Received Dues From

113 members at 50 cents each	$ 56.50
571 members at $1 each	571.00
1 member at $1.50	1.50
4 associations affiliated at $5 each	20.00
Total	$649.00

(Includes dues of H. E. Towns, Oct. 7.)

Paid to C. W. Aeppler, Treasurer

February 3	$409.50
July 22	224.50
October 11	15.00
Total	$649.00

Expenses Paid by Secretary

Postage	$ 83.27
Mimeographing	7.20
Telegrams	2.24
Register of deeds	1.50
Dr. Miller Memorial	10.00
Chautauqua tags	3.25
Chautauqua expenses	15.00
Secretary's expenses, trip to Chicago	37.00
Total	$159.46

Received From Mr. Aeppler

February 4	$ 53.85
July 26	54.01
October 17	32.25
Total	$140.11
Balance due secretary	$ 19.35
Total number of paid-up members for 1921	767
Members paid to July 1 1921	35
Unpaid members (paid to Dec. 31, 1920)	261
New members this year	108
Members paid for 1922	23
New affiliated associations	4

Approved Budget for 1922

Income for 1922—
Estimated dues 800 members at $1 each $800

Proposed expenditures—
To Wisconsin Horticulture..... $400
Expenses of secretary's office..... 150
Salary of secretary..... 180
Printing new directory..... 50
Total proposed expenditures..$780

REPORT ON AFFILIATED ASSOCIATIONS

Report blanks were sent to each affiliated association, 29 in all, on October 6th, asking that these be filled in and returned to the secretary's office by November 15th. Up to the time of the convention 24 reports were received. During the convention Marathon County Association and Chippewa County Association reported. No reports were received from Rusk County and Clark County Association. Two associations were found to be below the required membership in the state association, Vernon County having 8 members and Door County Association having 8 members.

The following new associations affiliated with our state organization this year:

Dodge County Bee Association
Waushara County Bee Association
Door County Bee Association
Marinette County Bee Association

REPORTS FROM AFFILIATED ASSOCIATIONS

Name of Association.	No. Members.	State Members	Meetings.	Aver. Attend.	Value of Order.	Saved.	No. Members in Order.
1. Baraboo Valley	22	11	5	20			
2. Brown County	23	14	2	25	$300.00	$ 40.00	7
3. Dane County	20	17	3	19	150.00	27.00	5
4. Dodge County	53	41	6	27	515.00	77.25	21
5. Door County	16	8					
6. Fond du Lac County	52	36					
7. Fox River Valley	22	12	4	10	200.00	20.00	
8. Grant County	35	11	1	50	401.15	100.00	15
9. Green County	25	12	2	25			
10. Jefferson County	23	17	2	22	413.76	70.00	17
11. Langlade County	38	10	7	30			
12. Marinette County	14	14	1	16			
13. Milwaukee County	49	28	5	44	782.08	154.59	11
14. North East	58	20					
15. Richland	19	12	5	15			
16. Shawano County	12	12	1	15	272.44		10
17. Sheboygan County	44	27	6	25	125.00	5.00	8
18. Vernon County	26	8					
19. Walworth County	20	9	1	25			
20. Washington County	28	11	3	12	199.98	18.00	6
21. Waushara County	29	12	2	12	52.00	9.00	3
22. Winnebago County	23	12	1	25			
23. Wood County	30	11	1	20	350.00	35.00	
24. Price County	18	12	3	12	450.00	67.50	12
25. Waukesha County	37	22					
26. Marathon County	28	16	3	31			
27. Chippewa County	22	15					

REPORT OF EXTENSION COMMITTEE

Meetings held during December 10, 1920, to December 2, 1921—57, with an average attendance of 21.

During the same period 10 two-day bee schools were held and one three-day bee school.

The third annual Beekeepers' Chautauqua was held at Chippewa Falls, with a total registration of 160 and an average daily attendance of 60.

108 new members were secured for the state association.
4 new associations were affiliated.
5 new associations organized.

CLERICAL AND STENOGRAPHIC REPORT OF ASSISTANT SECRETARY

Total letters	335
Total pages of manuscript	236
Total receipts	694
Total stencils cut	30
Total circulars sent	3,112
Total league circulars sent	1,089
Total envelopes addressed	4,849
Total cards made out	142
Total invitations sent out	274
Programs sent out	900

New Hardy Grapes

William Pfaender, Jr., of New Ulm, Minn., declares there are now grapes in Minnesota that can be grown there successfully without winter protection.

The standard varieties, such as Concord, Moore's Early and others can be grown in Minnesota, but a fair crop can only be expected if they are well protected in winter. For several years, however, growers have raised a quartette of grapes, all of the same parentage—being crosses of the native wild grape and Concord—that are perfectly hardy in severe winters where the thermometer often drops to 20 and 30 below zero.

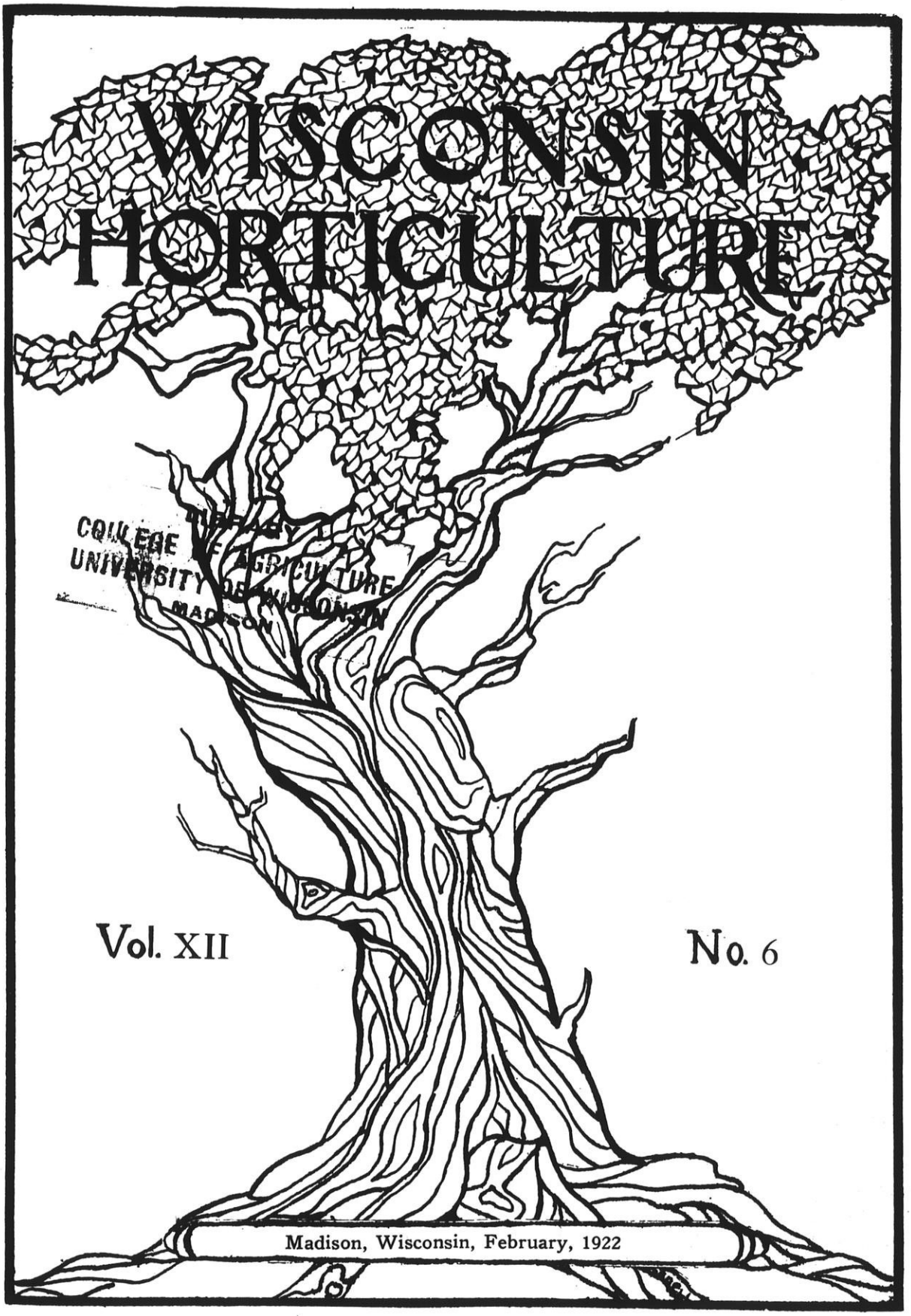
The wild grape, with which the Concord was crossed, was quite sweet, a late bloomer, and matured its fruit very early, which is also true of these hybrids. The vines of these hardy grapes drop their foliage early and ripen up their wood perfectly. They are vigorous growers, and annual bearers of a good sized bunch and the berries are nearly as large as those of the Concord. They produce jelly and unfermented grape juice of superior quality.

These grapes can be successfully grown much farther north than southern Minnesota, and are now being tested near Winnipeg, Man., and Indian Head, Sask., Canada.

They are known as " Suelter's Minnesota Hybrid Grapes" and named by Mr. Suelter, the originator: Beta, Dakota, Monitor and Suelter.

Evergreens make good outdoor window box or porch box decorations and add a little color to their surroundings.

WISCONSIN HORTICULTURE



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"Inspection in the Orchard"

Will J. Platten, Green Bay, Wis.

"Know thy trees and their fruits shall make thee rich" is one way of paraphrasing a familiar quotation. If not rich in a material sense, at least rich in intimate association with nature's fruit trees. To really know the trees of an orchard, the owner or manager must be well acquainted with their history from planting time to the present time. With hundreds or thousands of trees in the orchard, this may seem very difficult. However, by a plan of frequent personal inspections, such as I will outline, it can be accomplished quite easily. A liking for the task, or a sort of individual solicitude for each and every tree, is necessary to doing the job well.

Starting with the time the trees are planted, I suggest a complete inspection tour of the orchard about once every ten days. This time period may be more or less depending on conditions. It may have some inspections in which each tree is visited; or others in which two rows are looked at, or there may be as many even as four rows inspected during one trip. In any event, the inspector should walk up and down the orchard rows, so as to include every tree in the method he is following. Certain of the inspections are for particular purposes, noting some one thing about each tree or doing some one thing required. Other inspection trips are general in character, taking note of any of the things that need attention. The man making the inspection should always carry as a minimum of equipment a pruning knife and a note book and pencil. Notes are taken and handled for permanent records as described in a previous article.

Starting with the newly planted young orchard, the first inspection after ten days would be to visit each tree to do any pruning missed during the hurry of planting, to firm any trees that might be loose in the ground, and to adjust trees to the right slant. A spade would be carried on this inspection. Other objects for inspection of young trees are, spreading nitrate around base in early spring, hand picking of plum gougers if they start operating, the looking for canker worms, web worms, tent caterpillars, scale, scab, blight, borers, and also the training of the tree's shape by pruning. All of these require comparatively little time per tree, and can be a part of the inspections. The hoeing for a space of two feet around each tree (three times per year), the spraying, and the pruning of the larger trees is done by the regular help and is not considered a part of the inspections.

One interesting record of the older trees is a blooming record, noting dates of full bloom of the varieties and scaling the amount of bloom per tree as zero, poor, fair, good, and excellent. Another interesting record of trees up to 8 years old is the grading according to the same scale, of tree vigor and growth. This is done by their appearance on a comparative basis, as to size, growth, vigor, health, etc. In the inspection of the older trees, those that need special pruning are noted, and especial watch is kept for signs of blight and borers. Outbreaks of blight, borers and insect attacks are usually focussed within certain restricted areas in the orchard. When these areas are definitely located on the orchard map, special attention can be given to prevent spreading. This applies particularly to blight. After storms, damaged trees are at once cared for. The time for making sprays is governed by conditions as disclosed by inspections. This is essential in the correct spraying for late broods of the Codling Moth.

As showing the direct value of this type of inspection work, I will cite an instance that occurred with me this last year. On one inspection I decided to look closely for scale. In 24 acres or orchard I found two trees, widely separated, that had Oyster Shell scale. Both were small trees, and on looking up their records, found that they were replants from a nursery plot in an old farm orchard, which was badly infested. By spraying these two trees this coming spring with winter strength Lime Sulphur the scale will be destroyed. If they had been undiscovered for a few years, it would have been necessary to give the entire orchard a dormant spray, as the scale would probably have spread over a large area.

When the fruit gets heavy on the trees, an inspection is made to determine the overloaded trees so that bracing or propping may be resorted to in time. Later inspections are for the purpose of locating where wind falls are heavy and need picking, and when the fruit of each variety is ready for picking.

As winter approaches, the bottoms of all trees are painted with white lead and raw linseed oil, the soil packed close to each tree, and a spoonful of poisoned wheat placed at the base of each tree. This I have found to be the best

and cheapest protection against mice and rabbits. Finally, trees that are in very bare exposed positions are liable to dry out and freeze over winter, are noted, so that a manure mulch can be put on for winter protection.

While it may appear that much of this is excess work, yet by combining and systematizing the work, it will be found more economical than the haphazard older methods. To visit every tree in a 20-acre orchard one must walk about six miles and ordinarily take one-half day, and if a trip every other row, about half as long. It is good exercise, especially when there is a high clover crop. The inspector acquires a certain expertness in being able to diagnose a tree's troubles at a glance from a distance.

This inspection, as outlined, is intended primarily for young trees under 10 years old, although the principles would apply to the older trees as well. It is a plan for the continuous and prompt maintenance of the orchard.

Experience With Everbearers

Contributed by Hollis Sullivan.

In raising everbearing strawberries over a period of eight or nine years I have come to the conclusion that the time they are set in the spring has more influence on the kind of crop we are going to get from them than any other factor whether it will be berries or mostly plants. Most everyone who plants everbearing strawberries plants them to get as many berries during the late summer and early fall as possible the same season they are set.

Nearly all growers advocate setting strawberry plants just as soon in the spring as the ground can be got in good condition. That has been our plan to set just as early as possible, but in setting an acre or two the time of setting usually varies quite a lot, and sometimes a part of them have been set from the fifth to the twentieth of May. The early set ones start quickly and commence to put out runners amost as soon as they get well established. It seems that when they get to making runners profusely that the old plant will not form so many crowns nor bear so many blossoms and berries but instead spread out and make a wide row of small plants which don't bear very many berries, and what the small plants do bear are usually undersize of inferior quality. If plants is the crop we are after early setting would be the best practice.

Five years ago a lady got one hundred Superb everbearing plants and set them about the third or fourth of April. She got them in order to have fresh berries for the table, but was very much disappointed as she couldn't get enough for a dish at one time. About the twentieth of September I was at her place and she asked me to look at her strawberry plants. She had a row about two and one-half feet wide filled with plants standing so thickly they were crowding each other and she was only getting a few small berries. This was plainly a case of too early setting as there were lots of later set beds bearing right along at the same time.

Plants set in May, up to about the twentieth, seem to be shy plant makers because they usually get to bearing berries before they start runners and have a tendency to keep on the way they got started. In fact, everbearing strawberries seem to have an almost human characteristic of getting into a rut and running in it.

Last spring a man near here got a few everbearing plants about the twentieth of May and had berries from the first of August to the tenth of October almost continuously. Each plant had made a crown with about a dozen parts and they were all bearing berries; some plants had from forty to fifty berries green and ripe on them.

These experiences which correspond with my own seem to indicate that it is impossible to set everbearing plants too early for the best kind of a fall crop of berries.

The season would make a difference of course, so it would not be possible to pick the date that would give us the best crop of berries, but I think it can be controlled to quite an extent by the time of setting.

Apples for Sandy Loam Soil

A member in Adams county asks for a list of apples for the sandy loam soil of that county. The answer is, any of the standard varieties recommended for culture in the north central part of the state: Duchess, Patten, Wealthy, Okabena, Malinda and others of the "extra hardy" kinds.

The question of the character of soil is of slight importance in apple culture, one of the last to be considered, except that trees on very light sandy soils will require more fertilizer than on clay loams and will not live as long.

The Day's Work Done, Well Done.

Elizabeth Held.

She didn't look like a successful teacher, the shabby little woman who passed my home every day. She rather gave the impression of not being interested in anything. But they said the principal of the school leaned back in his chair with a sigh of relief when Miss B— took charge of grade seven. The room full of mischievous, unruly boys laughed at her, made fun of her freckled face and wispy red hair but ended by giving her their whole-hearted devotion. The report-cards from grade seven were soon a credit instead of a disgrace to the school.

One sunny morning the little teacher stopped for a drink of cool water and like the boys, I soon yielded to her charm, for her voice was sweet—and her eyes held the eager light of a child. When I asked her what she had done to charm away the evil spirits that hovered around grade seven she laughed.

"My boys were not bad. All they needed was to be trusted and interested. We are friends. They tell me what they wish to do and be. One boy told me his great ambition was to be a pirate. He doesn't ever expect to become one, for he will soon have to leave school and go to work, but he thinks about it a great deal and finds it very thrilling to imagine himself Captain of a band of brave, reckless men sailing over the ocean. I understand how children dream and imagine things because I dream dreams and build castles myself."

"I suppose you dream some day of being at the head of the schools instead of just one of the teachers?"

"No, indeed," came the prompt answer. "I would never be a leader. I have no talents, unless being friends with so-called unruly boys is one." She said this softly. She was very enthusiastic about her work in the school. "My great dream is to have a really truly home with a cookie jar in the pantry, and I am building a little house up there in the woods, so I really think my dream is coming true."

Many mornings after that the little teacher stopped to chat for a few moments, telling me how her little dream home was progressing. Usually one or more of her "boys," as she affectionately called them, went out with her on Saturday to spend the day and help her in her tiny garden. The boy who dreamed of being a pirate semed to especially enjoy these trips. They had picnic dinners and it was doubtful who was the happiest, the boys or their little teacher. There was a curious sort of comradeship between them though they never failed to give her the respect due her. They treated her exactly like one of themselves.

When the little house was finished I went to see her. Like a happy child she led me from room to room. When I had admired the cosy little house sufficiently she gleefully reminded me of the cookie jar.

"Now we will have some of them and a cup of tea."

Over our cup of tea we talked of many things, principally of her desire for a home.

"You see, I never had a real home. My mother had a call to preach, so we lived in furnished rooms and had our meals out when I was small. Then I went to boarding school and since then I have been teaching. I have lived in a boarding house all my life. I have longed for a real home. I have worked and saved for years. Sometimes I think perhaps I have worked too hard. But, oh, you don't know how happy I am to come here to my own home at night, to sit here so quietly and rest. I don't even go to church on Sunday—just sit out under the trees and rest. It's His outdoors, you know, and I think He would rather I would sit out under the trees and feel glad and thankful in my heart than have me go to church when I am so tired I wouldn't even listen to the sermon."

For a few months the little teacher lived happily in her little "dream home" as we called it. She had brightened up like a flower that has been given a drink on a hot day. Then I heard that her mother had come to stay with her and was quite ill. I went to see if I could help her in any way. When she came to the door I was shocked. Poor little teacher, what was wrong with her? All the happiness was gone, though she made a brave show of being cheerful.

"Yes, mother is with me, and quite ill. The doctor says she needs rest and careful attention to diet or she will not recover."

Just then a fretful voice called, "Don't stay out there. Come in here. You know I dislike to hear voices and not understand what they are saying."

She did not look like her daughter—this fine-looking woman who greeted me most courteously—

and I soon discovered she was not like her daughter in many other ways. Fretful and impatient, she complained bitterly of the meager diet imposed upon her by the doctor and her daughter. Every caller was told how hard it was for her to live in this lonesome place. She could not go to church, her daughter did not care to go. We were invited to sympathize with her in her affliction, for it was a terrible thing for a mother to know that her daughter was lost.

"All my life," she would repeat, "I have worked for the church and I am sure I have taught her to do right, but she is an unbeliever. She is lost."

Her daughter's gentle expostulations went unheeded. A Christian went to church, even if tired.

I looked at the frail little teacher. She needed all the rest she could get. She taught all day and at night when her mother could not sleep, she brought her a cool drink, turned her pillows and then read to her in a sweet, clear voice until she slept quietly. Sometimes the gray dawn was creeping softly in through the windows before she could go back to her couch, yet she must get up early, prepare breakfast and leave things in readiness for the woman who came to care for the mother during the day. She did everything willingly, gladly and would have been happy if she could only have pleased and satisfied her mother. But not once during my first visit nor any time after did I or anyone else ever hear one word of praise or pleasure in the thought of her daughter's willing acceptance of the burden that she must have known she placed upon her.

As the days grew shorter and colder the mother grew weaker and more fretful. She would not obey the doctor's orders as to her diet and suffered severely at times. The little teacher could do nothing right, no matter how hard she tried. Again and again she was told how wicked and selfish she was.

"I would get well, I know I would, if you did not make my life so hard. It's a terrible thing for a mother to know that her daughter is lost."

Finally she sent for her son who lived in a nearby city. He came and took her to his home where, still bitterly condemning her daughter's unbelief, she died after a few weeks.

After the funeral, the little teacher once more tried to take up her life in the little house and be happy. But she was worn out, sick, unstrung.

"I cannot stay there. The house is haunted," she said with a shudder. "My mother comes and tells me I am lost. I cannot sleep or rest. I tried to do what was right, but I must have failed, and still, somehow, I feel God understands."

So the little house was sold and she went back to the old boarding place where in a few months she died. When the nurse told her she could not live, she smiled and said,

"I am so tired. It will be good to rest."

The editor is moved to add just a line:

"In my Father's house are many mansions."—John 14:2.

The Golden Delicious Apple.

A Door county member writes: "Owing to the poor coloring on our red Delicious in Door county, we would like to try out a block of Golden Delicious. We have a few in our orchard which seem to thrive and withstand both mild and severely cold winters, but not old enough to bear. We would plant about 200 trees if we felt it a satisfactory variety."

The Golden Delicious is a remarkable apple in many respects, bearing on terminal and lateral buds, in other words, an early, exceeding early, bearer. It also appears to be an annual bearer to a marked degree. It is of good quality, almost the equal of Grime's Golden, but is not a long keeper. That it will prove successful and become a standard market variety 200 to 300 miles south of here the writer does not doubt. As to its hardiness in Wisconsin, we have as yet no proof. The fact that trees have lived through two or three Wisconsin winters is not sufficient proof. Almost any variety will do that. The Golden Delicious is being tested in many parts of Wisconsin and five or six years from now we ought to have some reliable data concerning it. In the meantime twenty trees of this variety and 180 of Wealthy would be a good proportion.

Begin now to make up the seed and shrub list for next year. Try a few new things each year but rely mostly on the standard sorts.

Black Hills and white spruce make good Christmas trees. Both are easily raised on the home grounds.

The Women's Auxiliary Holds Meeting

Mrs. W. A. Toole.

Our Women's Auxiliary held a short business session Thursday, December 15, at the G. A. R. room in the Capitol building, fourteen ladies being present. The lack of numbers was quite made up by the intense interest of all present in the subjects under discussion. After the reading of the minutes of the previous meeting and the treasurer's report the 1921 officers were re-elected. Mrs. N. A. Rasmussen Oshkosh, President; Mrs. F. B. Sherman, Edgerton, Vice President; Mrs. W. A. Toole, Baraboo, Secretary-Treasurer.

The chief subject of discussion was the ways and means of individually and collectively aiding the Horticultural Society, also promoting the growth and scope of our Auxiliary. Especial interest was evinced in contributions to the columns of Wisconsin Horticulture and a plan was finally adopted whereby we may hope to hear from many of our members during the ensuing year.

Each month, starting with the present issue, a member will contribute something of interest, with the privilege of choosing the one who is to follow, and making note of it at the close of her article. This method will insure the added pleasure of anticipating who may be called upon next. This need not preclude other contributions whenever the spirit so takes our members.

Reports from local societies and means of organizing the same were suggested among very desirable contributions, and it is hoped thereby to encourage the growth of these.

Our President will plan for next winter's meeting and will appreciate the co-operation of any of our members she may call upon to make this program a complete success.

The following memberships have been received: Mrs. E. L. Roloff, Madison; Mrs. C. E. Strong, West Allis; Mrs. N. A. Rasmussen, Oshkosh; Mrs. A. K. Bassett, Baraboo; Mrs. J. T. Fitchett, Janesville; Mrs. R. L. Marken, Gays Mills; Mrs. J. J. Ihrig, Oshkosh; Mrs. E. C. Schneider, Madison; Mrs. J. F. Swartz, Kenosha; Mrs. E. J. Frautschi, Madison; Mrs. F. X. Schoen, Madison; Mrs. G. W. Reigle, Madison; Mrs. W. A. Toole, Baraboo.

Mrs. A. K. Bassett of Baraboo was chosen to furnish the contribution for next month's issue.

The Farm Orchard Problem

Prof. Laurenz Greene, Indiana.

When one considers the farm orchard problem in the light of the past 20 years, conflicting emotions undoubtedly arise. We would all like to see good fruit produced on the farm in sufficient quantities to supply the farmer's family, particularly the boys and girls. This desire in many cases leads us to advocate a fruit plantation on every farm and much missionary work has been done along this line, yet when one considers the kind of fruit which has been marketed from these farm orchards and when the toll of insect and disease injury taken from the commercial orchards because of these farm orchards, we cannot help but feel that their passing is a blessing.

These two opposing ideals have led to many arguments of the men who see either the dollars and cents side or the more aesthetic side of the question.

One man considers that the farmer may buy his fruit from the commercial grower, but we all know that in such cases the children of that farmer do not have a sufficient supply of fruit. In other words the farmer who argues that he can buy his fruit cheaper than raise it does not buy it.

There is no more sickly sight than a rundown neglected farm orchard whether it be five trees or five hundred.

This farm orchard problem appeals to the writer as being possible of only one solution, namely, that every effort should be made to see to it that all living fruit trees are given the best possible care so far as soil treatment, pruning and spraying are concerned. If the farmer or the fruit grower will not give this kind of care to his trees he should remove them and put the land to better economical use, growing some crop that he will take care of. It is barely possible that in regions where no commercial orchards are planted that these neglected orchards may produce occasionally some fruit for the farmer's use but no farmer should be allowed to maintain a menace to his neighbors regardless of any sentiment that may be involved. The farm orchard should be one of from fifteen to twenty trees of all kinds, thoroughly well taken care of. It is the only farm orchard that any of us should recognize. The uncared for, unsightly fruit plantation of the present should not be tolerated longer.

Overhead Irrigation

J. R. Williams

(Read at Annual Convention.)

It might be a good plan to tell you how I got interested in irrigation. Seventeen years ago I finished the short course and soon after got a job running a pumping plant at Santa Anna, California. Often while watching the water on its way to the crops I would think, "why can't we irrigate in Wisconsin, for we have so much water going to waste?"

I think irrigation has been the most talked of subject by the gardeners and small fruit growers the past summer. There are a number of different systems of applying water to a crop, but there is only one system that is practical in Wisconsin, and that is the overhead system.

I have fourteen acres piped, but by moving the lines we watered about twenty-two acres the past summer.

When installing an irrigation system the supply of water is the most important thing. A lake or river is the most reliable supply for a large outfit, while wells or city water will do for a small acreage.

Next after the water supply is a good intake. If we are pumping from a lake or river an intake that will let in plenty of water for the size of pump we are using and at the same time keep out all weeds and dirt, for a few weeds pumped in an overhead system will cause trouble all summer. The lake I pump out of is very weedy, and I tried a number of intakes before I got one that would do the business. The intake I use now is a box 2x2x5 feet. The top, bottom and ends are made of matched pine flooring, the sides are first covered with heavy galvanized screen, then covered with 60-mesh brass screen. Main supply lines must be laid so they can be drained during the winter.

A plunger pump is the best for an outfit using 10,000 gallons or less per hour. For a large outfit a centrifugal pump is cheapest.

The first system I installed I used nine-foot posts. The lines I am putting up now I use seven-foot cedar fence post, and I like them better than the high post, for it is so much easier to clean the nozzles when you can reach them from the ground.

The cost of installing an overhead system will run about $250 to $400 per acre without the supply line and pumping plant.

I have used irrigation on a number of different crops—strawberries, raspberries, onions, cabbage, melons, cucumbers, potatoes, tomatoes and flowers. It is nearly impossible to grow a good crop of everbearing strawberries without irrigation. I think irrigation will increase a crop every year, and a dry year like last summer it will increase it 200 or 300 per cent.

It is impossible for me to tell you when to water any more than morning and evening is the best time to water. Some crops may be watered in the heat of the day without hurting them, such as cabbage, cucumbers, melons and onions, while other crops are liable to blight if watered while the sun is shining. Irrigation is a great help in starting seeds. They will come up even and make strong plants. With irrigation we can set plants at any time and get a good stand.

A crop can be saved from a heavy frost by the use of an irrigation system. For protection against frost we should start spraying about midnight and water until sunrise.

Weeds should be killed as soon as they sprout for if they get to be any size it is nearly impossible to kill them on irrigated ground.

While the first cost of irrigation seems high it has been a money-maker for me every year since I installed the system.

How Many Bushels of Strawberries Per Acre?

I have had nine years' experience in growing strawberries. One year ago I planted two hundred full bearing plants and just picked (October 30) one quart. The plants cost $2.75 to $4.00 per hundred. I can't see the profit end in everbearing strawberries unless we have an overhead sprinkling system.

I bought some plants from a man in Wisconsin; those plants were packed so tight and were so sloppy wet of one variety I lost every plant and the others, what would have been good plants if properly packed, made only a deplorable stand.

A preacher told me once if I didn't live right I would go to a place I cannot pronounce.

It was reported some years ago that Mr. Smith of Green Bay raised 450 bushels of strawberries on one acre.

I have two acres for next season. By continuous cultivation and hoeing I carried them through the severe drought of the early part of the season; the late rains brought them up to a good stand.

I have been preparing one acre of ground for over a year for a rec-

(Continued on page 93.)

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Be Friendly

If you are satisfied with your membership, if you feel that you are getting good returns on your investment, be friendly and let your neighbor in on it. Perhaps he does not know about the W. S. H. S. There are many people in Wisconsin who don't. Will you help increase our membership? If you send in one new member the Secretary will thank you, if you send in two he will extend your membership a full year. This offer is extended to members as a reward for securing new members. Send two dollars for two new members and we will extend your membership for a year.

Why Not Advertise?

That's the way successful merchants and other business men make money, through advertising. If you have anything to sell we will bring it to the attention of 2,000 members, approximately 4,000 readers, for a trifling sum. Advertising rates in Wisconsin Horticulture are low as compared with other similar publications, even on the basis of circulation: then there are other things to consider; the class of readers you reach and the high standard we set for advertising. Two things are required of advertisers—a little money and a lot of honesty.

Watch Your Step

The following letter from a subscriber in Trempeleau county is interesting. Those of our members who do not agree with the editor in the answers given are urged to send in criticisms for publication.

"In Stark Bros. catalog under their description of Wilson Red June is the following: "Wilson Red June grown at Sturgeon Bay were very fine. We certainly have something worthy of our attention," and your name attached thereto. Do you think the Wilson Red June is a good apple to plant in Wisconsin commercially? Can you furnish me the names and addresses of those who are growing them?"

"An early apple that is a good eater and red is most desirable provided it will stand Wisconsin climate and bear enough to be a profit commercially. I understand the greatest objection to Liveland Raspberry is its tendency to be a shy bearer. The earliness and quality of this apple would make it an ideal early apple were it not for this. Who in the state has these in any number.

Following is a list that I would like to plant in my new orchard. I would appreciate your comments on this list with subtractions or additions as may be your opinion."

(1) Wilson Red June.
(2) Liveland Raspberry.
(3) Duchess.

(4) Okabena.
(5) Wealthy.
(6) Femeuse.
(7) McIntosh.
(8) Grimes Golden.
(9) Stayman Winesap.
(10) Golden Delicious.

"Do you think that correct cultural practice, fertilization and spraying, in other words, keeping the tree in the healthiest condition possible, will add to the life of trees like Grimes Golden and others that may not be as hardy as Wealthy and Duchess. Opinion seems to vary greatly as to what varieties to plant in Wisconsin for a commercial orchard."

The street cars in our city have signs "Watch Your Step." Every person in a public position should post a similar sign over his desk, also carry one in every pocket. About five years ago the writer received (from Sturgeon Bay, for identification), samples of a fine appearing summer apple. Entertaining a suspicion that it was Stark's Wilson Red June, the box was forwarded to that firm with the casual remark that the specimens were grown at Sturgeon Bay and were "very fine indeed; something worthy of our attention," meaning that we ought to follow up the apple, learn more about it, etc. From this letter a single sentence was taken without its relation to the balance of the letter and made to appear as my endorsement of the variety.

I know nothing of the apple in question except as stated above. I have never seen it on exhibition or offered for sale in Wisconsin. I have no reason to believe that it has ever been planted in this state except in an experimental way. I protested vigorously the Stark Bros. statement in their catalog but without effect. So again we say, watch your step, always. We will be pleased to hear from any one in Wisconsin who knows about the Wilson Red June.

Concerning the list of varieties, opinions are solicited from members. While waiting for them we suggest that Numbers 1, 8, 9 and 10 be dropped from the list. Numbers 2 and 4 will probably be dropped by others. Liveland is a trifle earlier than Duchess but will not bear as many apples per tree nor is the fruit as attractive or popular as the Duchess. The Okabena has only a stepmotherly affection of most growers, but in northern Barron county it seems to grow to perfection, and is highly prized.

In southern Wisconsin it is usually cider stock.

No we do **not** believe that "correct cultural practices, fertilization and spraying" will add more than five minutes to the life of trees of Grimes Golden and others that may not be as hardy as Wealthy and Duchess. We will leave to the scientists to tell why but in the meantime we must accept the evidence at hand. At the same time we lack proof of the assertion that top-working tender varieties on Hibernal or other stock insures hardiness of the graft.

P. S. I have just received a report on Wilson Red June. There is one tree on Washington Island, Door County. If any one knows of other trees in Wisconsin, please report. Editor.

Roses should be either buried in the earth or laid on the ground and covered with straw and otherwise protected to keep out moisture.

Early Apples Win.

For many years we have been preaching the gospel of planting early-maturing apples in Wisconsin—Duchess, Wealthy, McIntosh, etc., in preference to winter varieties. A member who lives in Manitowoc county accepted this advice rather reluctantly several years ago and now writes:

"I am going to set out more trees next spring of which a considerable amount will be of the early varieties. I find that the market has gradually and is still improving on these since I set out my first orchard. Kindly tell me what you think of the following varieties as to quality, yield and adaptability: Liveland Raspberry, Wilson Red June, Duchess of Oldenburg. Later varieties—Fameuse, Stayman Winesap, Forest Winter. Yellow Transparent not considered on account of its blighting habit.

N. H. B., Manitowoc."

In regard to Liveland and Wilson Red June, see article "Watch Your Step," in this issue. Study your home market carefully before planting heavily of Duchess. Formerly "home market" meant the nearest city, but in these days of concrete roads and motor trucks it may easily be enlarged to include one or more counties. Forest (drop the "Winter") has not been widely tested. Plant McIntosh, Fameuse, Wealthy and then a few more McIntosh.

A crate of celery grown on a market garden in New York state was one of 260 taken from a half acre of irrigated celery land. The total sales from the half acre amounted to $585; the total cost of growing was $240.66, leaving a profit of $344.34.

Birds Kill Many Injurious Insects

Mobilization of the wild birds, an army of the air that allies itself with man to fight crop pests, nearly always follows the presence of large numbers of insects that prey upon growing plants. Their aid in stamping out the menace is almost incalculable, says the Biological Survey, United States Department of Agriculture in Yearbook Separate, "Farm Help From Birds." Some illustrations of what the birds have done are cited by the department, as follows:

On one Utah farm infested by the alfalfa weevil, English sparrows alone in one season fed to their young, it is estimated, 500,000 of the pests, making them about one-third of the diet of the growing birds. Sixty-six kinds of birds feed on the cotton-boll weevil, the greatest feathered enemy of this pest being the orchard oriole. A single stomach of this kind of bird contained, upon examination, forty-one boll weevils. The green bug or wheat aphis also—but let the department tell the story:

"On a 200-acre farm in North Carolina, where wheat, rye, and oats were severely attacked by green bugs, it was found that the birds were very effective in destroying the pests. The outbreak was at its height during the migration season of such birds as the goldfinch and the vesper and chipping sparrows, which with other species on the farm numbered more than 3,000 individuals. It was found that these birds were destroying green bugs at the rate of nearly 1,000,000 a day, and on days when additional flocks of migrants were present this destruction was doubled. During the season such numbers of birds flocked to the grain fields that the aphis infestation was reduced to an incalculable number."

Hardly an agricultural pest exists, the department states, but has numerous effective bird enemies. For instance, twenty-five kinds of birds are known to feed upon the clover weevil and a like number on the potato beetle, thirty-six on the codling moth, forty-six on the gypsy moth, forty-nine on horseflies, sixty-seven on billbugs, eighty-five on clover-root borers, ninety-eight on cutworms, 120 on leaf hoppers, and 168 on wire worms.

"A classic instance of the concentration of bird attack upon an army of insect invaders," the department says, "occurred during

the severe outbreaks of the Rocky Mountain locusts between 1865 and 1877. So numerous were these voracious pests that many places visited by them were denuded of every green thing. A thorough investigation was made of the relation of birds to the outbreak, and it was found that practically every species, from the largest birds of prey to the tiniest humming birds, from ducks and other aquatic fowl to typical bird denizens of the dry plains, turned to feeding upon locusts. In fact, most birds gorged themselves with this abundant supply of food, and in so doing were the means from destruction."

What Is the Value of a Flower Garden?

Sometimes a flower garden may yield financial returns to its owners, always it's a source of comfort and often, far oftener than we know, a source of pleasure to others. When we grow flowers we never quite know how far their fragrance and beauty may reach. Here is an example, taken from the Milwaukee Journal:

In August, 1920, the Journal published a picture of the garden behind the sign board at 315 Reed street, with the "Lady of the Garden" amid her flowers. She is Mrs. Jane Richardson, and to her recently came a letter from New York. It was from a "Milwaukeean away from home." He wrote:

"My Dear Lady of the Garden: In my happy days in Milwaukee I used to pass your garden each morning on my way to work, each evening as I plodded home. Peeking around the sginboard, I caught a very limited view of its sunlighted stretches of flowers and its carpet-like grass of glorious green.

"One day I was called to New York to take a position of responsibility. And sometimes, wearied with my burden, my thoughts have rushed to the quiet days I spent in the pretty city by the lake. At such times I often go to the New York public library and taking down a bound volume of Milwaukee papers, I let them carry me back to the old days.

"And there in an old copy of the Journal, the other day, I suddenly came upon the picture of you and your garden!

"I want you to know that way off in New York is someone who

(Continued on page 92.)

THE INSECT PAGE

Edited by E. L. Chambers, Assistant State Entomologist

Control Cabbage Maggot With Corrosive Sublimate

Probably no insect pest of the cabbage, cauliflower or radish has been responsible for so much damage and heretofore been so difficult to control as the cabbage or radish maggot infesting the roots of the above. Experiments conducted by J. J. Davis of the Indiana station during the past year, according to the Indiana Extension Leaflet No. 123, have demonstrated the practicableness and effectiveness of the corrosive sublimate treatment against this pest. The corrosive sublimate remedy is applicable in the home gardens as well as commercial plantings and its use in Wisconsin will prevent at a small cost the loss of thousands of dollars resulting annually from the maggot.

Life History and Habits

The flies issue early in the spring, in 1921 by the middle of April, and immediately begin laying eggs about the base of its host plants, usually in cracks and crevices or on the stalk of the host itself, but always at or just below the surface of the ground. The eggs are small and elliptical, but are plainly visible because of their pure white color, contrasting with the color of the soil and surroundings. The maggots hatch from the eggs in four to six days, as a rule, and immediately begin eating into the root tissue, tunneling and girdling to such an extent as to stunt and often kill the plant. The maggots mature in three or four weeks and leaving the root, pupate in the soil. The adult fly issues two or two and a half weeks later. Thus the total cycle may average nearly two months.

There are probably three generations in Wisconsin. However, the first generation of maggots is mostly destructive, the others, particularly the third being of comparatively little importance. The winter is passed in the puparium stage, the puparium being a brown elliptical object to be found in the soil near the roots of its host and usually within a couple of inches of the surface. This is the intermediate stage between the maggot and the fly stages.

Treatment Recommended

The solution used is prepared by dissolving in a glass or earthenware dish one-half ounce of corrosive sublimate in a pint of hot water and then diluting to five gallons. This amount will treat two or three hundred plants at a cost of five to ten cents for the material, per application. Apply soon after setting out or as soon as the small white eggs are observed at the base of plants and again about twelve days later. Pour about a half a teacup at the base of each plant. It is not usually necessary to treat late cabbage transplants. Late cabbage in seed beds can be treated as for early cabbage transplanted, except pour along the rows with a sprinkling can from which the rose has been removed or other vessel which will give a small stream.

For radish, apply along the row as for maggot in cabbage seed beds, using about one gallon to each thirty-five feet of row. Usually one application is sufficient for radish, applying after the radishes are above the ground, preferably within a few days after the eggs are observed.

It is also possible to use dust applications, applying a small amount, about a tablespoonful of the mixed dust at the base of each plant. This dust is prepared by thoroughly mixing one ounce of corrosive sublimate with six pounds of hydrated lime or gypsum. This dust should not be applied in seed beds, as it may burn the very small plants.

Caution: Corrosive sublimate is a white powder which corrodes metal and is very poisonous, hence must not be used in metal containers and must be kept out of reach of children and others not recognizing its poisonous nature. When used as recommended it will not poison plants nor make them unfit for consumption. Corrosive sublimate is a common drug and can be purchased at any drug store.

Get manure now for next year's garden. It will be hard to get in the spring.

What is the Value of a Flower Garden?

(Continued from page 91.)

was glad to see your garden and to know who owned it.

"An Absent Admirer of Your Garden."

Have you a boy or two in your home? Quite likely they will pretend to despise flowers and flower growing, thinking it manly to do so, thinking that sort of thing is for girls. Don't be deceived. The boy will think of the roses or the hollyhocks in mother's garden when much else has been forgotten.

How Many Bushels of Strawberries Per Acre?

(Continued from page 87.)

ord crop. It was seeded to clover August 1 last, and by plowing under next spring I think I have the ideal condition for strawberries.

Who can beat my record for husking corn—22 bushels in four hours, tie the stalks and place the corn in the wagon? I am 54, don't drink tea, coffee or alcohol or use tobacco.

F. E.

"About the Birds"

Far be it from us to belittle the good done by our friends, the birds, whose diets are made up to a greater or less extent of bugs. However, we feel that the conclusions drawn in an article appearing in this same issue entitled, "Birds Kill Many Injurious Insects," is misleading. Granting the figures to be correct as given, we feel that with the bird population already greatly reduced and still on a decline that as bug exterminators, they have long since reached their height and although they may continue to eat enormous numbers of insects, yet in comparison with the number available for their food, they no longer occur in sufficient numbers to be counted upon for more than an occasional instance of control.

For Sale: A good-as-new berry box wire stapling machine, adjustable to fit any size box. Wire enough for car load of boxes. $15.00 for both.—N. E. France, Platteville, Wis.

A potted plant, a few flowers or a pot of flowering bulbs make suitable and much appreciated presents on holidays or birthdays.

Report on Iowa State Horticultural Society Convention.

Prof. J. G. Moore, Delegate.

I am herewith submitting report as a delegate to the meeting of the Iowa Horticultural Society.

There are four things which I believe should be mentioned in this report. The first thing which impressed me was the form of organization of the Iowa society. In reality it is an affiliation of a number of separate societies which deal with horticultural subjects or those closely affiliated with horticulture. Some of those represented are vegetable growers, florists, nurserymen, beekeepers, fruit growers, etc. Each of the affiliated organizations elects a member on the board of directors. Additional members to the board are elected at large. Each of the organizations holds its own meeting. In the past these meetings have been held largely at other times than that at which the "society" meets. There is strong sentiment, however, to have meetings of affiliated societies held at the same place and the same week as the Horticultural Society meeting in order to increase the attendance upon the latter. In talking with some of the men they thought highly of this plan of organization after having tried it out for two or three years.

The Iowa Society shows considerable interest in nut culture. Some very interesting reports on the work done, hardy varieties and the possibilities of nut culture in Iowa were presented at the meeting. Two things of particular interest were the hybrid between the hickory and pecan which seems to give much promise and in some selected and improved strains of the shag bark hickory. The persimmon and its possibilities also received considerable consideration.

The serious losses due to frost injury in Missouri, Southern Iowa and other sections has led to serious reflection on the part of fruit growers and horticulturists alike. An entirely new note as to policy was voiced in a paper by Prof. V. R. Gardner, of Missouri. The subject under consideration was the advisability of the orchardist diversifying his interests. It seemed to be Prof. Gardner's thought that in many instances at least some other phase of Agriculture as an adjunct to orcharding would be advisable in providing against the very serious financial conditions frequently occasioned by the entire loss of the fruit crop. This raises anew the question of the advisability of the commercialized farm orchard, or possibly we might say a "farmerized" commercial orchardist.

After hearing the paper one is forced to concede that there are arguments for this policy as well as against it.

There was only a meagre display of fruit. Some flowers and forcing house vegetables were on display.

Report on Illinois Horticultural Society Convention.

H. C. Christensen, Delegate.

The annual meeting of the Illinois State Horticultural Society was held at Champaign, Ill., December 20th to 22d. The sessions of the society were held in the Elks Club, while the exhibits of the society were placed in the old dining room of the Beardsley Hotel, the society having its headquarters there.

Although the late freeze of last spring was supposed to have practically destroyed all of the fruit, the exhibit was large and of fine quality. There were fine displays of Jonathans, Ganos, Imperials, and Grimes Golden. Northwestern Greening was the only Wisconsin favorite that was at all in evidence. A large display of hybrid chestnuts by Mr. Riehl, of southern Illinois, was very interesting. The university had a display of greenhouse vegetables and local gardeners showed some fine dry vegetables. The State Entomological Department had an exhibit of insects injurious to fruit and fruit trees.

The Illinois society is composed almost entirely of orchardists so the program was given over to orchard topics to the exclusion of other horticultural topics. In listening to the discussions, one is impressed with the fact that the Illinois grower has more difficulties to contend with than does the Wisconsin grower. The San Jose scale is proving a very serious pest. The fact that it was not yielding to spray control as it was hoped it would was laid to the fact that the spray was not being applied thoroughly enough rather than that the strength of the lime-sulphur solution, as recommended by the university, was not sufficient. Brown rot, shot hole and collar rot were proving destructive. Methods of cultivation and fertilization were discussed. Clean cultivation with a cover crop gave the best results and the application of a complete commercial fertilizer proved profitable. The extra growth of the cover crop added humus to the soil.

Mr. Durst, of Chicago, gave an illustrated lecture on co-operative fruit exchanges in the East and Middle West. Many of them were proving succesful. The Door County Fruit Growers Exchange was cited as a fine example. In the matter of the fumigation there seemed to be a diversity of opinion. The greater number held to the opinion that the damage to fumigated stock was often of more serious consequence than the possibility of the introduction of scale into sections where it was already present. The

decline in the number of bearing fruit trees as reported by the last census was commented on as favorable to the establishment of new orchards. A pleasing part of the program was the entertainment given Wednesday evening by the students of the Horticultural Department of the University. A program of musical numbers and humorous selections was given after which refreshments were served.

The Secretary of the society is only giving a part of his time to the society, but they are hoping for an increased appropriation so that he can devote his full time to the organization.

SUPPLEMENT TO
WISCONSIN HORTICULTURE
BEEKEEPERS SECTION

AMONG WISCONSIN BEEKEEPERS

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

PRESIDENT'S ADDRESS

Sister and Brother Beekeepers:

(Tempus Fugit.) It seems only yesterday that we were assembled at Madison in our last annual conclave repairing the foundation of this organization or building additions thereto where needed.

It is gratifying to see so many of our members present and I feel that as the years pass that each succeeding one will bring a larger number together, due largely to the eagerness for better understanding, now that the business is becoming an important asset to the state.

A person is not often indicted for divulging his own age, therefore, I may say that this grand organization and your president were both born in the same year, 1878, both of homely parentage, but by the usual caressing and fondling, and by the good grace of the Almighty, we have been granted a lease of life somewhat in advance of the average.

It is with fond respect that I look at my brotherly organization, and as I read its early history and see how its founders struggled and vied with each other to gain for this association a position that would command recognition and respect. Their labors seemed almost fruitless at times, yet they clung to their honest convictions and gave the best there was in them. I sincerely hope that what we have gained by their work will be added to by each one of us and that we can all do our bit to bring this organization to a state of greater perfection.

There is invariably a period of lull in the development of every association and there is no exception with this one. Perhaps in the past we have been a little too conservative, but thanks to some of our newer members, we have taken on new life and we are on our way to a complete recovery, and when I tell you that the honey industry of Wisconsin ranks among the first ten, all things considered, you may well judge the situation for yourself.

I am pleased to note that at the opening of this meeting, our membership had mounted to 783 and is still going up. The county organizations are all getting stronger and their demands for the aid from the state have been coming in numbers. This is largely due to the fact that the beekeeper has at last come to realize that the bee business is one in which he cannot go single handed to a success. His co-workers are socially inclined at times, so much so that they will at times visit their neighbors in large numbers and really forget their manners by breaking the seventh commandment of God. Now, this is not so bad, but every beekeeper knows they frequently bring other things home with them which do not spell honey, but bring grief and disaster instead. We now realize that unless Mr. Neighbor Beekeeper is brought under control, as well as ourselves, destruction will be the next visitor. It is this that has brought every beekeeper to his knees, first asking, now demanding, that they, too, be brought under control, in order that they may all survive. Think you, beekeepers, what it would mean if all of the affected area were cleaned up and kept that way.

This is exactly what your officers have had in mind for the past few years, knowing full well what should be done, but they could only move at a snail's pace for want of money to defray expenses.

At the last annual meeting your board voted to ask for an appropriation of $15,000.00 for two years to place the work of cleaning up badly affected areas on a good footing. After a vigorous and hard-fought campaign with members of both houses and the governor, first by letter, then by personal appeals of your secretary and myself, we finally secured $21,000.00 for two years. This will enable us to make a very good showing, although not as good as we expected.

The main issue with our governor was the curtailment of the expenses, but when we were able to show how the beekeeper had suffered and that the number of colonies in the state had been reduced from 105,000 swarms in 1915 to 47,000 swarms in 1920 and honey production in like proportion, there was no room for doubt as to necessity for some assistance. We were able to show that, had we been given the same assistance as other lines of agriculture received, we would have increased at the rate of 10% a year or would be producing 100 million pounds in this state, thereby ranking far ahead of all others. I am satisfied that our friends at Madison quickly saw the great loss in taxible property as well and they may well consider this angle, for it is an important one.

Why should not our bees be given the same protection as is given to cattle, horses, swine and sheep? We have not asked for reimbursement of loss by condemnation through inspections, but we do demand that we be given the aid to successfully carry on a legitimate enterprise of the state.

It has long been a recognized fact by food specialists that nowhere can you find a food so highly concentrated and so absolutely pure as honey, but this knowledge has been a dormant factor as far as the consumer in general is concerned. Honey has been used to a large extent in a medicinal way, but is looked upon as a luxury by the layman, while in reality it is an uncommonly good food.

Here we are assembled with stores of knowledge concerning a food for which our bodies crave, yet it is only in the last year or two that any real attempt has been made to get this knowledge spread before the public in general.

Now, then, what have we been doing of late to get the consumer out of this notion and old way of thinking? Many things, of which the two most pronounced are, creating consuming markets and better production simultaneously. The consumption being handled by national and state organizations through strong advertising mediums, while the production is looked after by the state organization. The two, however, are so closely allied that oftentimes they lap over into one another. Production should lead; therefore, protection to the producer must be animated.

I was very sorry indeed that I could not attend the Chippewa Falls meeting in August, but have been told by members attending that you had a very successful meeting. This is the one time where business and pleasure can be mixed. I am told our next Chautauqua will be held in Green Bay next year, and while I have the opportunity I want to repeat what my townspeople have already told you: "Come over to the 'Pride of the North,' Green Bay." What we might lack in some things we will try to make up in others and see that you at least get a fair shake.

The program as outlined for the

coming winter schools has been given a great deal of attent.on and clearly denotes that a great deal of benefit is going to be derived from our university staff in beekeeping. Every organization in the state must of necessity see that a fine attendance is brought out at their respective meetings, for in these meetings lies the success of the industry, both state and national, and, as stated before, I am convinced that the beekeeper can no longer feel himself above master of the situation.

In closing, I want to caution every county organization to be very careful in making purchases of supplies, as nothing but the best of material can bring a satisfactory success.

L. C. Jorgenson.

Note correction—**F. F. Stelling** instead of S. F. Stelling, president.

Our New Officers

With the exception of the treasurer, Mr. Aeppler, we have an entire new set of officers for 1922, and it behooves us all to get in behind them to build up a bigger and better association. No matter how hard our officers may work, they can do nothing unless the beekeepers co-operate with them both financially and otherwise.

Probably more trials and tribulations fall upon the secretary than on any other officer and it is only those of you who were able to attend the conventions of the past few years that are acquainted with the new secretary. We take the liberty of inserting a picture of her at work among her bees.

The new secretary believes that the enrollment for the state association should be **2000** and she asks every beekeeper to help in building up to **1000** for 1922.

Have you sent in your subscription for 1922? Will you help the secretary and the state association by sending in at least one new member?

In the March issue we will give a list of all the local associations with the number of state members in each.

Mr. R. J. Martins, Vinita, RFD 2, Oklahoma, has 100 colonies of bees which he would like to move into northern Wisconsin this spring. Any Wisconsin beekeeper who would like to go into partnership with him should write this office.

A RESOLUTION

At the annual meeting of the Fox River Valley Beekeepers' Association held on December 3, 1921, at Appleton, a resolution was passed requesting you to take charge of this work.

Whereas: There is still some unripe honey being marketed by some beekeepers, and

Whereas: This practice is unfair and very harmful to the industry,

Therefore, Be it resolved that Professor H. F. Wilson be requested to conduct experiments to determine how long honey must be left on the hives with the bees so that the honey will weigh twelve pounds to the measured liquid gallon. Also to record the amount of moisture in honey that is just sealed by the bees. The same a week later, again two weeks later, again a month later, again six weeks later. General conditions of colonies and weather conditions to be recorded in conjunction with the experiments. Samples of each experiment to be reserved and watched to see if moisture separates and comes to the top of the container. By submitting samples to determine if there is a marked difference in the flavor in connection with the degree of ripeness. Results to be published.

Respectfully submitted,
(Signed) Edward Hassinger, Jr.,
Secretary-Treasurer.

In this connection beekeepers of the state are urged to send in samples of honey from all parts of the state so that a survey can be made. Please label carefully and give source of nectar.

WEST VIRGINIA BEE MAN TOO ENTHUSIASTIC

At the last session of the West Virginia legislature a bee enthusiast introduced an apiary inspection bill which he succeeded in getting passed before it was given careful consideration. Section 3-a of the bill provided that no honey could be sold in the state unless it bore an inspection certificate showing that the apiary from which it came was free from contagious bee diseases.

As it was obvious that this would prevent the sale of any commercial bottled honey in the grocery stores of West Virginia and would tie up large quantities of honey produced by apiaries with only a slight infection, the undersigned recently sent an inquiry to Mr. M. K. Malsolm, the state apiarist of West Virginia, regarding its enforcement. A reply has recently been received stating that the author of the bill was too enthusiastic and that this particular section is not being enforced. The state apiarist will ask for its repeal at the next session of the legislature.

Where bee disease is being distributed by the sales of honey from infected yards as it is in Wisconsin, a requirement somewhat along this line is often suggested. No one has yet discovered a practical way of enforcing it, however, and for the present we shall all have to protect ourselves as best we can against losses incurred by the throwing out of containers of infected honey. S. B. Fracker.

BETTER MARKETING

By W. T. Sherman

My subject of better marketing was brought to my attention by a conversation had with one of the large exhibitors at the state fair, and also by reports of low sales that came to me, and by the advertised offer to fill even any small order by mail at prices that must leave the producer nothing on which to build a future business. My experience has been that any business to succeed must be compensating to a degree that all expenses be met, the owners of the business to have salary enough to give inspiration for better efforts. Then let us make the business of beekeeping a hobby, and keep the vision of our ideal far ahead or high enough up so we will be continually striving for "better markets;" also to be a better beekeeper.

In talking with this large exhibitor at the state fair he said: "We should put the price of our product, honey, down so the poorer people could buy." I have since then thought about this a great deal and must frankly say I wonder why? Shall we lower the standard of honey in the minds of the medium and wealthier class of people that a very few of the poorer class might buy? I believe we have been going in the wrong direction long enough, for the class of people who buy a large part of our honey recognize it as a high-grade article of food which should very reasonably command a good price. The poorer class of people largely make their comparisons by the cost price rather than by the extremes in quality Take a pail of Karo Corn syrup and a pail of any of our white honies and almost anyone will tell you there is no comparison as to quality—the honey is so far above as to be in a separate class; and yet, please tell me why there are

some who claim to beekeepers who will advertise to sell, and some even spend their time in peddling this product of their labors in competition with Karo corn syrup? Have not these people pulled down their standard of an ideal, and are they not lowering the standard of value of honey? Who as a class are largely responsible for keeping the movie shows going? Is it not the poorer class, and ones who might use their limited amount of money to far better purposes. Would we not be doing ourselves, as well as all other classes of people who possibly might think honey too high, a good turn by bringing to them advertising in such a convincing way that they will see the wide difference in qualities of cheap syrups, as compared to the delicious and also health-giving qualities of our honeys? I believe this may be done to such a point that we shall need to produce more honey to meet the demand, and at a price that shall pay us for our labor and have a margin to build a better business on.

I feel certain that to lower the price of honey to such a level as offered by some would be to lower its value to such an extent that the wealthier class would largely say, "Well, if the honey is worth no more than that I might as well buy any cheap sweet and one that is easier to secure.

In engaging in the bee business I have read nearly all the literature on the subject of beekeeping, and have endeavored to pick out and use such methods of the best and most successful beekeepers as I could, always believing our business capable of being lifted up to a much higher plane of prosperity and usefulness; and must we not strive by helpful articles in our journals and by the companionship of our co-operative societies to elevate the standard of our ideals of our brother beekeepers.

I believe those beekeepers who have drifted down to the bottom in a business way are the present great detriment to better marketing.

Better business people are quick to recognize sound business principles in anyone, and to go to a beekeeper to buy some honey and have him quote a price that will make the people wonder why, will cause them to think something is wrong with the business or the honey. Shall we not be helping to create a better market for our honey by boosting our co-operative society, by helping these societies with all the advertising they can afford to put out, and by local advertising in our country papers. Not just to advertise to sell honey for a lower price than someone else, but to bring out its desirable qualities, make people really believe it is good and healthful to eat, and they will order first and pay second rather than asking to know the price first. Then better marketing must mean **Better Beekeepers, Better Methods, and Better Business Ideals.**

REPORT OF C. W. AEPPLER, TREASURER

Dec.	7	To A. C. Allen	$ 179.12		
"	18	By Mrs. Hildreth		$	15.00
"	18	By Mrs. Hildreth			40.00
"	18	By The Print Shop			19.25
"	18	By Dem. Print Co.			20.79
"	18	By Dem. Print Co.			29.70
Jan.	10	By R. R. Runke			21.89
"	10	To A. C. Allen	300.00		
"	31	By Mrs. Hildreth			10.00
Feb.	5	To H. F. Wilson	409.50		
"	7	By H. F. Wilson			53.85
"	7	By Sec. Hort. Soc.			320.00
"	26	By H. F. Wilson			49.00
"	26	Mrs. Hildreth			10.00
"	26	By Wisc. Hort.			39.50
Mar.	21	By Wisc. Hort.			20.00
Apr.	2	By Wisc. Hort.			21.00
"	7	By Mrs. Hildreth			10.00
"	18	By Wisc. Hort.			7.00
May	5	By Mrs. Hildreth			10.00
"	5	By Wisc. Hort.			4.50
"	25	By Wisc. Hort.			7.50
"	28	By Mrs. Hildreth			10.00
June	8	By Mrs. M. White			5.00
July	2	By Mrs. Hildreth			10.00
"	22	To H. F. Wilson	224.00		
"	23	By Wisc. Hort.			4.50
"	23	By H. F. Wilson			17.01
"	23	By H. F. Wilson			37.00
Aug.	1	By Mrs. Hildreth			10.00
"	13	By Blied Printing Company			30.44
"	31	By Mrs. Hildreth			10.00
Oct.	15	By Mrs. Hildreth			10.00
"	17	By H. F. Wilson			32.25
"	11	To H. F. Wilson	15.00		
Nov.	9	By Mrs. Hildreth			10.00
Dec.	2	By Mrs. Hildreth			10.00
			$1,127.62	$	905.68
		Balance on hand		$	221.94
			$1,127.62	$1,127.62	

WISCONSIN STATE BEEKEEPERS' CONVENTION

Milwaukee, Dec. 8-9, 1921.

Counties represented, 22. Total number of colonies represented, 3,373.

County	Registered	Col.	Average per
Milwaukee	11	607	55
Waukesha	10	393	39
Dane	7	285	41
Dodge	7	176	25
Sheboygan	5	443	89
Ozaukee	4	178	44
Jefferson	4	124	31
Brown	3	110	36
Washington	3	122	41
Fond du Lac	3	178	59
Green	2	150	75
Outagamie	2	455	227
Sauk	2	100	50
Shawano	2	70	35
Crawford	2	173	86
Manitowoc	2	62	31
Racine	1	45	45
Richland	1	40	40
Iowa	1	60	60
Kenosha	1	2	2
Price	1	76	76
Douglas	1	10	10
Total	75	3859	

Average per person, 51.

Out-of-State
Illinois 3
Ohio 1

Attendance—

	A. M.	P. M.	Evening
Thursday, Dec. 8	85	140	108
Friday, Dec. 9	110	90	

SUPPLEMENT TO
WISCONSIN HORTICULTURE
BEEKEEPERS SECTION

"ADVERTISING"

James Gwin, Gotham, Wis.

A progressive beekeeper has always two important things in view: first, control with an aim to eradicate foul brood; second, disposing of his or her yearly product.

The beekeepers and the state have spent wisely much time and money on the foul brood plague, while the way of selling the honey has been badly neglected. Foul brood allowed in a yard for a number of years is a very bad advertisement for the sale of your honey.

As we ride along our national, state and county highways our attention is frequently called to large bulletin boards, advertising cigarettes, cigars, chewing tobacco, patent medicines, etc. As we pass by a well-maintained farm we see fastened to the fence or gate post tin placards advertising the American Fence Co., or Apex fencing, or this farm is equipped with a Sharples milking machine and other advertisements of this kind.

Now, my fellow beekeepers, how many miles will you travel before you will see this advertisement: "Honey for sale?" How many grocery stores will you enter before you see this placard: "Eat more good honey?"

The Richland County Beekeepers' Association expects next season to purchase one hundred or more placards 12x15 inches with this attractive lettering:

EAT!
GOOD HONEY
AIDS DIGESTION!

Richland County Beekeepers' Association

These placards will be sold or given to the members, whose duty it will be to see that one is posted in every business house in the county. The thing we aim to do is to convince the consuming public that we have an article for sale of which we are not ashamed.

It would be profitable if every beekeeper would keep a mailing list. When he takes off his first crop of honey have printed leaflets or post cards ready to send to his regular customers telling the kind, quality and price of his product. The quality **must never** be exaggerated. You will be surprised at the number of sales you will make by this plan, for we show in this way that we have a personal interest in our customers.

Gwin's Apiary and Poultry Yards is located on Nos. 11 and 60 State Trunk Highway. A bulletin board 6x10 feet is being constructed. On top of this board, and separated from it by a two-inch space, is a board ten inches wide and full length of the main board. Upon this is printed in large letters "EAT MORE GOOD HONEY."

EAT MORE GOOD HONEY
Gwin's Apiary and Poultry Yards.
Extracted honey guaranteed pure.
SINGLE COMB WHITE LEGHORNS
Heavy winter laying strain.
Jas. Gwin -:- Gotham, Wis.
FOR SALE
Any Article.

You will note, ladies and gentlemen, that I have through these ways of advertising emphasized the word "GOOD" honey. And right here let me take the liberty to say: the consuming public would eat nearly double the amount of honey if they were sold good honey instead of the "trash" they buy.

Every beekeeper should have letterhead stationery. It need not be expensive. It should indicate honesty and quality. I received an offer from a Madison firm of twenty-five cents per pound for a ton of 1920 crop of honey. I had written to one of their employes. Honey was not mentioned in the letter. Both firm and employe were strangers to me. This inquiry was taken from a letter head.

Our newspaper advertising is badly neglected. If we were to have a beekeepers' meeting the editor will advertise it gratis. He will give us almost unlimited space for an article on the subject of "Honey as a food," for such an article is a benefit to the public. These liberalities should draw the publisher a few advertisements. If we expect the press to help us, and we cannot get along without it in this advertising campaign, we must give some compensation. All work and no pay makes an editor a bad boy.

If you have a successful way of advertising do not discard it. Add other ways to it. I am not unmindful of the fact that there are those present who will say, "I have no trouble selling my honey." Neither do I. That is not the point. The consuming public should and would eat double, yes, triple the amount they do, and at a higher price, if they knew that honey was a necessity instead of a luxury.

Ladies and gentlemen, I have given you just a few of the many ways of informing the consuming public that you have honey for sale. My subject is advertising and there is only one way in a broad sense to advertise honey. That is by good, thorough, honest education of the food value of honey. I do not believe my statement will be challenged when I say: that ninety-eight per cent of the people of Wisconsin do not know the value of honey as a food, and why? Because they never have learned its value. People will buy the things they know to be valuable. The time should not be far off when the prices of eatables will be based upon their respective food values. That is when honey will come into its own. I know of fair-sized families who are satisfied with two ten-pound pails of honey as a yearly supply, when they should use at least two sixty-pound cans. How, then, shall we go at this educational work? "Charity begins at home." The beekeeper must first learn for himself, then go forth spreading the gospel of honey. I do not mean to burden the secretary of the state beekeepers' association, but I believe he will make a great stride for the good if he will write an article on the subject of honey as a food and cause the same to be printed in every newspaper in the state. This work could be done through the affiliated associations or in any other way most desirable to him.

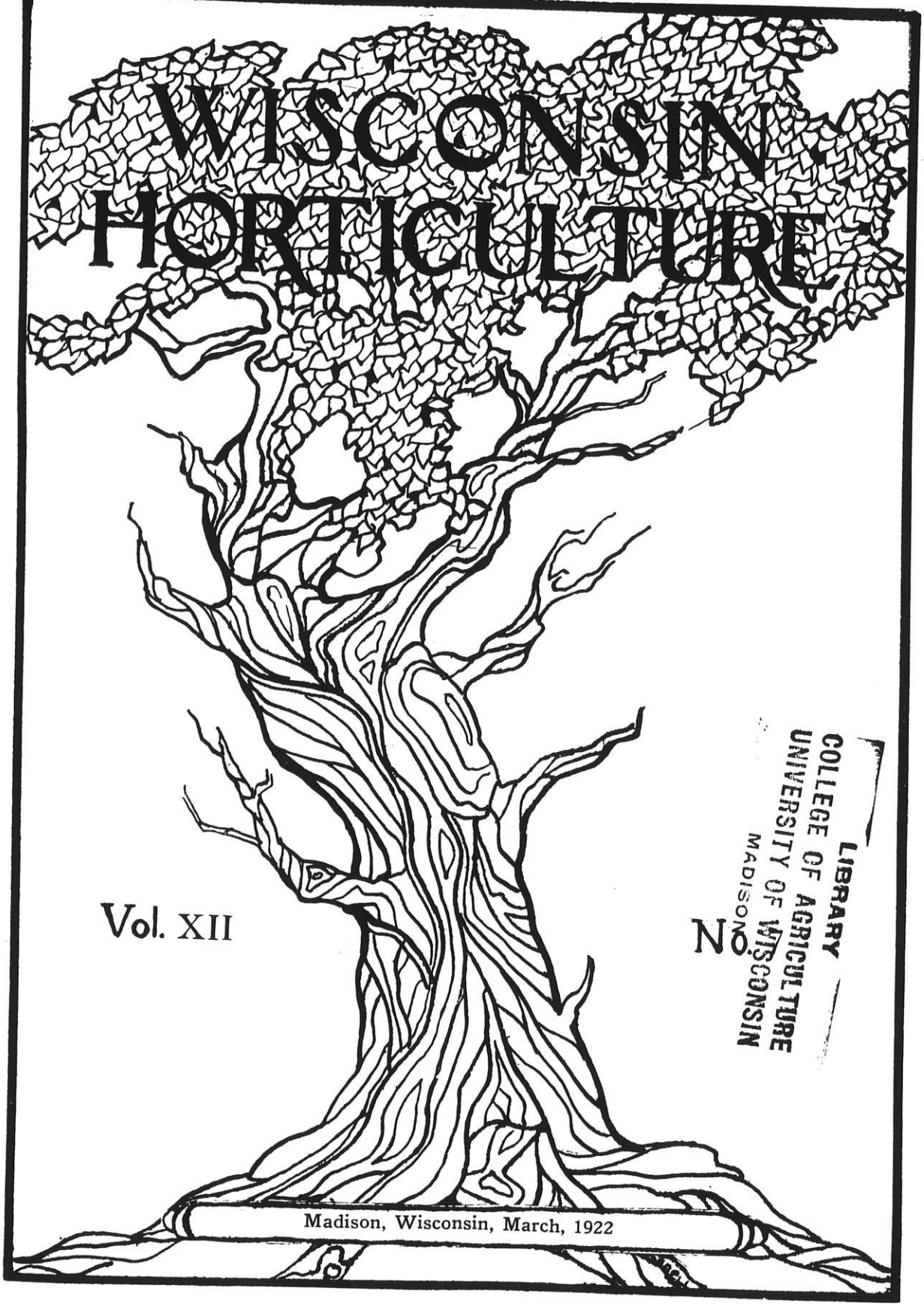
This convention should pass a resolution requesting the Extension Department of the State University to put on the Farmers' Institute force someone who will present the subject of honey as a food, and the value of bees to agriculture and horticulture.

Every county fair should have a honey and bee exhibit, patterned after our state fair exhibits. Quantities of honey should be on sale, but we must not lose sight of the educational work. A few minutes' talk should be given every hour on the subject of honey as a food. Exhibitors should do their utmost to get everyone present to view the display. Be very courteous, explaining the workings of the bees in the observation hive. Get them interested, but do not expect everyone to buy a sixty-pound can of honey. At this fair is an ideal place to post your placards. It is an ideal place to swell your mailing list. It is an ideal place to use all your forms of advertising and get acquainted; but do not forget to talk honey.

This advertising campaign should be followed all the year. You will say: "But I have sold my entire crop." That is where the selling trouble comes in. You will sell your entire crop within three months after it is produced, while honey should be consumed all the year. Each beekeeper should carry over a few hundred pounds to hold his home customers. If this advertising campaign is to do you any good you must hold your trade. You cannot be sure of this trade if you are out of the goods nine months in the year.

The last and most important phase of "Advertising" is "Honesty." Sell only the article you represent. Get the confidence of the people. Avoid emotional advertising. Avoid running down your competitor and his business. Those things get you nowhere. Make your customer satisfied, if he is worthy of satisfaction. It will do no harm to give overweight; but "DON'T" cut your prices.

WISCONSIN HORTICULTURE



Vol. XII

No.

Madison, Wisconsin, March, 1922

Dahlias

J. T. FITCHETT
(Read at Annual Convention.)

Since the days of Cain and Abel the human race has been divided into two groups—horticulturists and others. So flowers may be divided into two classes—dahlias and others. Our Secretary has assigned me the topic of "Just Dahlias, Nothing More."

Five years ago, from this platform I made the assertion that while neither a prophet nor the son of a prophet, I believed the next decade would witness a wonderful increase in the popularity and use of the dahlia as a cut flower. The wildest dreams have been more than realized. Last year the exhibit of the American Dahlia Society was the largest show of a single flower ever staged in the world. This year's show exceeded it by more than half. President Vincent staged a thousand blooms of one variety, Patrick O'Mara.

Aside from being a thing of beauty and a joy forever, the dahlia promises to become a valuable source of sugar. Inulin, somewhat resembling starch, comprises about 14 per cent of the fresh tubers. This may be converted into levulose syrup, from 30 to 50 per cent sweeter than cane syrup. Levulose does not as yet crystallize readily but it could be used in place of cane syrup in soft drinks, etc., thereby releasing the cane syrup for sugar making.

In no plant can you get such a wide range of shape and color or such a long period of bloom. Last season we cut flowers from the same plants of George Walters in five successive months. My fair colleague will tell you of the beauties and decorative possibilities of dahlias. It is my mission to help you, if possible, in their cultivation and care.

About the middle of May split the old clumps into as many divisions as possible with one or two sprouts on each. It is as reasonable to plant a whole ear of corn as a whole clump of dahlias. A small root is better than a large one, because a plant from a small root starts its new roots quicker.

Best place to plant is in the vegetable garden where they can be cultivated. Dig a hole six inches deep, put back a little loose dirt, lay the root on its side with the sprout up and cover with four inches of loose dirt. This leaves a slight depression around the stem which is an advantage in watering. Two feet apart in the row and three and a half feet between rows is about right. Rake the ground as soon as the planting is completed and repeat this raking every week until the plants are large enough to shade the ground. If the season is dry, water thoroughly at night once a week and rake the ground the next morning. We installed an overhead spray system last year and by means of weekly spraying at night followed by raking the next morning we were able to bring the plants through an unusually dry summer without burning or stunting. This same spray warded off frost until November 2. Flowers are produced on the soft growth, and if through neglect your plants have become hard and woody, better cut them back severely and start over again. A top dressing of fertilizer will help when plants are coming into bloom.

In cutting dahlia blooms, trim off the foliage and dip base of stem in hot water for a quarter of a minute. Then let stand in cold water. Treated thus the stem has only to furnish moisture to the flower instead of to a mass of foliage, and the hot water prevents bleeding.

A week or two after frost has killed the tops cut them off near the ground and dig the roots. Leave what dirt will stick to them and do not separate the clump of roots but store the boxes on the cellar floor where potatoes will keep.

Grow seedlings? Yes, if you have time and room and patience. It is the way most new varieties are produced. King of the Autumn only came to the master grower Hornsveld after years of patient care in Holland. West in England produced Turner, a wonderful pink peony. The French gave us LeColosse, the best of the giant show type. George Walters, perhaps the best hybrid cactus yet produced, is the work of a California grower. Do not expect the equal of all these in every package of seed you plant. For you may be disappointed. You will get more definite and satisfactory results by growing standard varieties from roots.

Keep plants growing lustily and you will have but little trouble with insects. The neglected plant is the easy victim for all the ills on the calendar. The tarnish plant bug may injure the new growth. Dust with tobacco or slug shot. Green lice may colonize on the stems but will not stay if you use kerosene emulsion or black-leaf-40. Leaf hopper on the under side of leaves is the latest pest. Spray with black-leaf-40 or

Bordeaux, bending plants to reach under side if you haven't a spray pump with a curved nozzle. The stem borer works inside the stalk. Its presence is shown by the top wilting. Split stem and remove worm with a wire hook. Tie stem shut with a bit of grass and it will grow together again in a short time.

Another pest is the grower with a limited conscience and an enlarged imagination who persists in inflicting his seedlings on the public in unlimited quantity. They are described in glowing terms and sold at a stiff price. The innocent buyer finds too late that they are often inferior to standard varieties which he is already growing.

The worst pest is the "insect," to quote Mrs. Jiggs—who neglects his dahlias or fails to properly divide them in the spring and later complains that they have "run out" and are all tops and no flowers.

In closing I wish to quote the late John Lewis Childs: "Dahlias vs. Peonies. Peonies bloom two weeks. Dahlias two to four months. A dahlia will produce about ten flowers to a peony's one, and in most cases they are fully as good and showy, but peonies bloom early when we have no dahlias, hence they do not compete. But remember, you get more for your money in dahlias than you do in peonies. Dahlias bloom well in from two to three months, peonies in from twelve to twenty-four months. The dahlia is the most fascinating of garden flowers, and no other flower creates such intense interest in a show."

Winter On the Farm

MRS. A. K. BASSETT

A lady from the city, who is the wife of a prominent horticulturist, while spending the day at Ski-Hi farm, made this remark: "It is very interesting here in the summer, but I should die out here in the winter." This was not an unusual remark. We hear it a good many times during the summer.

Just why people say this is a puzzle to me. Winter is always a welcome season with us. During the long busy harvest I look forward to winter with a great deal of pleasure. How we welcome the stormy days and long evenings. For then we have a chance to read those books and magazines which have been laid aside week after week because we were too busy to read. Now is the time to catch up with last year's mending, and to do next summer's sewing before chicken raising time is here.

It takes winter to make us appreciate our summer's labor. Just step down cellar those of you who would die on the farm in the winter. See my rows and rows of jellies and preserves; grapes, plum, apple, strawberry and crab. Oh, yes, the pickles, watermelon, Whitney crab and Tolman Sweet. And all the marmalade, grape jam, and mince meat. All home grown and home made. Over there is a gunny sack full of hickory nuts, too, besides apples, squash, cabbage, carrots and potatoes. And fresh meat, oh, yes, there hangs a beef the boys butchered. We can have steak, roast or soup bone. Want a change of meat they will bring you in a rabbit or else we will kill a chicken. Eggs are high, oh, yes, but our Brownies are busy. There is a whole crate full of nice white eggs. If you want fresher ones go to the hen coop.

But one can't eat all the time, we need sociability too. Well, we surely get that, and if we don't make the effort to go they'll come right to your door. Our hired man just got married and he was serenaded by a mixed orchestra of cow bells, sea shells, tin horns, and buzz saws. This beat any jazz music on the market.

Then the other evening we had a real "spree" as our little Jess called it. What a merry time. Everybody came in bob-sleds, fathers, mothers, sisters, lovers, kids and all. We cracked jokes and played games, then we had our picnic supper. Such coffee and sandwiches. You say "cater" oh, no, Sophia brought the big coffee pot and Kathryn knows how to make coffee. Emma furnished a big panful of sandwiches. The happy groom furnished ice cream, not factory stuff, but real home made, of Jersey cream. And every lady brought her best cake.

Mata made a Devil's Food,
And Lottie, Angel cake.
Dora's cake had a chocolate top
And Katie's a sweet for-get-me-not,
Sophia's cake had a carmel hue
And Della's was iced and jellied too.
Tillie's cake had a lemon filling
And the way they ate was just too killing.

Such a supper, oh, my, so good, but best of all some of the boys brought their fiddles and they played all the good old pieces from "Pop Goes the Weasel," to "The Girl I Left Behind He."

Then some of the young musicians got after the piano and we

had some up to date music with "Let the Rest of the World Go By" as a wind up.

The clock was pointing toward twelve when everybody began to bundle up as it was zero weather outside. After happy good byes, everybody loaded into the big bobs and were off and away. If that doesn't beat a movie show and standing on the corner waiting for a street car to take you home I miss my guess.

Thus with these occasional good times, the Farmers Club every two weeks, wood-sawing bees, ice packing, and school affairs, the winter slips by and before we are aware the spring birds and apple blossoms will be here. Die of lonesomeness, when there's hardly a chance to get time to write to Wisconsin Horticulture and say we had a fine time at the December meeting! The bouquet of beautiful straw flowers I brought home is a gentle reminder of the pleasant three days of the convention.

Last but not least, our former hearty co-worker, Mrs. L. H. Palmer, of Baraboo, has kindly consented to give us a few lines for the March issue.

Evergreen Planting on the Campus of the Agricultural College

Mr. J. W. Roe is a lover of evergreens and so are we all if we only knew it. In the southern part of the state we see too few of them to get well acquainted; in northern Wisconsin they have been so very much in the way that everybody has been obliged to destroy them.

There is a stateliness and beauty in well grown pine, spruce and firs not excelled by any deciduous tree. Mr. Roe's report of his visit with the evergreens on the College campus is of especial interest to the editor as he planted many of them twenty-six years ago and has lived neighbor to all of them watching their beauty unfurl from year to year.

"Professor Aust is enthusiastic over evergreens for lawn decoration. He says that evergreens give twelve months of the year efficiency. He has been making new planting at the university and invited me to go with him and see how they had thrived since we went over them a year ago, and also look at the recent plantings.

The generous use he has made of conifers in his landscaping the campus of the university shows that the professor holds them high in his estimation. The dwarf Mugho Pines, one of his favorites, are used as single specimens and in mass formation. This dwarf evergreen can stand a lot of hardship, growing on hillsides or on the south side of a building near a wall. The Mugho Pine comes from the mountains of Mexico, seven thousand feet above sea level, and is perfectly hardy here. This pine is amenable to trimming and can be kept in form as desired from six inches to six feet as the case may be. It reaches maturity at from six to ten feet in height and spreads out making a round large bushy clump of rich velvet green foliage.

The American Yew (Canadensis) is a dwarf evergreen with beautiful dark glossy leaves with coral berries which hang all winter. It is very hardy, coming from Canada, and grows to a heighth of about six feet.

Juniper Sabina, another dwarf species which I found planted in mass formation and mixed with other dwarf species, grows to a heighth of from two to three feet and is especially good for edging clumps of evergreens and for use in front of foundations. It has a fernlike appearance, dark green in color, and is very ornamental. Juniper Counarti is a medium dwarf variety used for background in clumps and also single specimens.

Groups of pines have been planted in several places. These consist of the White, Norway, Austrian and Scotch pines. They are growing nicely in spite of a dry summer and no watering.

After looking over the new planting we went out to the agricultural building where evergreens were planted thirty-five or forty years ago. There are many old pines, very tall and spreading, with the White pine easily the tallest and most vigorous. Here also were the beautiful Kosters Blue spruce, running from thirty to forty feet high, down to smaller trees planted at later times. These trees alone are worth a trip to Madison. The Colorado Blue spruce are there also, and while they are not as beautiful as the Kosters, they are more vigorous and may last longer. The queen of these magnificent trees, to my taste, is the Concolor fir, light pinkish green in color, with long needles and is a vigorous, shapely grower. It grows larger than any others and lives longer, with possibly the exception of the White spruce or White pine.

The Norway spruce, Scotch pine and Austrian pine are showing signs of old age. These varieties, they tell me, attain their growth early, reaching maturity at about thirty years.

White, Austrian and Norway pine make beautiful shade trees and do not kill the grass, as do many other trees, for the reason that their roots do not spread out on top of the ground. Because of this they are desirable for roadside planting. As to their comparative growth with such trees as the box elders, soft maple and elm, the White and Norway pine are slower at first but catch up and pass these deciduous trees at from twenty to thirty years of age.

Austrian and Scotch pine grow just as fast and live about as long as any soft tree.

Darkness came upon us before I saw them all, and I still have a treat coming in the way of another visit to them. Certainly the campus at the university is the best place in Wisconsin to study the ornamental planting of evergreens."

Oil, Moonshine, Berries, Sunshine and Other Things

Our esteemed ex-president, Mr. J. A. Hays, one time manager of the Kickapoo Development Company, spent the winter of 1920-1921 in Southern California and was there bitten severely by two insects, one the "Beautiful Climate" bug. The poison of this pest seems to be powerful and can never be eliminated. The other bite is even worse, it causes no pain, quite the opposite, gives one a dreamy sort of feeling, a trance-like effect. The Editor doesn't care to name this insect, perhaps Mr. Hays will be willing, later, to tell us about it.

This winter the B. C. lure took him to Bowling Green, Kentucky, and from there he writes an interesting letter about fruit growing and other matters with permission to print. It follows:

Kentucky is full of interest for the horticulturist. Bowling Green is headquarters for a large strawberry growers' association, a peach growers' association and there are several commercial apple orchards near by that are very well taken care of. I haven't the official figures but am informed that this station (B. G.) shipped more than five hundred cars of strawberries in 1921, with only about sixty per cent of a crop. The peach and apple crops were an entire failure on account of the same cold spell last April that ruined our crop in the southern and central part of Wisconsin, as well as nearly all of the central apple producing states. Most of the apple orchards are young, about the same as our Kickapoo orchards and therefore are not in full bearing.

I met one orchardist who owns one of the highest elevations in this vicinity, who succeeded in saving a few apples this season. His elevation, by the way, is only 750 feet above sea level and 250 feet above most of the surrounding country. He was selling some very small King Davids and some fairly good Winesaps on the street at 50 cents a small grape basket full, about one-eighth of a bushel.

I haven't seen any cherries, plums or grapes and no small fruit (berries) except strawberries. It looks like a great opportunity for some energetic Wisconsin man who has a hankering for a little warmer climate, to get into the fruit business. Land here is rather high, ranging from $150 to $300 per acre, within three or four miles of town. But talk about weather and climate—the only time I have been cold enough to shiver this winter is when I am reading a letter from Wisconsin telling of 20 to 26 degrees below zero. The coldest it has been here is 10 degrees below freezing, and this is only for an hour or two in the morning. There has only been one-half inch of snow this winter and it only lasted until noon. Notwithstanding all this the weather down here is not all sunshine although the winter sunshine here is grand, it is so far outstripped by the **moonshine**, that it seems almost like an eclipse. I can't say that the effect of this moonshine in my own case has dispelled any gloom or even kept me from being a little homesick at times, but I have seen a great many happy people (mostly native Kentuckians) that attribute their state of mind to the influence of moonshine. I am inclined to think that when the final account is balanced that the charge against a Kentuckian for drinking moonshine will be credited back to him on account of the water the Allwise has furnished him to drink. I have heard that they have some springs here, but I have never seen one—the water supply comes from a river or a cave or rain water from a sink hole. The city of Bowling Green is a fine little city of about ten thousand people, and is noted for its schools and churches. It has a splendid business college, a state normal, a private college for boys (Ogden College), a school of music and splendid public school system. There is no sewer system in the city. All they have to do, is to drill a few feet until they find a cave, and connect their sewer. The Mammoth Cave certainly ought to feel right at home in Kentuck. Sincerely yours, J. A. Hays.

Apple Seeds and Stocks for Grafting

Q. Can you tell me where seeds can be bought in big quantities, saved from ripe apples?

Ans. Apple seed for growing grafting stock was formerly largely imported from France where apples are grown almost wholly for cider, but now may be obtained in considerable quantities from cider mills in the Eastern states.

If the member contemplates raising apple seedlings for grafting we would say, **don't**. We have neither the soil or the climate in Wisconsin adapted to that work. Most of the seedlings now supplied to nurserymen are grown on deep, rich bottom lands in Kansas.

Among the vegetables that created comment at the crop show was a small type of Hubbard squash, originated at University Farm. It is of more convenient size than the ordinary Hubbard. —*Minnesota News Bulletin.*

THE INSECT PAGE

Edited by E. L. Chambers, Assistant State Entomologist

To Kill Bean Weevil

Quite a number of inquiries have been coming into our office of late concerning the control of a bug which works in beans in storage. This is the bean weevil. Many of the beans will be found showing round holes where the adult weevils have emerged after their development.

Where there are not too many beans to make it impractical the undamaged ones can be separated from the others by throwing the whole supply into a tub of water. Those having the grubs in them will float on the surface and may be disposed of.

Since the eggs are attached to the surfaces of the bean and some of the younger stage are likely to be present, the others, as soon as they are dry, should be heated in the oven to a temperature of 135 degrees F. and kept for an hour. This is the temperature of comfortably hot water and far below its boiling point. If the temperature is not allowed to rise above this and get too hot, by necessary manipulation of doors and source of heat, the killing of these weevil will be insured without injuring the beans for seed purposes.

Larger quantities can best be fumigated in a tight box or bin, using carbon tetrachloride at the rate of one ounce to six cubic feet of space. This chemical can be purchased at any drug store, and will be found very effective and it does not affect germination.

These beetles lay their eggs during the late summer in the beans while still on the vines in the field and breeding continues after storage. Unless watched closely they may destroy the entire supply and should be treated in late fall before they have done much damage.

If Your Orchard Has Oystershell Scale

Just as soon as the temperature rises above the freezing point and continuing until the buds begin to swell, is the proper time for making the dormant spray. Contact sprays are employed for this treatment. Either lime-sulphur solution or some of the miscible oils for this purpose on the market are preferable. The concentrated lime-sulphur solution should be diluted with water, one part to ten of the latter, while the miscible oils should be diluted about one part to fifteen. If San Jose scale is present the solution should be stronger.

There are two principal advantages in spraying at this time: (1) the absence of the foliage permits of more thorough application with less material, (2) the spray may be used much stronger than during the growing season. Besides being effective against oystershell scale, and San Jose when present, is also effective in the destruction of red spider, eggs of plant lice, etc., and is an excellent fungicide, destroying any spores of the various fungi present on the surface of the tree.

The prime essential is thoroughness in making application, so as to cover every part of the tree, because in general only those insects actually hit by the spray are killed. Better results follow spraying with lime-sulphur in early spring than in late fall or during the winter when the temperature permits, since it insures some spray being on the trees during early summer which is of value in killing young scale insects and spores of fungi, which may have escaped destruction and be brought back on the sprayed surfaces by such carriers as other insects and birds.

In practice, therefore, the plan should be to make one thorough application of a dormant spray to the orchards in the spring, every two or three years, since one thorough treatment will keep well under control the more important scale insects and certain of the other forms of insects and fungi. It should be borne in mind, however, that this is just the first step in a program of sprays necessary for sound fruit; in later issues the others will be discussed.

The cost of these materials is relatively low and they can be purchased from any of the insecticide houses. For general use in orchards the lime-sulphur has been found the most satisfactory, but since it stains painted surfaces temporarily the miscible oil should be used for spraying where there is danger of the spray being blown against the buildings.

Selling Strawberry Plants

What is the cost of a nursery license and inspection?

How many times would it need inspecting?—Correspondent.

The following reply is by S. B. Fracker, State entomologist:

Nursery inspection is compulsory for all who sell strawberry

and small fruit plants and all other nursery stock, including field grown florists' stock. Under the statutes it is necessary for all shipments to bear a copy of the inspection certificate and no one is permitted to sell, give away, or transport any small fruit or nursery stock without holding a certificate.

No charge is made for this service. The inspection is annual, coming in July, August and September of each year. Application must be filed before July 1, otherwise the applicant is required to pay the traveling expenses of the inspector.

No Two Alike

ELIZABETH HELD

Dear Readers: I'm beginning to be scared—you've all heard about a woman's intuition? Well mine is working and its warning me that you folks are likely to have a very poor opinion of me before the year is up. Every time I start to tell something about somebody I have to tell something about myself. Do you suppose the Editor intended to get me into this horrible predicament when he insinuated "Folks" were interesting to write about. I hate to think it but, as I said in the beginning, I'm scared. However I promised, so might just as well go ahead and be honest. Don't know how the Editor will head this, but to me it's a tale of three women. The first one I liked at once, because she had ready wit, a pleasant smile and a charming manner; I was sure she would be an ideal friend. But as I knew her better I discovered that frowns replaced the smile when things didn't go to suit her. That she was discourteous, even rude instead of charming, her wit sarcastic and stinging. The more I studied her, hoping to find something to justify my first admiration,—I don't believe you want to hear any more, do you? I'll just say I've wondered sometimes if she has any real friends, and if she has, if her friends have a friend. Sounds like a puzzle doesn't it? Well, that's what she is to me. Wouldn't you think anyone who had all those talents, charming ways, ready wit and a pleasant smile are talents you know, would want to live up to them and keep the friends they won?

The second woman was different. I didn't like her at all. Why? oh just because, isn't that reason enough for a woman? Or must I be honest and say because I **thought** she was egotistical and forward and talked too much? Anyway, I didn't like her, but she became interested in the same work that interested me and we met quite often. I didn't think she would work very long, especially as she was criticised very strongly (she had her own way of doing things), but she was evidently either too busy or too "big" to pay attention to what folks said. I began to admire her, for stick-to-it-iveness is a quality that appeals to me. To understand that she was neither egotistical nor forward, simply an enthusiastic worker with an honest appreciation of her ability to accomplish the things she set out to do. That she was generous in her praise of others; she is so interested, so sincere, so determined to succeed that she does succeed in doing the things others have tried and failed. The more I study her the more her real self seems to come to the surface and its real gold too, not glittering mica. The third woman—myself of course—do you know what my old friend, the lawyer would have said about me, "Thought you were judge and jury and settled the case without hearing the evidence. Snap judgment doesn't amount to much." He would have been right too, wouldn't he?

P. S. I thought I had finished this article but the editor sent it back saying "Aren't there more than three kinds of women?" Editors are autocratic and must be obeyed. If he is anxious to find out how many kinds of women there are I'll do my best to assist him. There is the woman who drops in to see you right after breakfast—she "isn't going to stay but just a minute, she knows you are busy and so is she; but you never go anywhere, she is sure you are lonesome; her husband is the kind too that thinks a woman ought to stay at home and work and his folks tell him things to make him worse." "Wouldn't you think a woman's husband ought to stick up for her? If he doesn't, who will? But then men are all alike, my sister's husband is the same; her husband doesn't want her to go anywhere either, and his mother made a fuss because she left the baby with her a 'few times.' She had to go to the dressmakers that week and her card club met and she had tickets for that new movie everybody was talking about; you know the one, but of course I know you don't go to movies. I don't either. My husband wants to know too what I do with every cent. Most men are like that, but my sister says she just has to get out a little and the doctor said she needed exercise, so she joined the physical culture class and then her husband said his mother got all the exercise she needed sweeping the house, baking bread and looking after her children. Oh, are you making you a new dress, can you wear that color? I used to look well in it but then I had a nice complexion. You're sort of sallow-looking. I'm glad though you are going to have a new dress. Mrs. H— said the other day you had not had one since she moved into this neighborhood. My husband never notices either that my clothes are shabby but he's always talking about what spiffy looking clothes some other woman had on. Did you hear about Mrs. B—? You didn't? Why she runs a bill for clothes at Blanks and they

(Continued on page 105)

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Sometime We Will Be On Time.

Since the big break last summer when the editor was temporarily knocked out by illness and the whole works gummed up, your paper has not reached you at the time formerly fixed, from the sixth to the tenth of the date month. We are struggling. We ask, with confidence now, your kindly consideration. Not all, perhaps, but few, of our readers know that WISCONSIN HORTICULTURE, with all other state printing is now done at Des Moines, Iowa. It is not quite so handy as having your printer across the square but it will all work out beautifully just as soon as we get adjusted.

Advertisers and contributors are hereby notified that any matter for publication must reach this office one full month in advance of the date when publication is desired. Matter for publication in the May issue must be in the hands of the editor not later than the 5th of April and a week earlier is better.

Why Not a Life Membership?

The fee for life membership in the State Historical Society is twenty dollars; in the State Horticultural Society ten dollars. We may lose or gain by urging members to join the "life" roll but we are willing to take a chance on that if you are. Annual members always mean to renew on time but often neglect to do so. If you are an annual member, meaning to renew at the expiration of your term and then neglect finally to do so you are dropped from the mailing list one month from the sending of the first notice to you, mailed in your paper. Then we send you three letters, at intervals, coaxing you to send in that dollar. Almost always we get it but at considerable expense to us and annoyance to you. Why not settle the matter for all time and take out a life membership? If you have paid a dollar for annual membership since January 1, 1922, nine dollars more will be accepted as payment in full.

We now have 317 life members. Fifty came in last year on direct appeal through a letter from the secretary. Please, everybody, consider this a personal letter and make us all happy by sending a ten-spot for life membership.

F. C.

Why Not a Local Society?

March is a good month to organize local horticultural societies. Spring is just ahead and by getting together now much good counsel may be had about gardens and gardening.

The State Society can offer nothing in the way of financial aid since the change in our constitution but such help should not be needed. Where ten or more who are interested get together and organize a Local Horticultural Society, adopting a simple constitution and by-laws, the State society will enroll these members at one-half price or fifty cents a year, if the names and money are forwarded in one lot to the secretary of the State society. These members of the local receive all the benefits of regular annual members, including this paper. Usually the locals fix their membership fee at one dollar, thus providing a a fund for local expenses.

While the state society does not guarantee to do so it has not been unusual in the past to pay the ex-

penses of a speaker at one meeting of the local and sometimes to furnish a sum of money for premiums at an annual exhibit. This was done in 1920 and in 1921, the sum being twenty-five dollars. At this writing the Board of Managers has not acted on this matter but will no doubt do so soon. The principal advantage in having a local society is that which always comes from **getting together,** an opportunity for interchange of ideas. Then also very good times may be had at such gatherings. Such is the case always with the older locals.

This is written in the hope that some of our older members, who have shown their interest and faith in the society by steady renewal of membership for many years, will be willing to pass the good word along. Call a meeting at your home some evening. You may be surprised at the turn out.

The following constitution has been adopted by nearly every local organized during the past ten years. There are twenty-one locals at present, six in La Crosse County. Who will be next?

Constitution and By-Laws of the

.....

Article I. This Society shall be known as the .....

.....

Article II. Its object shall be the advancement of the art and science of horticulture.

Article III. Its members shall consist of annual members, paying a fee of ..... which includes membership in the State Horticultural Society.

Article IV. 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 three shall constitute a quorum at any of its meetings. All above officers shall be elected by ballot, and shall hold office for one year thereafter, and until their successors are elected.

Article V. The treasurer shall pay to the Secretary of the State Horticultural Society, in the month of January of each year, fifty cents for each member which shall entitle such member to full membership in the State Society.

Article VI. This Constitution, with accompanying By-Laws, may be amended at any regular meeting by a two-thirds vote of the members present.

By-Laws

(To fit local needs)

No Two Alike

(Continued from page 103)

made a mistake and sent one of them to her husband. Poor thing, that's the only way she could get any decent clothes—why she used to take money out of his pockets at night, a little at a time. She said he never missed it. There was an awful fuss. Did you hear about Mrs. H—'s party? She had a caterer and musicians; where they get the money from I'm sure I don't know. He doesn't work steady. It's a mystery to me how they manage to live. Your husband doesn't work steady either, does he, but I suppose one can get used to going without things. I see you are looking at the clock. I suppose your husband is fussy too about having his meals on time. My husband is always telling me how his mother always had her dinner on the table when the clock struck; he never had to wait a minute. They are all alike, I guess. Well, I must go. I'm sorry I can't stay longer but my husband thinks I ought to stay at home and mend his clothes or sew for the children—is it twelve o'clock? I've got to go to the store. I haven't a thing for dinner and there come the children. Good-bye."

Then there's the woman who stops you on the street and says, "I've been hoping I would meet you. I want your recipe for baking beans. Mrs. S— told me she never ate such delicious baked beans in her life as those you fixed up for the Ladies Aid supper the other night, and I want to congratulate you. Mary came home from school the other day and said your Jimmy had the highest marks in his class. I just know how proud you feel. I saw your husband coming out of Blanks the other day; when I saw you at the club I knew what was in that big bundle he was taking home. My—but that was some pretty gown; pretty fine to have a husband who likes to see his wife wear pretty gowns, isn't it? But I musn't stand gossiping here on the street; there's a starving family waiting for me at home—see you at the club tomorrow, I suppose. Isn't that little club of ours the nicest ever—aren't you glad we have such a nice congenial bunch?" With a smile and a cheery wave of her hand she's gone. I looked after her and laughed, but there was a curiously happy, satisfied feeling in my heart. I felt like the Arab, "May her tribe increase."

Set potted plants in a pan or pail of water long enough to saturate the soil well, then drain well before returning to the window or stand.

Plant breeding and selection plays a big part in the horticulture of the northwest. We have had to make nearly all our fruits and many of the vegetables. There is still room for improvement.

Have you quail or other wild birds on the place? See that they have some feed available. Heavy falls of snow cover their feeding ground.

Some Melon Questions

A member asks two questions about mushmelon culture which have been referred to several of our leading melon growers. One reply has been received in time for this issue, the others will be printed in the April paper.

Q. (1) Where can I buy a select grade of Emerald Gem seed? There must be growers who have been selecting for years and have developed an early, sweet and netted strain. From my experience you never know what type or how many types you will get from a seedsman.

Ans. by H. S. The ———— Seed Co. sell a very good strain of Emerald Gem. I have selected my own from it for several years but have none for sale I got seed from a certain seed house a few years ago and had at least six different kinds of melons from their Emerald Gem seed.

Ans. by Editor: I predict that answers from other growers will correspond closely with the above. Every experienced grower saves his own seed, selecting a type best suited to his market or more often best suited to his ideas of what a market melon should be. These men are melon growers and not seedsman and know better than to start that game. It's one thing to secure a limited amount of seed for your own use, true to type, and an entirely different job to produce such seed in larger quantities. The seedsman does the best he can but in most cases the seed is grown for him on contract and beyond his personal supervision. The melon is one vegetable that may be better propogated by the grower than by the seedsman; the tomato is another.

Q. 2) I have cropped one acre to melons for fifteen years, manuring heavily each year. I am wondering whether commercial fertilizer or lime would pay.

Ans. by H. S.: As to the lime for melons, I don't think it would help unless to seed down with and I presume the idea is to crop the ground to cultivated crop each year.

I don't know just what commercial fertilizer would do in this case, but think it would help to balance up the fertility. Manure year after year tends to unbalance the fertility in the soil. I have used commercial fertilizer on melons with very profitable results. Last year I had a half acre that was heavily manured with clover hullings and stable manure. This was plowed in the spring and planted to Emerald Gem muskmelon. When they were getting the second set of leaves we applied two teaspoons of 5-7-6 fertilizer, one on each side of the hill. Half of the patch was treated this way and the amount of fertilizer it took was very slight, about forty pounds, maybe a little less. The plants that were treated had ripe melons a few days sooner than the others and the melons were larger. They set more to the hill and were more uniform in size. With us it paid. We will fertilize every hill this year.

Forward Steps in Truck Growing

By H. C. Thompson

Great changes have taken place in the vegetable industry, both in extent and in methods followed. There has been a greater increase in this industry than in any other important line of agriculture. The increase in the amount of vegetables produced and consumed is due to increasing population, to the broadening knowledge of the dietary value of vegetables, and possibly to higher costs of meats and other standard foods. At any

rate, the per capita consumption of vegetables has increased greatly in recent years.

Truck growing has made a greater proportionate increase than market gardening. The trend is toward specialization in vegetable growing and this has led to selection of regions especially adapted to a particular crop or to a relatively few crops. The production of muskmelons in the Imperial Valley of California and Bermuda onions in Texas are illustrations of this trend.

Changes in Regions of Production

During the past ten years the south and west have come to the front in vegetable production. California leads in acreage and value of vegetables other than potatoes and sweet potatoes produced in 1919. Some of the eastern states, which have led in production of certain vegetables, have had to relinquish their leadership. In 1919 California led in production of asparagus with over one-half of the entire acreage of the United States; also in muskmelons, celery, onions, spinach and lettuce, and was third in tomatoes.

Leadership in production of all these crops was held by the eastern states not many years ago. The muskmelon industry has developed rapidly in California, Arkansas, Arizona and New Mexico, while it has practically stood still or gone backward in the east. New York and Michigan have fallen behind California in celery production, and other similar changes have taken place during the last decade.

Disease and Insect Control

Perhaps no greater change has taken place in truck growing than the increased use of control measures for insects and diseases. These pests have become more troublesome from year to year and necessitated more attention to control measures by growers. Not only has a great deal been learned about the pests themselves but more systematic efforts have been made to control them than ever before.

Up-to-date growers have come to recognize that spraying, in many instances, is as important as cultivation. Ten years ago spraying for celery blights was the exception rather than the rule; now the reverse is true. The same applies to treatments for potato diseases and insects as well as for onion smut, cabbage maggot and hosts of other pests.

Fertilizers and Manures

The greatest changes in the use of fertilizers and manures have been reduction in manure used and more judicious use of commercial fertilizers in conjunction with soil-improving crops. The decreasing amount of manure available and increasing acreage of vegetables have necessitated other means of maintaining production.

During the last ten or fifteen years it has been proved that production can be maintained, even increased, by the use of commercial fertilizers and soil-improving

crops. The Virginia Truck Experiment Station, at Norfolk, demonstrated this to the growers of that region.

Prior to the establishment of the station in 1908, it was exceptional to find a truck grower in the Norfolk region growing a soil-improving crop after harvesting his spring crop and before planting his fall crops. Now it is exceptional to find one who does not grow cowpeas or some other legume at this period. The use of soil-improving crops is now considered essential in most truck-growing regions where manure is not used.

Handling and Marketing

Real progress has been made toward improved handling and marketing methods. Grading and packing is done with greater care and there is a decided tendency toward standardization of grades and packages. Much has yet to be done along these lines, but progress has been made in creating a sentiment for better methods and standardized products.

More progress has been made in cooperative marketing during the past ten years than in any previous decade. While this method of marketing is not a panacea for all ills of marketing, the cooperative spirit means much to the future of agriculture. Cooperative marketing has shown the absolute necessity of grading and has taught growers that marketing is not a simple process.

Storage

During the past ten years there has been great development in both common and cold storage. Storage houses for millions of bushels of sweet potatoes have been built in the south during the past five years. Outdoor, trench pit and bank storage for all kinds of vegetables has given way to storage houses in which temperature and humidity can be controlled. The tendency has been toward the large centralized storage house rather than small houses on the farm.

Ten years ago cold storage was used to a very limited extent for vegetables. Now a large part of the celery is stored in cold storage houses. Many other crops, such as lettuce, carrots, beets, onions and cabbage are stored under refrigeration to some extent.

All developments in storage facilities during the past decade have been improvements over the old methods. Some of the storage risks have been eliminated by storing in the improved houses where conditions can be controlled.—*The Market Growers' Journal.*

Melons worth $500,000 are grown in southeast Missouri each year on land which was formerly swamp.

Beloit's Tree Population

Some time ago we published Forester Spidel's account of Milwaukee's street trees and urged other cities and towns to take a tree census. Merely learning the number and kinds of the trees within city or village limits is not a matter of the highest importance, but any carefully conducted count of the trees will reveal much else of value about trees and tree-planting. An interest will be awakened in a matter that is quite generally everybody's business and consequently nobody's business. If approached in the right way and executed in the right spirit a tree census can not fail to result in a real community interest in trees. The following reprint by Mr. West is recommended to the attention of residents of Manitowoc, Sheboygan, Oshkosh, Green Bay and one-hundred other cities in Wisconsin:

The present "tree population" along Beloit streets is 11,577, of which there are 4,929 on the east side and 6,548 on the west side, according to a report on tree planting submitted at the council meeting last night by Myron West, city planner.

Mr. West recommends that the city engage a municipal forester to have entire charge of all trees on public streets, planting new streets with young trees, filling vacant places where trees have died and removing dead or dangerous trees and pruning, spraying and generally caring for trees desirable to be kept.

His report shows that the east side has about twenty miles of streets planted with trees, at an average distance of thirty-seven feet apart; while the west side has twenty-one miles of streets planted with trees at an average separation of thirty feet.

Planted Too Close

Many trees are planted too close on both sides of the river. There are about twelve miles of unplanted streets on the east side and seventeen miles on the west side, which the city planner estimates would require 4,900 trees to plant and to replace dead or missing trees along streets now planted.

By purchasing trees wholesale or raising them in a municipal nursery, they could be planted at an expense of $1.50 apiece, it is estimated. When not busy planting trees, the small crew of men necessary for this work could be busy in the winter and summer under the direction of the municipal forester, removing dead and undesirable trees and spraying, pruning and putting trees already planted into good condition.

"Beloit has many trees and many exceedingly fine specimens of trees on her streets," says Mr. West's report. "The general effect on looking down upon the city from an elevation is like that

of viewing a forest. On streets where trees were planted during the city's early history, the effect can hardly be surpassed.

"Upon analyzing the situation, however, the same conditions are found in Beloit that are true in most of our cities, namely: that through the lack of a city-wide policy in the planting and caring of trees the results have been sporadic rather than uniform, and there is offered considerable room for improvement."

Some trees are planted too close together, others too far apart, and many are poorly adapted for shade purposes.

Following is a table showing the number of trees of various species now to be found on Beloit streets:

Elm	5,876
Box Elder	1,810
Silver Maple	633
Poplar	688
Ash	740
Norway Maple	372
Hemlock	1
Honey Locust	2
Black Locust	15
Weeping Elm	1
Weeping Mulberry	1
Cherry	10
Sycamore	1
Ailanthus	5
Willow	3
Mountain Ash	3
Horse Chestnut	3
Apple	3
Tamarack	1
Red Oak	10
Walnut	38
Hickory	50
Spruce	2
Lombardy Poplar	2
Sugar Maple	337
Catalpa	282
Oak	131
Basswood	301
Hackberry	135
Red Cedar	13
Thorns	4
Mulberry	8
Total	11,477

Many of the elms, constituting half Beloit's tree population, are fine specimens, according to Mr. West. The box elders, poplars and silver maples, which together make up more than half of the remaining trees, are undesirable, he holds, because subject to attack by insects and pests and easily broken by wind storms.

Mr. West has praise for Norway and sugar maples, oaks and hackberries, but condemns the catalpas.

In planting trees not only should attention be given to seeing that the soil is adapted to them, but the width of streets and setback of buildings should be considered in relation to the type of trees. Tall, compact trees should be selected for limited space rather than spreading trees like the American elm.

Plant Entire Streets

Entire streets should be planted as far as possible with the same variety, he says. He recommends about fifteen species for adoption in the city, including American elm, sugar maple, American linden, Norway maple, ash, pin oak, and hackberry, and possibly the Scotch elm for narrower streets,

and the honey locust, the horse chestnut, ginkgo and scarlet oak. The distance between trees should be regulated by their size, American elms being planted fifty feet apart, Hackberry forty feet, pin and scarlet oaks forty and honey locust forty-five.

"Probably no better investment be made by Beloit than in this work of tree care and planting," his report concludes. "The amount needed annually is small and well within what the city can afford. All that is necessary is competent supervision, a very small amount of money for labor, trees and equipment and a careful restriction of zealous but ill advised attention on the part of property owners. Only by going at the work in this way can the whole community be benefited in the best manner. Tree planting and care by private owners will always be erratic, unbalanced and generally unsatisfactory."

According to Dean Watts of Pennsylvania the sales from the Seabrook farms, a market garden farm in New Jersey, amounted this year to $521,000. All but about $71,000 of this was taken from 200 acres of irrigated land.

AMONG WISCONSIN BEEKEEPERS

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

OUR NEW SECRETARY AT WORK IN HER BEEYARD

From Neglected Bees to Profit

A. A. Brown, Juneau.

Mr. Chairman, Ladies and Gentlemen, Fellow Beekeepers:

Were I to tell you that I began as a beekeeper when but one year of age you would smile. Such is the case, however. When I was one year old, my great-grandfather gave me a ten dollar bill for a birthday present. I was, of course, too young to appreciate it, at that time. My father, hoping to raise a sweet boy, invested my ten dollars in two colonies of bees and became a beekeeper so as to produce his family supply of honey, and not be obliged to purchase it from neighbor beekeepers.

My active interest in bees began at an early age, for I clearly remember, when a mere boy, how I stopped up the entrance of a hive with dirt just to see what the bees would do. The bees objected to the prank I played upon them so much that I was unable to remove it; a fish pole would not allow me to get near enough to scratch the dirt away from in front of the hive. This happened in the month of June, because my father, like old beekeepers, with old beekeeping methods, was constantly on the lookout for swarms; he was looking the yard over, as was his custom before going in to dinner, and discovered the stopped hive. I had a brother and sister, big enough to get into mischief, but as soon as my father found the plugged hive he looked me up and ordered the dirt removed, which I did on my hands and knees. I completed the task without being stung, but when I think about it now, I believe I would rather have been stung than to have met Dad that noon hour in the proverbial woodshed.

My father's interest in bees increased until he at times had upwards of a hundred and fifty colonies. I was enough interested in bees to be with him a lot of the time when he handled or worked with them. He told me a great deal about the bees, and answered my childish questions as best he could, and to my satisfaction. When large enough he let me help him where I could.

I will never forget the first time I attempted to hive a swarm. I didn't have nerve enough to go after them as I should, so I got the trip-rope from the hay barn, tied it to the limb on which the bees were clustered, placed a piece of cloth directly under them and in front of the hive, as I had repeatedly seen done; carefully carried the other end of the rope to the smoke house several feet away, and when concealed therein gave the rope a quick jerk. I was unsuccessful, though I jerked several times, so Dad was obliged to hive a cross swarm when he came home to dinner.

My close study of bees began when three one-day beekeeping schools were held in Dodge County, at which time a speaker from the Department of Beekeeping at the College of Agriculture discussed modern scientific beekeeping methods. It was plain to be seen that my father was a keeper of bees and not a beekeeper, viewed from the light of modern, up-to-date beekeeping methods, as explained at these meetings. Our county association was organized April 23, 1920. We further held six monthly meetings at the apiary of some interested beekeeper in as many sections of the county during the summer. A two-day school was held last winter. I attended all these meetings as Secretary of the Association and since seasonal topics in beekeeping were discussed at all these meetings a full year's work in modern beekeeping methods was covered. These meetings, supplemented with extensive reading of modern beekeeping literature,

gave me sufficient confidence to venture forth as an amateur beekeeper.

My father's active interest in bees grew less and less until but five colonies remained. These few colonies had been completely neglected for the three last summers and two winters. About May 15th I examined the colonies for foul brood, found them clean, and decided they were worth buying modern equipment for, if Dad would give me the bees.

On Decoration Day the frames and bees were transferred to modern hives, and I thus became the owner of the five colonies—descendants of the original purchase made with my ten dollar bill thirty years ago. Four of the five colonies showed wax moths had been present in the brood frames. These were united to make two colonies by putting one hive body above the other with a perforated newspaper between. This was done after dark. The next morning the bees were united and what remained of the paper was removed. Two supers were then put on. Supers were added from time to time as needed, it being my practice to get them on as soon as they began working in the last one put on to prevent swarming. In this I was successful. When adding the first super I lifted a frame of brood into it to draw up the bees, immediately other supers added were always placed between two supers in which the bees were busy. All frames were carefully wired, the two top wires being crossed, and full sheets of medium brood foundation were used.

In August the old brood frames were placed on top so as to allow the bees to prepare their winter quarters in new brood frames of worker comb, thus prevent drone rearing next season.

A record of production was kept on the three colonies with the following results: Colony No. 1 produced 239 pounds of surplus honey; Colony No. 2 116 pounds of surplus honey; and Colony No. 3 110 pounds of surplus honey. This was an average of 155 pounds per colony. Colonies No. 2 and 3 when united had brood combs showing damage by wax moths. All surplus honey had to be stored in combs first drawn out by the bees.

These colonies are being wintered out of doors, with dry stover as a packing material. The hives with covers removed were placed together. Tar paper was used to line the packing case as well as to cover the hives. The finely chopped silage was firmly packed between the two layers of tar paper. The colonies are being wintered in two hive bodies with about fifty pounds of honey to the colony.

The total cost of equipment was $43.00. Ninety-three five-pound pails of honey were sold at $1.10 per pail, or $102.30.

The inventory today consists of three strong colonies of bees, each hived in two hive bodies of sixteen frames each; six supers; and fifty frames of drawn worker comb. This equipment is worth at least what was expended in time and equipment the past year. Thus three colonies of neglected bees with such care as an amateur can give yielded a neat profit in a lean honey year.

The Bee-Tight Honey House and Other Popular Fallacies

By S. B. Fracker, State Entomologist.

A letter which came to the office the other day told a story something like this: "Called on Mr. S. yesterday and found he had had American foulbrood in his yard of 55 colonies last spring. When he had treated the bees he carefully stored the honey in his 'bee-tight' honey house until he could finish the pressing spring farm work. One day his sister looked out of the window, wondered what the bees were doing and discovered the whole bee-yard had found the supply of infected honey in the old supers. They were busy going in through the keyhole and out through the bee escapes on the windows, carrying the honey out and distributing it through the apiary. That evening they found the combs in the beehouse almost empty of the diseased honey and soon every one of his treated colonies was diseased."

In spite of our knowing good control measures, experienced beekeepers are having many troubles similar to the story told in this letter. The persistence of disease in large apiaries is so marked and its permanent elimination so difficult that Mr. McMurry remarked to me in October, "In all my work in Wisconsin I cannot recall a single apiary which has eradicated an American foulbrood infection and come entirely clean, by treating the infested colonies." At the time I could not remind him of a successful case but the statement was so striking that I have since gone through the inspection records to find out whether the shaking treatment is resulting in the eradication of disease.

In four counties we have the foulbrood record since 1918 of 163 infected apiaries in which we know the control method employed by the beekeeper. Of these, 64 applied the shaking treatment while 99 destroyed their infected colonies, repeating as often as necessary. Among those who treated the diseased colonies about one-half (27) had yards free from foulbrood at the 1921 inspection, showing that the others spread disease during treatment or stored infected material where the bees had access to it. Among the beekeepers who destroyed the infested colonies, only one-fourth still had disease in their yards this year.

Over large areas the difference in result is great. In only one county could we say that the beekeepers have failed in their attempt to control foulbrood. That

is a county which insists on treating infected colonies, and judging from the records the beemen of that county will still be "shaking bees" long after their neighbors have forgotten such disagreeable topics as bee diseases.

The purpose of this paper is to discuss some of the reasons why there are so many beekeepers, 59 in the counties just referred to, who treat or destroy their diseased bees but have been unable to eradicate the disease. If we were to publish this list of 59 you would be astonished at the many familiar names. Of all those who have failed to eliminate infection in three seasons, only two own less than ten colonies of bees and most of the yards are from thirty to one hundred colonies in size. They are not careless bee owners, but are uniformly the progressive, hard working commercial honey-producers of which associations like this are composed.

We all remember the details of the various treatments for American foulbrood and there is not a beekeeper in the audience who cannot take printed directions (if he does not know them already) and treat a colony of bees successfully. But that isn't eliminating disease from any apiary—not by many a weary season. At least the unlucky 59 will tell you it isn't.

There are only three things we forget when we fail to control foulbrood and none of them is given in the printed directions:

First: the fact that bees seek honey everywhere.

Second: the size of the bee.

Third: the size of the germ which causes American foulbrood and which lives indefinitely in honey from a diseased colony.

All three are "first reader" facts in apiculture, but several thousand commercial beekeepers may well be uneasy about their 1922 profits because they neglected these three little facts in 1919 and 1920 and 1921. The only thing they need not worry about while Bacillus larvae makes his home in their honey houses is the income tax!

In other words treating the infected colony is only the first step toward eliminating disease. To illustrate:

Not long ago an inspector went to look into a case in which repeated treating had not succeeded in freeing the apiary from disease. After talking things over with the owner, they went into the honey house where it was admitted a large supply of honey and comb from infected colonies was sometimes stored. As usual the beekeeper was sure his honey house was tight, although he was unable to explain the presence of so many bees. A careful search revealed the fact that the bees were making regular trips between the apiary and the honey house, entering through a crack in the cement floor and leaving whenever the door was opened.

Not long ago an old German beekeeper was observed sitting motionless on an empty hive eyeing his beehouse closely and puffing his pipe. When there appeared to be no sign of life in his figure, a friend came up and inquired what he was thinking about. It developed that the building was full of bees and he was trying to see how they were getting in. The storage room had arrangements for heating and it was later discovered that the pipe offered so large an entrance that a good size honey crop could all have been removed by the bees in a short time if they had found as convenient an exit.

In some cases there is a missing window pane in the beehouse or a half-inch crack in the siding. Even if the building itself is tight, enough bees can come in with the proprietor as he carries supplies back and forth to cause all sorts of trouble. The placing of a few bee escapes in the corners of the windows is a common arrangement and a good one in the absence of disease.

In the office we have a proverb which is the basis of one of the ten commandments of foulbrood control. It is, "There is no bee-tight honey house." Even if we should equip one with a vestibule, arranged so the inner door could not be opened unless the outer one was closed, we should probably neglect an entrance somewhere large enough to admit a cat, to say nothing of a few bees.

The storage of infected material in the honey house is one of the largest factors in maintaining diseased yards. It provides a source of continuous infection as serious as keeping the carcass of a cholera killed hog in the barn, or tying a mad dog with a string. As long as diseased honey exists anywhere it is a menace to every apiary within reach.

Permitting old comb on which colonies have died to remain outdoors for months is another common form of criminal carelessness. Sometimes the owners are members of beekeepers' societies, readers of bee journals, so experienced in bee disease control that they had treated infected colonies annually for from five to thirty years. This past summer inspectors have cleaned up four such cases, including hundreds of hives and thousands of frames and extracting combs. Every week the rain would soak up a few scales of American foulbrood in the old comb and a few stray bees attracted by the odor would carry a bacillus or two to a formerly healthy colony. Every year some neighbor would try to "keep a hive of bees or two" and would soon give it up "because they didn't do well."

It would be interesting to take a vote of the readers of this paper and ask, "How many have infected material stored in a 'bee-tight' honey house?" "How many have fragments of old comb in the old weathered hives behind the barn?" "How many last August

had hives containing infected comb piled in the woodshed, standing beetight until Johnny came in one day and pushed over the pile?"

If we want to reduce taxes, as we all do, let us first cut off the toll we are all paying to the foulbrood germ, Bacillus larvae. Twenty-seven commercial beekeepers have stopped the payment of that tax in four Wisconsin counties by carefully treating the bees and destroying infested material. Forty-seven have accomplished the same result by destroying both infected bees and material. But fifty-nine real honey producers are still paying that same tax in those same counties because of the points that are forgotten when treatment is applied, namely (1) that bees like infected honey if they can reach it, (2) that they can crawl through a space a quarter of an inch across, or (3) that the cause of disease is a germ which may be lurking in the most microscopic drops of honey.

Just a word in conclusion in the way of a progress report. The spotted, one-county area campaigns are beginning to take a coherent form. At present we are covering the entire eastern part of the state from Milwaukee and Madison to upper Michigan except Ozaukee and Washington counties. Six counties in this area seem to have no American foulbrood at the present time and five more have only an occasional colony showing disease. In the remainder, where losses from American foulbrood approached the nature of a conflagration three years ago, the problem has reduced itself to one of discovering and putting out the remaining sparks. The one exception is Dane county in which the results are uniformly unsatisfactory.

Eradicating the last cases is proving a difficult task. When only one colony in two hundred is infected, locating and cleaning it up without causing new infections requires careful work. The beekeepers everywhere are giving excellent support—particularly the one-colony "bee-owners" — and the unpleasant reception inspectors used to meet from irate housewives has become a rare occurrence.

In Fond du Lac and Dodge counties work was begun this year and plenty of infections (472 colonies) found. In Dodge County two-thirds of all the inspected yards showed American foulbrood. Neither county was completely covered even once but will be finished next season.

The older clean up areas are still showing a few cases of disease but they are destroyed as fast as discovered. In Jefferson county such was the fate this year of 3 per cent of the colonies inspected. Some other counties showed the following percents: Langlade 2⅓ per cent, Sheboygan 5 per cent, Marathon ⅗ per cent, Winnebago 3 per cent, Milwaukee 4 per cent.

In all the counties named only the infected parts were surveyed and the percentages would be much lower if we included all the bees in the county. Over 10 per cent of the colonies in the vicinity of Madison and Stoughton are still diseased, but less than 2 per cent of the total number in the county.

Of course the last traces of disease will be hard to find and will require persistence to eradicate. But with the energetic work of the honey producers American foulbrood is sure to become more and more uncommon and I do not believe it is too much to say that it may even disappear.

Note from Texas Honey Producer

At the annual meeting of the Texas Honey Producers' Association, the members voted to continue paying an advertising tax of one cent per colony for the purpose of advertising Texas honey. Why cannot some arrangement be made in Wisconsin whereby the members of the State Association could do the same? In this way a means could be provided for advertising and to secure a better distribution throughout the state.

A note from the same publication will indicate to the Wisconsin producers what to expect from the honey market.

Note that they are selling for eight and one-half cents a pound for the light amber grades and the darker honey is not selling at any price. (Some honey is moving in Wisconsin but a great deal more could be made to move if there was a proper means of distribution available.)

Notes

In traveling over the state we find most sections short of comb honey. Of course there is always a shortage of fancy comb honey, but if you have Wisconsin No. 1 the Secretary of the co-operative association can quickly put you in touch with some grocer who is just as anxious to buy as you are to sell. If they do not find you they will be buying the western honey, with high freight charges added to the cost.

The big crop of honey gathered by the bees in Milwaukee County this year came as usual largely from sweet clover. Only one or two farmers as yet are sowing it for pasture and hay but they are enthusiastic about it.

The State Fair for 1922

A new season will soon be here and our beekeepers should start thinking about exhibits now. Wisconsin has one of the best and perhaps the largest premium list for bees and honey given in any state. During the past two or three years, the "Honey and Bee Exhibit" at the State Fair has become a big unit in the State Fair.

We have for a long time had some pictures on hand but have not had space to show them. We include a picture of the exhibit in this issue.

WISCONSIN HORTICULTURE

Vol. XII APRIL 1922 No. 8

The Gladiolus

A. E. Kunderd, Gladiolus Specialist.

(Read at Annual Convention.)

As I am not much of a talker to public audiences perhaps you will bear with me if I deliver my message to you by in part reading from notes. When I received an invitation from your Society through your secretary to deliver an address on the gladiolus at your annual meeting this year, I was pleased to accept the same. I have read a great deal for many years of the splendid work of your State Agricultural College, and of your Horticultural Society in the improvement of grains, fruits and flowers. Being a farmer born and still a farmer, all these things interest me greatly, but as you know my work is along a special line, originating and distributing new gladioli.

The gladiolus is fast becoming recognized as the most universally adaptable and useful of all summer flowers. Its possibilities as a florists' flower, not only for out of doors growing but for greenhouse use, are almost unlimited, and just beginning to be realized. It is not an ornamental plant like a canna or coleus, and yet it adds great charm either to the border or among roses, shrubbery, etc., and is unsurpassed as a garden attraction and as a cut flower. The story of its cultivation, handling, storage, etc., is too long for me to discuss here and I take it that most of you are as well posted on that line as I am.

I want to refer you to a few books that will prove very useful to the professional grower as well as to the amateur. The best American book on the gladiolus of which I know is "The Gladiolus" by Matthew Crawford and Dr. Van Vleet. It used to be published by Vaughan's Seed Store and may perhaps still be secured through them. I believe it can also be had from The Florists' Exchange of New York. Allen's "Bulbs and Tuberose Rooted Plants" can perhaps be obtained through either of the above firms or your favorite seedsman. There is also considerable literature on the gladiolus published abroad, by the New York Experiment Station and elsewhere. I must not forget to mention the "Flower Grower" of Calcium, N. Y. The "Flower Grower" is issued monthly and I know of no magazine devoted to floriculture that is its equal. It is devoted to the interest of the dahlia, iris, peony and other flowers, as well as to the gladiolus, and in its columns much valuable information is published from month to month.

Now I come to the subject of The Gladiolus, its history, past and present, and its improvement and possibilities of still further improvement, or change. There are of what is generally known as species perhaps 200 or more known at the present. These are native mostly in Central and Southern Europe (what is left of it), Central and Southern Africa, Persia, The Caucasus, and Byzantium. The best of the species are mostly native of Southern Africa. I am fortunate in having a sister living in South Africa (not that I am glad that she is so far away), but her husband, Dr. Hall, brought me last year on a visit some fine new, almost unknown species. One of these you will want to know of, as I expect a great deal from it in my work of crossing. I have other collectors seeking for still other yet unknown species in the wilds of Africa, so you can imagine what may yet come from this wonderful flower, and see that the work is not yet all done.

The particular species I have just referred to has tall, slender and graceful foliage and stem. It has on the main stem upwards of forty blossoms and four of its branches have more than thirty blossoms each, giving from one spike about 175 individual flowers.

When you consider that almost endless combinations can be made from our ten numerals, you will realize what vast possibilities of combinations are yet contained in the many species of gladiolus. Do you wonder that I am fascinated with my work? Do you wonder that I am impatient when I hear that there are too many new kinds of gladioli? Of course, not all of them are good, but only by new introductions and comparison of new varieties can we advance in improvement. When I hear people say that only self-colors, or light and delicate tints are desirable, I wonder if they know what they are talking about. I live on the main line of the Lincoln Highway, 108 miles east of Chicago. There are six parallel railway tracks representing three different railway systems pass my home and thousands of people stop at my place during "Gladioli Time," and I can assure you that hundreds of the most prominent people will throw up their hands in Ahs! and Ohs! when they see thousands of varieties of almost every shade and color. Show your people thousands of rich and

even gaudy colors and shades, reds, fancy colored, and beautifully blotched varieties and they will forget old notions about only self and soft colors, etc., and your sales will tell you how the people feel when they see something new, something good.

Now I must return more to the history of the development of the gladiolus. Of course, you all know that development of a flower is largely the result of crossing and selection by our new and scientific methods of plant breeding. There is much to be said on culture and growing, but never forget that the three greatest essentials to successful growing of gladioli, as of almost everything else, are good soil, good and frequent cultivation and plenty of water during the growing season. Well grown gladioli are very superior to those less carefully grown and a very choice variety may be very inferior if poorly or only moderately developed. Grow the best and have them in perfect condition, you cannot judge their merits otherwise, nor get the best results.

The principal older strains of gladioli are the Gandavensis, Lemoinii, Nanceianus, Childsii, and Groff's Hybrids. Gandavensis varieties are the result of a combination of species and previous results of crossing different species and form the foundation of what later became the Lemoinii strain, produced by that wonderful breeder of flowers and plants, M. Lemoine of Nancy in France, by the infusion of the species "Purpurea Auratus" into the blood of the "Gandavensis" family of glads. Then Lemoine used his results to cross with species "Saundersii" to produce the larger flowered Nanceianus type. Then followed Max Leichtlin's cross of the "Saundersii" species on the "Gandavensis" family, giving us what was "Gladioli Leichtlinii," which became the famous "Childsii" strain. Next came Groff, the celebrated Canadian originator of gladioli, who used still other species among all the best varieties then in existence, and his work has attracted well deserved, world wide attention and recognition. The work of Groff is monumental.

I had watched this work develop since about 1880, or now over forty years, and having collected as many of all manner and kinds of gladioli as possible, and being a student of evolution and greatly interested in the gladioli, I began to cross on my own account about thirty-five years ago. Observing an inclination among varieties to show more or less variation towards convolution of the petals, I began the study of the species to learn if possible how the ruffled or wavy edged petals might be intensified or improved and a ruffled strain might be produced. By 1904 I was well on the way towards success and by 1907 I had sufficient of ruffled varieties to begin to sell a few, and in 1908 and 1909 I sent a few corms of ruffled varieties to Crawford and Gage, and to Luther Burbank and Dr. Van Fleet in 1910.

Now I am going to demonstrate to you the fact that The Ruffled Gladiolus is the result of scientific work in crossing certain species which I shall name, with varieties, and quote you some of the authorities who describe these species, and are not a result of sport variation or mutation, and still in much lesser degree due to some later conceived notion of some great "law," or rather something said about a law which may not bear the light of scientific investigation or application.

Bailey in his Cyclopedia of Horticulture describes species "Crispiflorus" as having "crisped or wavy petals." Species "Undulatus" as "wavy."

Childs says of species "Faciatus": "The petals have waved margins."

Allen in "Bulbs and Tuberous Rooted Plants," says of species "Cuspidatus": "The petals are undulated."

Now notice the names of these species:

"Crispiflorus" means crisped.

"Undulatus" means undulated or wavy.

"Cuspidatus"—cusped.

Faciatus, Imbricatus, and other species also show a deviation of edges of petals. You will be pleased to hear that soon I will be prepared to introduce an entirely new type with beautifully laciniated petals. I can show you photos of it now.

On the subject of growing gladioli in greenhouses, I am not well informed, as I am not a florist, but from what I have seen I venture to predict that there is a great future open to the florist in this field. Gladioli should not be planted too deeply as their roots are less liable to feed in the soil which is above the bulb level. In shallow soils this is important. Deep plowing or spading of soils is desirable but must be done with reference to the depth of the surface soil, as deep spading of shallow soils would bring to the surface too much of the subsoil. A

(Continued on page 117.)

THE FLORISTS PAGE

EDITED BY
HURON H. SMITH, Curator of Botany
PUBLIC MUSEUM MILWAUKEE, WIS.

While we have had, for several years, as auxiliaries to the State Society, the Milwaukee Florists Club of 80 members and more recently the State Florists Association of 168 members, we as gardeners and fruit growers, have had little to offer them in WISCONSIN HORTICULTURE. We are therefore pleased to announce the Florist's page as a regular feature. We feel sure that members who are not florists will find much of interest here. Owing to the late date of receipt of the following story we are unable to provide illustrations. They will appear in the May number.—Editor.

MILWAUKEE ANNUAL FLOWER SHOW.

People appreciate intimate friendship with flowers, untrammeled by plate glass windows, or glass cases. They like to get right up to the real orchid growing in its airy splendor; they like to take soul-satisfying whiffs of the spicy carnations.

These potent magnets no doubt account for the unqualified success of the first annual flower show of the Milwaukee Florists Club, which ran from March 15th to 18th in the rotunda of the Milwaukee Museum-Library Building.

The Florists Club have held their annual exhibits previous to this year in their club rooms at 11th and Prairie Streets, but at the urgent solicitation of the Curator of Botany of the Public Museum and at the invitation of the Museum and Library Boards, the Club decided to try a free public spring flower show, thus putting our Florists on a par with clubs in other cities of this size.

To say that it was a success is putting it mildly. From 3,000 to 5,000 visitors attended each of the four days, and the flock of interested questions threatened at times to swamp all attendants. Our Milwaukee Carnation King, Nic. Zweifel, the originator of Edna and other fine carnations acted as the official information bureau, assisted by Arthur Leidiger in the evenings.

The exhibit was staged by Alfred Locker, Gus Kellner, Herman V. Hunkel, Wm. Kennedy, Nic Zweifel and Art. Leidiger. Seven specially constructed shelves or tables were furnished by the Museum to fit in between the rotunda columns and grouped about the base of these columns were choice potted house plants. All columns were trimmed with smilax. The carnations were grouped at the front door, while a large central table held the choicest designs of retail members of the Club.

Special mention should be made of some of the novelties in table pieces and corsages. One of the choice table pieces, by James Fox, was an artistically opened Japanese basket, of gray tone, with jade decorations, from which a design of Schroeder's Sunset orchids, cyclamen, pansies, Aaron Ward roses, Asparagus plumosus fern, and purple Spencer Butterfly sweet peas protruded, tipped by lilies of the valley.

Another interesting novelty from Welke Bros., was a huge Dutch wooden shoe in imitation of the old lady who had so many children she didn't know what to do. It was filled with sphagnum, planted with a dozen large blue crocus flowers and harmoniously tied sandal-fashion with yellow and blue coarse silk ribbons.

Gimbel Bros. contributed a fine large wicker basket table piece. Edelfson & Leidiger Co., and Baumgartner Floral Co., displayed some ravishing corsage pieces and the Granville Gardens showed a fine basket of spring flowers.

The variety and excellence of the Sweet Pea exhibit has not been equalled before in Milwaukee. Nearly 3 dozen varieties were shown by Hugo Locker & Sons, and Rieb Bros.

The carnation show was especially large and varied. With Nic Zweifel in charge it could not have been otherwise. Kamp & Spinti showed the finest "Laddies" we have ever seen. August Pohl showed some fine Matchless carnations. The Greenwood Carnation Co. showed "Hope Henshaw," "Ruth Bauer," "Happy Day" and one new to Milwaukee, "Maine Sunshine," a fine yellow carnation that elicited many questions as to whether it was a fake or not. James Livingstone showed his new pink carnation. Heitmann & Oestreicher Co. showen some fine Windsor and Edna carnations. The Schroeder Floral Co. displayed a new pink carnation unnamed as yet, and a fine variety called "Morning Glory." Hugo Locker & Sons also displayed commercial carnations in variety. The C. C. Pollworth Co. showed Edna, Laddie, Harvester, C. W. Ward and a pink striped whitesport of Ward. A. Reinhardt had a vase of his new improved rose pink Enchantress, "Nebraska" and Belle Washburn carnations.

As if our local growers had not done themselves sufficiently proud in carnations, two growers from distant points sent in their newest creations, which we will probably see on the market next year. A. Jablonsky, of Olivette, Mo., (St. Louis grower) sent over a vase of his new dark pink carnation "Betty Jane," and the Joy Floral Co., of Nashville, Tenn., sent in a vase of their new pink carnation "Natalie." Both received much favorable comment.

Two fine orchids from the Pollworth greenhouses created much interest. The growing plants were installed on two central pillars, one bearing 22 blossoms and the other 19. These were the

Schroeder's Sunset orchid (a Cattelya) and Cattelya labiata.

Roses were not shown in such great variety, but nevertheless in great profusion. C. C. Pollworth showed Columbia, Premier and Madame Butterfly roses. Holton & Hunkel showed Premier, Madame Butterfly, Hoosier Beauty and Ward roses. The Cudahy Floral Co. showed Killarney and Crusader roses.

Two especially fine exhibits were the fine basket of General Pershing freesias of Hugo Locker & Sons and the five huge, splendid, red amaryllis plants grown by James Livingstone. Mr. Livingstone could get rich growing such huge bulbs.

The less usual cut flowers were the snapdragons and forgetmenots of the Fox Point Floral Co., and Herman Schwebke; the pansies and callas of Thomas Griebler; the citrus team of Orange King and Lemon Queen calendulas by Locker and Holton and Hunkel, the butterfly plant (Schizanthus pinnatus) stocks, mignonettes and tulips in great variety.

Bulb plants were there in profusion, the finest hyacinths being from Aug. Kellner, E. Haasch, Chas. Menger, Holton & Hunkel and the Fox Point Floral Co. Daffodils and narcissus were shown by Pollworth and Holton & Hunkel. Special mention should be made of the very large King Alfred and Gloire Sassenheim daffodils. Many visitors had difficulty in distinguishing between jonquils, narcissi and daffodils.

The finest box-grown plant at the show was an improved German primrose from Fred Gutermuth who also showed some good potted cyclamens.

August F. Kellner deserves a good deal of credit for the capable manner of arranging the exhibit as well as his large collection of rare exotic plants, in variety, which he furnished.

Don't imagine that interest was solely centered in Milwaukee, for the wide publicity given this show in the press brought Fred Rentschler, of Madison, President of the State Florists Association, John Rindfleisch, of Beloit and James Taylor, of Oshkosh, Directors of the same society, as well as Meyer Bros., of Kenosha, to see the show.

Thursday the 16th being the regular club meeting night a lecture was given to club members and show visitors, numbering 130, in the Museum Trustees Room by Huron H. Smith, curator of Botany. With the aid of colored lantern slides, he led the florists far afield in the realm of the tropics and oriental countries, explaining the peculiar foods which plants yield and proving the old saying that half of the world doesn't know how the other half lives.

The members of the Florists Club are loud in their praises of the success of the show and are even now discussing how much better they could do at a fall show late in October, when the "Mums" are in their glory.

The Gladiolus

(Continued from page 115.)

covering of four inches of soil above the corms is generally considered about the best. Mellow loam or sandy soils are better adapted to somewhat deeper planting than is a clay or heavy soil. By successive plantings from early garden making time until late in June, then following with plantings in the greenhouse from about August 10 on until the following March, one may now have blooms of these magnificent flowers almost the year round.

You may be interested to know what I consider as the most beautiful colors and types of gladioli and I will try to tell you. The best variety is the one that pleases you the most, be it red, white, pink, yellow, or what not, but if you are a grower for commercial purposes then you must cater somewhat to the public tastes, but as I said before the public will soon learn to appreciate many and vari-colored varieties, if you will have them in fine condition. There are today almost no pure strains of gladioli grown, owing to the great amount of mixed crossing that has been done in recent years, and the field is open to the patient worker to produce yet many wondrous kinds. Let no man tell you that this is the best one or that, for "the best one" has not yet appeared, and you have as good a right to your preferences and to produce the best one as anyone. When two species, or varieties, cannot be crossed directly, try the third one, and with the resultant seedling you may succeed in crossing indirectly and secure about the results you wish.

I want to refer briefly to descriptions, especially of colors. For the expert I believe in a color chart and think we ought to give more attention to this, but authorities seem to differ as to colors and tints, and as a rule I find that among the general public our old ideas of colors is suited best.

No doubt I have failed to speak of much that might interest you but will be glad to answer any questions you might wish to ask, as best I may.

Make haste slowly in gardening. You may easily spoil all your chances for a good garden by planting before the ground is fit.

Poor seed do not pay at any price. Be sure to buy good seeds from seedsmen of established reputation.

THE INSECT PAGE

Edited by E. L. Chambers, Assistant State Entomologist

Control for Pests on House Plants

Possibly the simplest and safest remedy for such pests as plant lice, mealybugs, etc., is the use of a strong solution of soap suds made by dissolving an inch cube of common laundry soap in a gallon of water. This is greatly improved by the addition of a tobacco extract or using water in which a few tobacco stems (one-half pound per gallon) have been steeped, (not boiled) for a couple of hours. There is an extract for this purpose on the market sold under the names of "Black Leaf 40," nicotine sulphate, etc. A teaspoonful of this added to a gallon of this soap solution is usually sufficient for most uses. It can be purchased at most any drug or seed store. Owing to the necessary weakness of this solution for such succulent plants, it may be necessary to repeat the treatment several times at intervals of about ten days for the best results. In case of the armored scale insects so common on ferns and palms the plants should be sponged off with the solution rather than simply sprayed in order to remove the protective covering of the insect, and whale oil soap at the rate of a half pound per gallon should be used in place of the laundry soap.

Root Forms—Plant lice on the roots may be controlled by treating the soil with ground tobacco stems. Tobacco dust which is most commonly used by florists can be purchased at the local seed store. In case of severe infestations the tobacco should be placed around the roots, while the leaching from the surface of the soil will be sufficient to kill most of these root forms in ordinary cases. It will not injure the plant and has a little fertilizing value as well.

Control Codling Moth

Spraying with arsenate of lead at the rate of one and a half pounds to fifty gallons of water as soon as the petals are off and while the calyx lobes are open and the small apples extending upward will do much toward their control. Good results have been secured from a single application, but this is not sufficient for general orchard spraying in Wisconsin, since there are other insects and fungous diseases which need attention. A greater number of applications must be made if a high percentage of perfect fruit is desired. The lead is usually applied in combination with lime-sulphur which is made up by diluting a gallon and a quarter of the commercial solution in fifty gallons of water. The spray is repeated in three or four weeks to get the second brood of the codling moth.

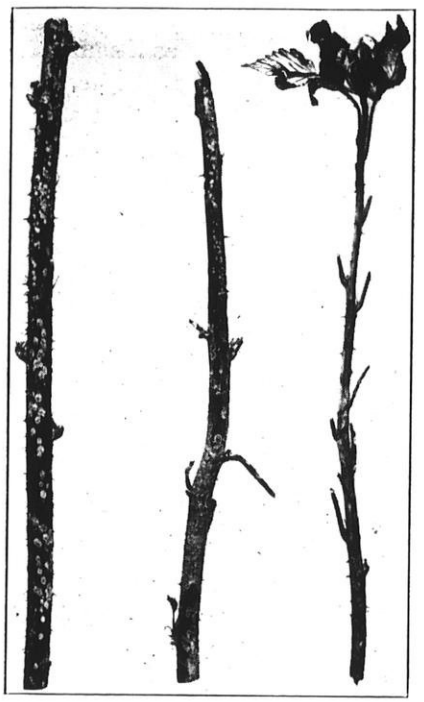
The codling moth passes the winter in the larval or worm condition in tough cocoons, woven of silk. These cocoons may be found under the pieces of shaggy bark on the trunks and limbs of apple trees, especially in the crotches. The larvae go into a resting stage in the spring when the weather begins to warm up and remain in this condition for twenty-five to thirty days. The adult moths emerge over a period of several weeks but a majority of them appear about one week after the apple blossom petals have dropped. The average life of the adults is about ten days, during which time from thirty to one hundred or more eggs are laid. The eggs are deposited principally on the surface of the leaves and sometimes on the fruit and branches.

The first brood eggs hatch from six to ten days after they are laid. The tiny "worms" are about one-sixteenth of an inch in length, with a shining black head. They are nearly transparent and may feed slightly on the foliage before entering the fruit. It has been generally observed that this first brood of larvae almost universally enter the apple at the blossom end and as a result of this the spraying operations have been directed toward filling the distended calyx cup with poison and hence the importance of the above recommendation. It should be borne in mind, however, that for a successful control of this insect all of the foliage and fruit should be thoroughly covered with the spray. The greater percentage of the second brood enter the fruit through the sides.

Raspberry Anthracnose

Numerous inquiries have been made recently as to the nature, cause and control of raspberry diseases and it seems advisable to present to the "Wisconsin Horticulture" readers a few facts relative to the most important raspberry disease in the state—raspberry anthracnose. Leon K. Jones, of the Department of Plant Pathology at the University of Wisconsin who has been making a

study of this disease, makes the following statement: "This disease appears about the middle of May on the young growing canes, causing at first a small reddish spot which later becomes gray to white in the center surrounded by a purplish margin. The spots, usually small, may run together making large irregular white patches on the older canes. The



RASPBERRY ANTHRACNOSE.

disease also occurs on the leaves and fruit but the symptoms are not so noticeable as when the canes are attacked. Experiments have been carried on at the University of Wisconsin for the last two seasons in order to ascertain the best methods of control. Although the data are not in form for publication at the present time, the results show that the disease can be controlled with two applications of lime sulphur

(Continued on page 124.)

Beautify The Highways

Contributed
by Mrs. L. H. Palmer.

Sitting by the register, watching the snow, as the north wind whirls it across in eddying clouds, filling hollows, drifting against fences and buildings, we wonder at the power of the One who controls the seasons and notes even the "sparrows fall."

Only a few short months ago, we were nearly burned up by the heat and lack of moisture in the atmosphere, and had it not been for the comforting coolness in the shade of the many grand old trees which grow so abundantly along our highways, on our lawns, and in the woodland pastures, we would have suffered much more.

It takes many years for trees to become large enough to be of use except as a beautiful addition to the scenery, and for this reason, it is advisable for all land owners to set out one or more trees where they will be in harmony with their surroundings, so that those which have to be removed, the vacancy caused by their removal may be less apparent.

We would not go on record as objecting to the advent of the electric and telephone wires, with their weird ghostly cross arms, supported by gaunt poles that remind one of nothing so much as great giants standing sentinel by the road side, concealing power sufficient to destroy the universe if it was suddenly let loose.

The value of this harnessed power is incalculable, but we note with sadness that the beautiful trees along the highways where these wires stretch in ever lengthening miles, are gradually disappearing or worse yet, being hacked and cut so as to spoil their beauty.

We may still retain some of the natural beauty of the Wisconsin scenery along the road side, if we encourage the growth of our native shrubs. We have almost an endless number of varieties which are easily grown and by simply leaving them where nature planted them, and giving them a little trimming out each year, to keep down the dead stalks, they create a park-like effect very pleasing to the traveler along the highways. They are readily transplanted and when planted in graceful lines around long curves, in compact clusters in favorable locations, they will in no way obstruct the view and will add a refreshing coolness and delicate beauty to an otherwise barren landscape.

Nothing can be more dainty than a blanket of wild roses spread along the roadside. Wild vines may be trailed along fences and over boulders up the lichen-covered rock walls that tower many feet above the roadway in many sections of Wisconsin.

Nearly all wild flowers, many of them rivaling their hot house sisters in beauty and sweet fragrance, will grow in sweet seclusion among the shrubs and along our creeks water plants innumerable grow in rank profusion.

May we not forget to replace the beauty, as far as we can, that time and man's encroachment obliterates.

Aphis may be kept off chrysanthemums by spraying the plants with nicofume or other tobacco preparation. Sometimes it is a good plan to add a little soap to the water as it will cause the material to spread and stick better.

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The Line of Least Resistance

That, apparently, is the line that has been followed by plant pathologists lately. The wheat rust passes one stage of its existence on the common barberry, no doubt about that, and at once the edict is promulgated, "destroy the barberries." The presence of currant and gooseberry bushes seems to be necessary to the continued existence of white pine blister rust and at once the word goes forth, "out with the gooseberries and currants."

The destruction of our barberries, both green and purple, in 1918, seemed a patriotic duty and the writer under stress of war conditions gave testimony before a legislative committee which helped to put on the statute books a law which might now be modified. All this could be borne with more less fortitude, but here is the limit. Read:

"An entomologist in the potato district of Maine has come to the conclusion that there is a definite relationship between the rose bush both wild and cultivated and the potato mosaic, a destructive disease of the potato. He says the aphis which works on the potato is the same as that which works on the rose. This aphis carries the disease to the potato plant. Either we will have to get rid of the aphis or breed disease resistant potatoes. Neither this country or Europe would care to lose its roses.—Le Roy Cady, associate horticulturist, University Farm, St. Paul, Minn."

You are right brother Cady, only we will go a bit further. Let us serve notice now and here on the whole tribe of plant pathologists, their present and prospective progeny, that horticulturists of this free land will **not** submit, except through force, to the destruction of the rose or any other so valuable a plant even to save the succulent spud until the pathologists have employed their God given talents and such common sense as they may possess, aided by whatever little knowledge they may have acquired, to find a remedy for the control of these diseases other than the destruction of host plants. Is it on record anywhere that this has ever been attempted? No so that it can be noticed.

"The wheat rust breeds on the barberry, and other plants, why look for a remedy, it is much easier to dig out the barberry." The line of least resistance, the lazy way.

Cantaloupes, Muskmelons and Mushmelons

Many years ago I ate breakfast at the W. K. Williams hotel in Manitowoc in company with Mr. R. J. Coe. The waitress replied in a dreary, wearisome negative to our inquiries about what fruit we might have; denying us oranges, grapefruit and the like. As the season seemed propitious we humbly inquired if we might partake of canteloupe. At this she seemed to brighten as if something had happened to relieve her mind and she replied: "No, but we got mushmellers." Mr. Coe has never forgotten the "mushmellers" although I must confess I did until today when on reading the article on page 106 of the March issue where the printer made me say "**mush**melon."

Sometimes I feel that profanity is not sinful.—F. C.

Miscellaneous

The dates of the 1922 Summer Meeting have been fixed by the Board of Managers as August 9th and 10th. The place of meeting has not been definitely fixed at this writing. But one invitation has been received. No doubt the Board would be glad to have other bids.

For three years in succession the war-time bulletins on gardening have been published as a supplement to Wisconsin Horticulture and a copy sent to each member, usually in February. Also many thousands were distributed among schools and city garden clubs. This year the same matter is being issued in book form, about 40 pages, five by seven inches, with cover and to be

known as the Wisconsin Garden Book. We have a promise by the publishers that it will be ready for distribution by April 1st. The book will be furnished to members and others at cost price, probably about ten cents per copy, possibly less.

A copy of the 1921 Annual Report was mailed to every member in good standing about February 15th. It now appears that one or more lists were duplicated when addressing the envelopes. Members who have received more than one copy can help greatly by returning the extra copies. Owing to the excessive cost of printing the edition was cut to the lowest possible limit and a shortage is foreseen. We want every new member to have a copy. If you have one more than you need let us have it. Postage will be refunded.

Somebody, somewhere, somehow, has let loose the erroneous idea that Wisconsin Horticulture may be had on payment of 50 cents. For the first time in years, since the membership fee was raised, letters have been received containing 50 cents with the request to be entered as a **subscriber** only. It can't be done. This paper is published by the State Horticultural Society and is sent only to members of the Society. In order to comply with postal regulations we do fix the price of subscription as 50 cents, but in the same breath limit the circulation to members of the Society as we have a right to do. Read carefully the paragraph appearing on the eighth page of each issue. "Annual membership fee **One Dollar,** which includes 50 cents, subscription price to Wisconsin Horticulture." The sense will not be changed if it is read,—"Annual membership fee one dollar which includes subscription to Wisconsin Horticulture." The paper is supported by membership fees and advertising. The purpose of publication is to disseminate horticultural information and incidentally increase our membership. As we said in the beginning somebody has a wrong idea and we hope that our members who understand the situation will disseminate the correct information. Surely the annual report and other privileges of membership are worth fifty cents. Anyway we can't split the dollar.

The Ice Storm of February 22nd

"The world today is a glittering, sparkling mass of ice in the sunshine. Trees and wires are still loaded with ice coating and icicles. —Wm. Toole.

"I walked through the park and college grounds at Appleton and it seemed to me as if a giant with a great club had passed that way stripping the trees of branches.—J. A. Harley.

"Looks like Satan had paid us a visit. On our lawn three trees out of fourteen remain intact."—N. A. Rasmussen.

Eight cases of flowers and plants were shipped from London for the Armistice day celebration in Washington, D. C. The freight alone was over $800 and they were accompanied by an English florist who made up the work here.

More About Melons

The member who asked where a true strain of Emerald Gem melon may be had and if commercial fertilizer and lime for melons would pay is answered by Mr. Christensen as follows:

"It would probably be difficult to secure an extra selected strain of the Emerald Gem melon as it is a strictly home market melon, being too tender-skinned for shipping. The quickest way to secure a selected strain would be to send to several reliable seedsmen and secure a quantity from each. Plant half of it for trial and the next year plant the remaining seed of the best strain by itself for further selection.

"Commercial fertilizer adds to the size and firmness of the melons and it would undoubtedly be profitable to apply it to soil that has been cropped so long."

Mr. Rasmussen says:

"We have discontinued growing Emerald Gem entirely. Grow only Milwaukee Market. Would advise getting seed from any reliable seed house and then select your own seed year after year.

"I would test for acidity of soil and use lime if necessary. If I could get plenty of barnyard manure I would not think it necessary to use commercial fertilizer."

The George R. White medal of honor of the Massachusetts Horticultural Society for 1921 was awarded to Mrs. Francis King in recognition of her services to horticulture by increasing the love of plants and gardens among the women of the United States. This is the first time the medal has been awarded to a woman.

Mother and Son

Elizabeth Held.

Ever since I could remember Mother and Son (that's what the neighbors affectionately called them), lived in the old-fashioned white house on the corner. Mother was a dear old-fashioned woman whom we all loved, and Son "was the best boy in the world," so Mother said. She never worried or fretted about him, she had taught him truth, honesty, and right living and then just trusted him to do right. To Son's everlasting credit, he usually deserved the faith she had in him. As he grew older the bond between them seemed to grow stronger. Mother was interested in his work, rejoicing in his success, sympathizing with him if he failed, always spurring him on to greater efforts. It was a pleasure to see them together, they were so happy. And then Son met the Girl. We rather expected Mother would resent her son's interest in another, but she did not if Son loved this girl, why she would love her too, she wanted her son to be happy, that was the great desire of her heart. So when Son brought his wife to the old house (he never dreamed of taking her anywhere else), Mother greeted her as warmly as she did her Son, saying, "Welcome home dear daughter, I hope you will be as happy here with us as I know we will be with you." The young wife's greeting was courteous and kind, but her voice was cold as she said: "Of course we will stay here a while until we can find a suitable house. I do not believe it wise for two families to live in the same home." Son could hardly believe he had heard aright. "But, Alice," he said earnestly, "Mother and I have always lived together, we would not be happy if we were parted, surely you knew that this was to be home and that mother would be with us." But the wife was insistent, "he could not expect to stay with his mother now that he was married, she was his wife and her wishes came first."

Torn between the two great affections, Son would have been very unhappy had it not been for the unselfish attitude assumed by his mother. With rare understanding she interposed: "Your wife is right, Son; you must give her the home she desires. The fact that we do not live in the same house will make no difference in our affections." Soon a new home was made ready in another part of the town. Somehow no house near Mother's just suited the wife. I do not believe she ever admitted it even to herself, but she was jealous of her husband's affection for his mother. She seemed to have the feeling that any affection given to another was robbing her. She could not seem to grasp the fact that her husband would be a better husband because he had been a good son, that the bond between Mother and Son strengthened instead of weakened the bond between husband and wife. It was very lonely there in the old home after Son and his wife went away. But like many another mother she smiled bravely and busied herself in doing things to make others happier. And Son was so content in the affection and trust given him by his mother that he never dreamed of the heartache hidden under the gentle smile he loved so well. Perhaps he too thought as Mother did that after the wife became better acquainted she would be willing to bear with them and the old happy life would go on as before. But the years rolled on and two children came and still the wife held aloof. Though for a number of years the husband's work called him away for weeks at a time, she would ask strangers to come and stay with her and the babies rather than the lonely little mother whose heart yearned for her son and his children. Not that she disliked her husband's mother. She was really very fond of her in her way. But she stubbornly refused to admit that she was wrong in her insistence for a separate home. She would have been shocked had anyone told her she was selfish, both to her husband and his mother. She was so sure she was a model wife and mother. Her house was immaculate, her children clean and well behaved, her husband's meals well cooked, his clothes mended and cared for. What more could she do, that her husband might feel he should not have left his mother there alone, that she might have done many things to make life sweeter and happier for her? That loving sympathy and interest in her husband's work was of more account than an immaculate house. Those thoughts never even entered her head. She was so interested in herself and in her children. She adored them and always thought of them as her children. She had so many plans for the future of her son and pretty daughter. She had no time to interest herself in her husband's work. That he had climbed high up the hill that his work benefited humanity, never seemed to interest her at all. The thing she thought of most was, that there was always plenty of money to gratify her desire for a beautiful house and further her ambitions for her children. In her affection for them and her plans for their future, she seemed to forget her husband entirely. He would have been very lonely had it not been for his mother. Her affection was the same as of old—she was ever ready to listen, cheer or sympathize.

But one day the summons came to the old home and they carried his mother away to the sunny hillside cemetery and laid her there to rest, and Son began to realize what she had really meant in his life. There seemed to be no one now. It was useless to expect his wife to care about anything he did. His children were growing up. They did not seem to think he was at all necessary to their happiness. Then it was that success and garnered wealth turned to dust and ashes in Son's heart. His mother was gone; never again would her hand clasp his. Never

again would he know and feel the touch of her soft cheek against his. Her loving sympathy, her understanding, all that he desired most of anything on earth, was gone forever. We, who had known him and loved him saw the lines in his face harden. He grew cold and bitter; step by step his feet were straying from the old straight path.

And then—just how I cannot tell you—but out of the Silence his mother called to him: "Your mother still loves you, do not give up, even though you may not understand, everything will be all right. Remember I love and trust you still." From that day there was peace in his heart. He took up the every-day burden of life cheerfully, happily. He is winning back his children's affection and confidence with an understanding that amazes his wife. To be to them what his mother was to him is his great desire. He is doing more and more and better work. Firm in the faith that his mother is still near him, and that all he is or ever will be he owes to her.

MAY we be on time, don't be discouraged.

The Propogation of Plums

1. Can roots of young plum trees be cut up in short pieces and used in making grafts the same as the piece root apple graft, or must whole roots be used?

2. Can plum grafts be made this month (March)?

3. Can cultivated plums be grafted to wild trees and stocks?

4. Can the Compass Cherry and Hansen Hybrid plums be grafted to common plum trees and roots?

5. My fruit trees are coated with ice from the recent storm; will this damage the fruit buds? I have hardy varieties only.—L. G. C.

No. 1. Native plums may be grafted on piece roots the same as apples, but with less success. I should not expect over 50 or 60 per cent to grow. A more reliable way and one practised by many nurserymen is to raise seedlings and when one year old cut off the top close to the ground and splice-graft the crown.

No. 2. Piece root grafts of plum can be made in March the same as piece root apple grafts.

No. 3. Any of the cultivated plums, either native Japanese or European, can be grafted on native stock either cultivated or wild but neither the Japanese or European make a lasting, substantial union. The cion overgrows the stock.

No. 4. We regret that we cannot tell you what stock is used for Compass Cherry and Hansen Hybrid plums. Prof. H. E. Hansen, Brookings, S. D., can tell you.

No. 5. We feel certain that the recent ice storm will not injure fruit buds, that is, the buds encased with ice will not suffer on account of the ice. This is entirely aside from mechanical injury.

Some very fine specimens of aconite have been grown in some of the gardens about Lake Minnetonka this year.

Shall We Plant Grapes?

Inquiries concerning grapes continue; whether grapes will prove profitable; the necessity of winter protection, etc. In the past grape culture has not been profitable except in the case of small vineyards supplying local trade. What the future may hold forth is doubtful. We have nothing but contempt for the horticulturist who contemplates raising grapes with the expectation of disposing of the crop at high prices for the making of wine. Many of those who write asking for information scarcely conceal this intention. Further, we predict for them failure if this is their intention.

In the southern and southeastern counties the early maturing varieties, Moore's Early, Concord, and Niagara, if given winter protection may be expected to bear about five years out of six, the sixth year a total loss from spring frosts.

Usually the big grape producing areas of Michigan and Western New York flood Wisconsin markets with grapes which sell for less than we in Wisconsin can afford to grow them.

This situation has changed somewhat of late and there is a fair demand for table grapes at better prices than formerly. It is likely this demand may hold and that the cultivation of grapes on a limited scale may prove profitable.

Small Dusting Machine

"Shall I buy a ——— dusting machine, crank type, hand operated, for a small apple orchard, 15 to 20 trees, none of which are over 12 feet in height?"

The application of insecticides and fungicides in dust form by means of blowers is yet in the experimental stage. Many large growers who have thoroughly tested the dust use it in part, relying on liquid applications for the important sprays.

For an orchard of this size a hand operated (liquid) sprayer would be more satisfactory than the duster.

Raspberry Anthracnose

(Continued from page 119.)

spray: (1) lime-sulphur, one gallon to ten gallons of water, applied when the first two or three leaves have opened on the raspberry plants in the early spring; (2) lime-sulphur, one gallon to forty gallons of water, applied about one week prior to blossoming. It has also been found advantageous to add gelatin to the

The Secret of Growing Good Dahlias

Get good varieties.

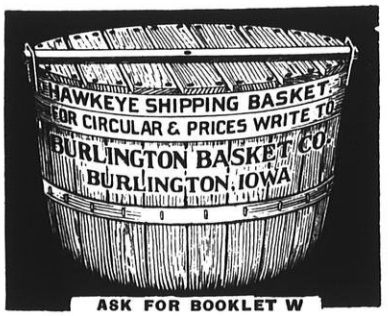
Split clumps to one or two sprouts on a division.

Plant away from building or shade.

Water thoroughly—once a week at night.

Rake ground next morning. Keep this up until plants shade the ground.

The whole story is to keep plants growing without a check.



spray as a sticker, one-half pound of gelatin being put into solution with a small amount of heating and added to each one hundred gallons of the spray."

"Young plants should be removed from the vicinity of the old plants in the spring before the new shoots are six inches high, since the disease lives over winter on the old canes and begins to spread to the new shoots at this time."

Kill the Cankerworms With Lead

The spring and fall cankerworms may readily be controlled with an arsenate of lead spray at the rate of one and a half to two pounds of the powder to each fifty gallons of spray. In orchards where a regular spray program is being carried out the usual pink bud spray used against apple scab and such insects as the plum curculio, etc., consisting of one and a fourth gallons of commercial lime-sulphur to fifty gallons of water, plus one and a fourth pounds of powdered arsenate of lead, will be found sufficient. It will soon be time for this treatment. The most effective work can be done by applying the spray early, when the caterpillars are young and will thus succumb to a smaller dose of the poison. Some protection may be secured against the spring cankerworm at this time by banding the trees with tanglefoot, but as the majority of the egg masses of the fall cankerworm will still hatch, the importance of thorough spraying should not be overlooked.

The cankerworms are the larvae of two nearly related species of moths, very similar, both in appearance and habits. An enormous amount of injury has resulted

from these pests in various sections of the southern part of Wisconsin during the past few seasons. Many of the orchards have now been defoliated two years in succession and another year may result in the death of some of the apple trees as the apple is not able to put out two sets of leaves each year indefinitely. The worms or larvae of these moths are from three-fourths to one inch in length, dark green and sometimes distinctly striped. At first they eat holes in the leaves, but later the entire leaf is destroyed, except the main veins.

Spring cankerworms—In case of the spring cankerworms, the larva when full grown enters the ground, transforms to a pupa, the resting stage in its life cycle, and remains here until spring. The adults make their appearance the following spring, several weeks before the apple is due to blossom. The female which is wingless crawls up the trunk of the tree, and lays her eggs. A single female may lay over 400 eggs, which she tucks away in small irregular pits or clusters in the crevices under bark scales and moss on the trunk and larger limbs of the tree. These hatch in April or May.

Fall cankerworms—In case of the fall cankerworms, the full grown larva enters the ground and transforms to a pupa, but the adult emerges in the same fall, instead of in the following spring as does the other form mentioned. The wingless female at once climbs the trunk of the tree and lays her eggs, the eggs in this case being laid in exposed positions on the bark, mostly on the twigs, in flattened masses of from 100 to 400 and set close together

on end in quite regular rows. These hatch in April or May also.

The use of mechanical barriers or sticky bands to entrap these wingless females as they attempt to ascend the tree to lay their eggs is especially recommended on very large, rough barked elms or other trees that it would be difficult to spray thoroughly. In order to get the fall cankerworm it will be necessary to have the bands in place and in good condition during the fall, while for the spring form they must be in place at least six weeks before the blossoms appear. The tanglefoot may be applied directly to the bark of the trees, making a band two inches wide by one-quarter inch thick.

Spraying Fruit Trees While in Bloom

More co-operation is needed between fruit growers and beekeepers. The honey bee is one of the greatest assets to cross pollination of plants of all kinds and it is a well known fact that bees are very important in the production of clover seed. Without insects to carry pollen from one plant to another most of our fruit would soon be reduced in quality and size and possibly even become sterile. It therefore is very essential that the fruit grower have a thorough understanding of the development of insects and the proper method of spraying. In fact, not only is it unnecessary to spray trees while in bloom but in reality much of the spray is wasted and not near as much benefit is derived as when trees are sprayed just after the blooming period. Fruit growers who are spraying their trees during the blooming period are not only causing serious losses to neighboring beekeepers but they are also indirectly causing losses to themselves.

WISCONSIN BEEKEEPING

Official Organ of The State Beekeepers Association

Supplement to WISCONSIN HORTICULTURE, *April 1922*

The State Fair for 1922

Have you made your plans for an exhibit? If not, write at once to Mr. Dittmer for space.

THE 1922 CHAUTAUQUA AND CONFERENCE

The fourth annual Beekeepers' Field Meet to be held by the University Bee Department and the State Association cooperating will be held at Green Bay, Wisconsin during the third week in August. We will look for you.

A new bulletin on "Winter Care of Bees in Wisconsin," by H. F. Wilson has just been issued by the Wisconsin Agriculturai Experiment Station.

The American Honey Producers' League

Your editor believes that every beekeeper in America should belong to this organization and give it his active as well as moral support. Very few of our beekeepers are acquainted with the work the League is doing, or of the great amount of good which the League can do for the beekeeping industry at large. An abstracted copy of the proceedings of the League meeting has been sent to our office, and we feel that these proceedings are of sufficient importance to warrant their being printed in full.

Beekeeping can never be a big industry unless we have some kind of a national organization and that organization is now with us, if we will only help build it up by giving our financial support.

If every beekeeper in the United Stated would give two cents per colony for centralizing our advertising campaigns and other phases of the work, we would, at a very little cost, be able to make honey a staple household product within a few years. Read over the report and see what has been done during the past year.

Wisconsin has 8000 beekeepers; 105 of them belong to the League and are helping the industry. Why not every one send in a dollar? Also count the number of your colonies and send in two cents for each one toward a state and national advertising campaign. H. F. W.

The American League Meeting

Fifty-six delegates and members attended the Third Annual Meeting of the American Honey Producers League at Salt Lake City on January 30-31.

The report of the secretary-treasurer showing the following financial statement of the League was filed:

Receipts

Balance on hand Sec'y Chas. B. Justice	$ 48.16
Balance on hand from 1920	466.90
Receipts from State organizations since 1921 meeting:	
Nebraska State Beekeepers' Association	100.00
Colo. Honey Producers Assn.	325.00
Washington State Beekeepers' Assn.	100.00
Kansas State Beekeepers' Assn.	100.00
Texas Honey Producers Assn.	791.00
Texas State Beekeepers' Assn.	50.00
Montana State Beekeepers' Assn.	72.00
Wisconsin State Beekeepers' Assn.	91.00
Iowa State Beekeepers' Assn.	100.00
New York State Beekeepers' Assn.	18.00
Oregon State Beekeepers' Assn.	100.00
Illinois State Beekeepers' Assn.	100.00
Receipts from Allied Trades:	
G. B. Lewis Co.	200.00
A. I. Root Co.	200.00
Dadant & Sons	200.00
Leahy Mfg. Co.	60.00
Falconer Mfg. Co.	50.00
Illinois Glass Co.	25.00
National Can Co.	25.00
W. W. Boyer & Co.	25.00
Hamilton & Menderson	25.00
Virginia Can Co.	25.00
A. G. Woodman Co.	10.00
Marshfield Mfg. Co.	10.00
Receipts from Individuals:	
B. F. Smith, Jr.	20.00
E. B. Ault	20.00
H. E. Weisner	10.00
Wm. Glatter	10.00
L. D. Leonard	10.00
Mrs. Mary G. Alley	10.00
J. M. Davis	5.00
Bruce Anderson	2.00
Will M. Kellogg	1.50
W. E. Woodruff	1.00
W. P. Southworth	1.00
Receipts—Miscellaneous:	
Sale of Warning Posters	24.07
Feb. 1, 1921 to Jan. 31, 1922 Total General Fund	$3,431.63

Disbursements

Stenographers hire	$ 828.33
Postage	178.00
Printing, Bulletins, Stationery	372.70
Freight	4.12
P. O. Box Rent	9.00
Miscellaneous—Telegrams, etc.	3.50
Total	$1,395.97
Balance in fund	$2,035.66

The Executive Committee employed the secretary at a salary of $2,400.00 per year for 1921 which salary has not been paid.

There not being a quorum of the members of the League present the president was instructed to carry on the work of the League pending a postal ballot for the election of new officers whose duty it will be to select a secretary for 1922.

Honey Grading Discussed

The first subject of general discussion was on the report of the Bureau of Standardization and Grades. Mr. F. Rauschfuss, chairman, had gone to considerable expense and labor in collecting from various parts of the country, full sets of grades as used in the different districts. More than thirty of these were shown and their great variation proved the need for a universally recognized standard grader. Papers bearing on this subject were presented by Arthur C. Miller and Dr. E. F. Phillips.

A committee was asked for to examine the various samples presented and to select from them a set that would most nearly harmonize the difference of various parts of the country. This committee was composed of F. W.

Wisconsin Beekeeping
H. F. WILSON, Editor

Officers of The Wisconsin State Beekeepers Association
President.....F. F. Stelling
Reedsville
Vice President.....Conrad Kruse
Loganville
Treasurer.....C. W. Aeppler
Oconomowoc
Secretary.....Malitta F. Hildreth
Madison

Annual Membership Fee, $1.00
Remit to M. F. Hildreth, Secy., Madison, Wis.

Redfield, Thos. Changry, A. G. Anderson, C. H. Wiley and J. Skovbo. An auxiliary or advisory committee composed of H. H. Root, E. T. Atwater and E. G. LeStourgeon was requested to act with them. After a lengthy discussion it was decided to withhold any final action until the next meeting of the League and Mr. Rauschfuss was instructed to continue his investigation of the subject.

Bureau of Education Report

The Bureau of Education, Dr. J. H. Merrill, chairman, filed a full report showing the activities of state agricultural colleges and making recommendations for the furthering of the work. From data presented it was learned that there are only fifteen agricultural colleges in the United States in which beekeeping is not taught. Seventeen states have extension workers in beekeeping and nine experiment stations report experiments were being conducted in beekeeping subjects.

Legal Aid for Beekeepers

Mr. O. L. Hershiser, of the Legal Aid Bureau, filed a very complete report and resumé of the cases handled. Several attempts had been made to pass city or village ordinances against beekeepers and were frustrated. It was through the agency of this committee that the notice or warning posters were printed by the League and sold to members of the League to display in their apiaries. Ten cases were recounted in which legal assistance and advice was given to members of the League.

The committee made a strong recommendation that a new book on the legal rights of beekeepers be prepared and printed by the League. The cost of compiling and checking the various court decisions affecting beekeeping was estimated at $100.00, and a fund was quickly raised for the purpose, donations being made as follows:

Colorado Honey Producers Assn..	$10.00
Kansas State Beekeepers Assn...	10.00
Utah Beekeepers Assn.....	10.00
Texas Honey Producers Assn....	10.00
A. I. Root Co., (By H. H. Root)..	20.00
Dadant & Sons (By C. P. Dadant)	20.00
A. G. Anderson, Cedar City, Utah	10.00
J. F. Diemer, Liberty, Mo.....	5.00
R. A. Anderson, Rexburg, Idaho..	2.00

It was decided to get out the book in an an edition of five thousand copies to be sold by the League at 50 cents per copy so that every beekeeper may have a ready reference book in case of legal difficulty. The cost of publication is to be met by a call for popular subscription. Beekeepers are asked to mail donations to the League for this purpose. No more valuable work than this can possibly be done at this time.

Arbitration and Disputes

The Bureau of Arbitration, H. B. Parks, chairman, filed a report showing that this committee handled some 150 cases of disputes between beekeepers, nearly all of which were settled to the satisfaction of all concerned and an enormous amount of legal conflict was obviated. It was expressed by those present that if the League had accomplished nothing else the work done in this one department would well pay the effort that has been put forth in the League movement.

The Transportation Problem

The need for a special committee on Transportation was emphasized by the members present. Many examples of excessive and unequal freight rates on honey were cited. It was determined to have the League establish a Bureau of Transportation and have someone working on this matter all the time to prepare and present data to ratemaking bodies. The incoming president is instructed to appoint such a committee.

Research Work in Beekeeping

The Bureau of Research, E. F. Phillips, chairman, acting with Dr. J. H. Merrill and H. F. Wilson, presented a full report of activities to date. The change in the needs of beekeeping owing to problems growing out of the war's aftermath were pointed out and emphasized. Investigations were made of the various national institutions and state experiment stations and a report made on their findings and activities. The committee made a number of definite and specific recommendations to the League and particularly called attention to the great value of the future of beekeeping in the establishment of the C. C. Miller Memorial Library.

Needed Legislation

The report of the Bureau of Legislation was presented by C. P. Campbell, chairman, and J. C. Henager. The first report covered the matter of tariff on honey. The committee was able to present the claims of beekeepers to Mr. Fordney in such a way as to secure the recommendation of a three cents per pound tariff on honey. This is a part of the bill now before Congress and has been favorably reported by the finance committee. The Senate committee has reported their bill increasing this duty to four cents per pound. The free conference committee will compromise these differences.

This committee has also been considering federal regulation of the interstate shipment of bees and used beekeeping appliances The draft of a proposed law on this subject, written by Mr. S. B. Fracker, was presented to the meeting for consideration.

Dr. E. F. Phillips presented a paper on this subject pointing out the esential differences in the two types of prevalent brood diseases

and making suggestions to the committee. He also discussed Isle of Wight disease and the danger of its introduction into this country through the importation of queens. Dr. Phillips was requested to appoint a committee of three entomologists, who are also beekeepers, to act in conjunction with a similar committee appointed by the American Association of Economic Entomologists to further study this matter and to take whatever action they deem necessary in the name of the League.

Advertising Honey Nationally

The Committee on Advertising, C. F. Muth, chairman, made a report on the national advertising campaign and the distribution of the honey recipe booklets. The financial statement of this committee was as follows:

Receipts from Organizations:	
Michigan State Beekeepers Assn.	$ 192.72
Wisconsin State Beekeepers Assn.	100.00
Texas Honey Producers Assn.	350.00
Utah State Beekeepers Assn.	300.00
Receipts from Allied Trades:	
A. I. Root Co.	1,000.00
F. W. Muth Co.	500.00
C. H. W. Weber	500.00
G. B. Lewis Co.	400.00
Dadant & Sons	300.00
Falconer Mfg. Co.	200.00
Foster Honey & Merc. Co.	100.00
Hazel Atlas Glass Co.	100.00
W. W. Boyer & Co.	100.00
Leahy Mfg. Co.	100.00
Miller Box Co.	100.00
U. S. Can Co.	50.00
Receipts from Individuals:	
F. J. Rettig	100.00
J. J. Wilder	50.00
S. F. Lawrence	10.00
Ernest Kohn	10.00
Colin P. Campbell	5.00
W. W. Foster	5.00
John Kneser	.36
Receipts from sale of booklets	31.00
	$4,604.08
Disbursements:	
Paid Proctor & Collier Co.	$4,166.77
Freight on booklets	25.85
Expressage on Adv. matter	21.54
Standard Printing Co.	8.00
Magazines distributed	5.00
Postage on booklets	147.47
	$4,374.63
Balance cash on hand	$ 229.45

Financial Condition Advertising Fund:	
Assets:	
Cash on hand	$229.45
Unpaid pledge Foster Honey & & Merc. Co.	50.00
Unpaid pledge Elyria Enamelled Products Co.	200.00
Unpaid pledge C. H. Wiley	50.00
Unpaid pledge Georgia State Beekeepers Asn.	100.00
Unpaid pledge Michigan State Beekeepers Assn.	7.28
Unpaid pledge Utah State Beekeepers Assn.	200.00
Total Assets	$836.73
Liabilities:	
Due Proctor & Collier Co.	$628.77

The report of the committee showed the enormous number of direct inquiries received from persons desirous of finding uses for honey and the wide distribution of the recipe books directly into the hands of housewives. A wonderful amount of extra advertising was given through notices of the League movement that continue to appear in trade and advertising journals. On so small an investment it is astonishing what a profound impression was created on the honey market.

The meeting went on record as endorsing the work done and urged that it be continued and extended. To this end plans were made for financing the work in future and the same committee will be asked to continue the administration of the fund and the placing of the advertising. This fund is to be kept separate from the general expense fund of the League and money contributed to it shall be used for no other purpose.

Plans for Raising Money

First: An appeal is to be made to supply manufacturers, dealers, honey bottlers and the manufacturers of containers to renew the pledges of last year and to make new pledges and contributions to this fund.

Second: Beekeepers everywhere are to be solicited to send in a tax of at least one cent per colony for this fund. Every beekeeper in America will be expected to contribute. In states having a state beekeepers organization, the local association is asked to collect a tax of at least two cents per colony. In order to co-operate with the national advertising movement they are requested to expend half of this fund in the advertising of honey within their own state and to send the other half into the general advertising fund of the League.

Third: A label or seal is to be adopted by the League and honey bottlers, and merchants who are contributors to the fund may use this seal, at a very small cost, in order to identify themselves with the League. The right to use these seals, even at a fractional cost, will provide a permanent and increasing income for the national advertising fund.

The Committee on Advertising Seals did not make a formal report owing to the absence of the chairman, Mr. C. W. Aeppler, but a dozen or so drawings of proposed seals were presented. Dr. A. F. Bonney and Edward Hassinger, Jr., made some suggestions and presented a set of carefully executed labels. The president was authorized to obtain the report of this committee and to select a seal.

Plant Honey Producing Trees

The Committee on Tree Planting, H. L. McMurry, chairman, reported some progress in their effort to have nectar-bearing trees planted along highways. Favorable action has been secured by correspondence with other organized groups in various states who are interested in highway beautification and tree planting. An appeal was made for volunteers in this work from every state. A local committee is needed everywhere to co-operate with the national committee. Suggestions as to the variety of trees suitable for planting in the different states are also requested by Chairman McMurry.

Poison Sprays Injure Bees

The practice of spraying roadsides and vacant lots with arsen-

ical and other poisons to kill weeds was taken up by this committee and an effort will be made to have such sprays carry in future some repellant that will keep bees from taking up the poison. This subject was also referred to the Bureau of Legislation for attention and investigation.

Dates of Beekeepers Meetings

The Committee on Meeting Schedules, H. F. Wilson, chairman, made a report of their work to date and presented schedules of state meetings for the period from July 1922 to February 1923. Many states have rendered aid and support in this movement. After these schedules become established it will make it possible for many outside speakers and visitors to attend meetings at less expense, thus increasing the attendance and interest at state meetings. To show the amount of work done by this committee it is interesting to know that 910 letters and circulars were mailed to the officers of our different state associations.

Interstate Co-operation

The Committee on Inter-society Co-operation, L. D. Leonard, chairman, has been working along the line of co-operating with other agricultural, entomological, and farm organizations. In the absence of Dr. Leonard, no formal report was made but the committee was urged to continue wherever possible to assist other allied bodies and to especially co-operate with the Society of Economic Entomologists and such organizations as the Farm Bureau Federation and the State and National Horticultural Societies.

Types of Hives and Containers

The work of the Bureau of Standardization of Equipment, C. B. Baxter, chairman, was so broad that only a very little actual progress could be reported, but a great deal has been done to clear the way for future action. Mr. F. Rauschfuss reported that a dozen styles and types of hives are found by the committee to be in use as "standard" and more than three dozen kinds of frames. It was pointed out that beekeepers generally have to pay more for the hives they use because the manufacturers are put to the necessity of having to make all these different sizes and kinds. In tin honey containers, the same is true. The recommendation was made that only three to five tin containers should be used and then the factories could make lower prices on account of quantity production. In the matter of glass containers for honey more progress had been made and definite action will be expected of the League at the next meeting. The committee was ordered to continue its work and to make concrete recommendations as soon as possible.

Amendment to Constitution

The meeting went on record as being in favor of amending the constitution of the League so as to permit small state and regional associations having fewer than 100 members to affiliate with the League upon payment of $1.00 per member. The president was ordered to take a mail ballot on the following amendment:

That the words, "Provided, that the minimum fee for membership from any organization shall be $100.00" be stricken from Section 2 of Article II of the Constitution of the American Honey Producers League.

The president having served for two years asked that he be relieved and that a successor be selected. The term of office of B. F. Kindig, vice-president and F. B. Paddock, of the Executive Committee having expired a ballot was ordered taken by mail among the League membership to choose these three officers. Both these ballots have been mailed and the result will be announced as soon as received and tabulated.

A banquet was held at the Hotel Utah at 8 p. m. on January 31st. Many inspiring and optimistic speeches were made and much enthusiasm for the future of the League was shown. After recommending to the Executive Committee that St. Louis be chosen for the 1923 meeting of the League, the Third Annual Session adjourned sine die.

One Way of Saving

Brother beekeepers, do you realize what you are losing by not buying your supplies through your association? Every beekeeper in the state of Wisconsin can make a saving of from 15 to 25 per cent on bee supplies if he so desires. In other words, if you don't buy through your local or state association you are losing $2 every time you buy $10 worth of bee supplies. If you don't believe it, write to the secretaries of the Fond du Lac and Milwaukee County Associations. They can tell you how they saved over $250 on buying $1200 worth of bee supplies. The saving in one order will more than pay your dues for a year.

Every beekeeper in Wisconsin should be a member of a local and the State Association. Why? For several reasons! First, for the good of the industry. Second, because of the strength which a large membership gives to any Association which is fighting for the welfare of those who depend upon the industry which it supports. If none of these have an appeal to the members of the beekeeping industry, then try them from the financial standpoint. The saving on one order when the members of an association send in together will more than pay the annual dues to both associations.

Each local association should acquaint its members with these facts and put on a drive to increase the membership in both the local and the state organizations. Buy co-operatively and sell co-operatively.

Everybody loves the "go-getter." Go get a member. You help yourself as well as the other fellow

WISCONSIN HORTICULTURE

Vol. XII MAY 1922 No. 9

Hardiness in Small Fruits

J. F. BARTLETT, Minnesota

(Read at Annual Convention.)

The term hardiness in horticulture seems to possess quite a wide range of meaning. Prof. N. E. Hansen, who is known throughout the Northwest as one of the best authorities on the subject, says that, "By the term hardiness is understood the capacity to resist against any special condition of environment. So in speaking of hardiness of a plant it may mean hardiness as to cold, heat, drouth, fungus or insect trouble." Mr. Max Pfaender, Superintendent of the Great Plains Trial Station, defines hardiness as "the ability of a plant to withstand the winter without injury to any of its parts." The former definition implies a perfection in plant life, desirable, but hardly attainable, yet establishing a goal for propogators to work toward. The latter probably comes nearer the average fruit grower's conception of what really constitutes hardiness.

Scientists tell us that winter injury is due to the destruction of the cell structure in the tissue of the plant. They do not, however, pretend to know what inherent quality certain species and varieties possess which enables them to survive extremes of temperature without injury while other species or varieties may succumb. They do know that during the growing period there is constant cell activity taking place within the structure of the plant which, in woody plants, gradually diminishes as the wood ripens and finally ceases altogether as the plant becomes entirely dormant. It is during this period of complete dormancy that the plant is capable of greatest resistance to cold. Theoretically, then, it is advisable to select for planting those kinds and varieties which attain the highest state of dormancy and to practice those cultural methods which will cause the plant to remain in this condition during the greatest possible portion of the danger period.

In actual practice, the first step in the solution of the problem of hardiness is the selection of those kinds and varieties of plants which, by actual test, are known to possess the greatest degree of natural hardiness. Experience has taught us that there are really very few varieties of our most commonly planted fruits which are absolutely hardy in these northern states, that is, varieties which are capable of enduring any extremes of hardship to which they may be subjected. Therefore we have found it necessary to adopt certain cultural methods having for their object the modification of climatic conditions or the protection of the plants from the effects of those conditions.

Having secured the hardiest possible stock available for planting, the next consideration is choice of a suitable location. The advantage of natural shelter such as a timber belt or hill or an artificial windbreak should not be overlooked. Large bodies of water usually have a modifying effect upon extremes of temperature, as in your Lake Superior district.

Another factor worthy of consideration is that of soil. Recent experiments tend to prove that with the brambles, that is, raspberries, blackberries and dewberries a greater amount of winter injury occurs on light, sandy land than on heavier, clay soil, due, no doubt, to the fact that sand is less retentive of moisture, thereby subjecting the plants to injury from drouth as well as cold. On the other hand, over-rich soils have a tendency to prolong growth and retard maturity of the wood.

It is my belief that lack of sufficient moisture is second only to cold as a cause of winter injury to many of our small fruits, especially strawberries. I am convinced that much of the blame which we have been in the habit of attributing to cold rightfully belongs to drouth. The results in either case are similar. It may be that in many cases drouth injury serves only as a contributory factor to injury from cold as it has long been a recognized fact that plants will endure greater extremes of cold where conditions of moisture in the soil and air are favorable than where they are otherwise. It is equally true that plants frequently suffer severely from lack of moisture even though temperatures are unusually mild as during the winter of 1920-1921. While evaporation is reduced to a minimum during the period of dormancy it must be remembered that there is still a considerable amount of evaporation going on even in winter especially in areas where strong winds prevail. It is true that, at that time, the plant is reduced to a minimum of surface exposure. It is also true that it is then that it is least able to replenish its meager supply of moisture because of its inactive condition and the frozen ground. In commercial plantings the supply of moisture is largely beyond our control except where irrigation is practiced. It would be well to add that there is also some

danger from an over-supply of moisture during the fall months which, like over-rich soil tends to retard early ripening of the wood.

Closely related to the question of moisture and soil is that of cultivation which, in a limited measure, produces the same results; that is, it tends to make both moisture and plant food available to the plant thus encouraging a late growth if continued too long.

It is worth while to the fruit grower to be able to recognize winter injury when it has occurred. One of the surest symptoms is a more or less noticeable discoloration of the interior of the plant. Whether the injury has taken place in the bud, the cane, or in the case of the strawberry, the crown, or the root the shade of brown, from light to dark, indicates almost definitely the amount of injury that has taken place.

So far we have considered the subject of winter injury in relation to small fruits in general. It might be well to discuss its effects upon some of the more commonly planted fruits in particular.

Most varieties of currants and gooseberries generally planted throughout this section seem to be sufficiently hardy so that in the case of these fruits we have no serious problem to face. They are less susceptible to injury from low winter temperatures than from occasional frosts during their season of bloom.

The raspberry is found in its natural state over a wide range of latitude from the milder portion of the temperate zone to the northern boundaries of civilization. Its cultivation extends over a correspondingly broad territory with equally varied climatic conditions. There have consequently been developed many different varieties adapted to their respective environments, possessing different degrees of hardiness. It is therefore essential that in purchasing plants the hardiest varieties obtainable be secured; consistent, of course, with other requirements such as productiveness and quality of the fruit. In a series of experimental tests conducted recently by Professor Dorsey and Mr. Haralson some interesting results were obtained indicating a wide variation in the degrees of hardiness among different well known varieties. It was found that Latham (Minnesota No. 4), King, Sunbeam, Herbert, Miller, Shipper's Pride and Louden showed greater or less degrees of hardiness in the order named. None of the black or purple varieties seemed able to survive without earth covering and on sandy soil even this protection did not suffice. This practice of laying the canes down and covering with earth, however, is one which many well informed growers favor even with the hardiest varieties on the theory that conditions which may kill the weaker, immature buds near the tips of the canes may weaken the stronger buds further down on the canes which must be depended upon for fruit. Then, too, there is always the possibility of the occurrence of a test winter when practically nothing can survive above ground. This practice, which amounts to a sub-soil cultivation, is also beneficial to the soil.

With regard to blackberries the problem is more difficult owing to a complete lack of any tame varieties which will endure the temperatures of an average winter without killing to the ground. The only sufficient protection seems to be an earth covering which is expensive not only in time required for the operation of covering and uncovering but in loss of crop due to breakage of canes. Incidentally I have known this practice to lead to the destruction of many productive fields of blackberries. In bending down the canes many of them, while not broken completely off, are cracked or otherwise injured in such a way that the sap in flowing through the canes finds its way through these fissures forming a sweet, gummy substance attractive to insects. In this way the plants become inoculated with germs of crown gall or other infectious diseases until whole fields become diseased and must necessarily be destroyed.

None of the tame varieties of black-cap raspberries is supposed to be hardy as far north as central Minnesota. There seems, however, to be at least one exception to this rule. For six or seven years I have had growing at Excelsior a field of black-caps which have never had any protection of any kind yet they have shown little if any more winter injury than a field of Latham raspberries next to which they grow. Plants from this field sent as far north as Winnipeg for trial are reported to fruit well without covering of any kind. In quality and quantity of production of fruit this variety compares favorably with any of those less hardy. As a commercial berry its future is promising.

Dewberries are not hardy above ground although the root seems to be extremely hardy. The

(Continued on page 135)

THE FLORISTS PAGE

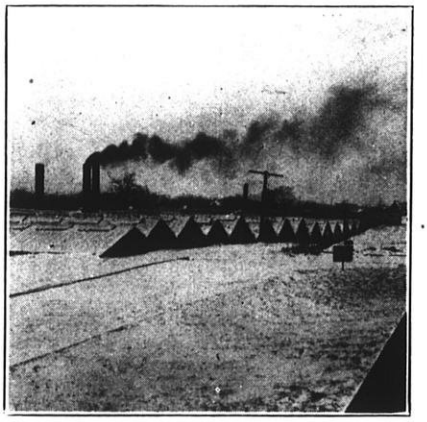
EDITED BY
HURON H. SMITH, Curator of Botany
PUBLIC MUSEUM MILWAUKEE, WIS.

The C. C. Pollworth Co. of Milwaukee

Ten to one, few people thought Clem Pollworth would become one of the largest wholesalers and growers in the Northwest twenty-five years ago when he started in a humble way, selling flowers in a little store near his present location. But Clem knew **folks** and he was industrious and absolutely dependable. He still is—and in any flurry among the Milwaukee florists, his is the cool head that again brings harmony, and tides over the trouble, whatever it may be. Though by no means an old man, he has a trusted line of advice which he shares with all his brother florists for the good of the business.

Two decades ago he began the building of his own greenhouses out in the wilds of West Allis, where now a thriving settlement grows with stores, a cemetery, a mausoleum, n'everything. And his greenhouses are not a bit behind the march of progress. They have steadily grown until he now has thirty-two 250-foot houses. He expects to make it an even three dozen this coming summer.

The establishment is easily reached by the West Allis car line, at the Fairview Mausoleum stop and visitors are always welcome, although there is no retail business done either at the greenhouses or the store downtown. The downtown establishment is on the northeast corner of the City Hall Square on Market and Oneida streets, and is really almost overcrowded with their enormous supply business which ships to nearly every state in the Union. They carry an immense stock of florist's supplies—fancy baskets, containers and the hundred and one things a retail florist uses. Last month orders were



AN END VIEW C. C. POLLWORTH GREENHOUSES

filled in Pennsylvania, New York State, Texas and Bermuda Islands and two in the Hawaiian Islands. Some of the supply business is due to their traveling representatives who call on trade and sell these lines clear to the Pacific coast.

Their out-of-town wholesale cut flower and plant business is shipped throughout the Northwest. This past year they distributed several carloads of Dutch bulbs as well as many thousands of French bulbs, mostly Paper White Narcissus.

Early in the game Mr. Pollworth associated with him a good English grower, Wm. Kennedy, Sr., who has kept things going

A BENCH OF PRIMULAS

economically and energetically at the plant. And now that William, Sr., has passed middle age there is a Bill, Jr., as he is affectionately known at the plant, that they say has more pep than his dad ever had. Anyhow, a little thing like an order for 100,000 carnation cuttings don't make Bill bat an eyelid. They do stunts like that frequently out at the plant. I've forgotten how many minutes it

A CARNATION HOUSE

Flower Show, Milwaukee Museum-Library Building, March 15-18. See May Wisconsin Horticulture.

takes to walk from one corner of their carnation house to the other, but it isn't in yelling distance.

Roses are another big stand-by at the plant, such proven stock as Pink and White Killarney, Mrs. Hearst, Ophelia, Hoosier Beauty, Premier, Columbia, Butterfly and Mrs. Russell being grown.

In "Mum" season you'd think they were growing them all for the flower show. The fellows at the plant are not "stick-in-the-muds," either. They are always originating something that other growers want. Their "Mrs. C. C. Pollworth" proved a fine yellow show type of mum. Their new hybrids of pompoms are eagerly sought by Milwaukee growers.

Pollworth's bulb stock is carried and grown in great profusion. Likely they are not excelled in the Northwest in this respect. The Jonquils, Daffodils and Narcissi are in many varieties, with an eye to new introductions. Some of their King Alfred and Gloire de Sassenheim Daffodil bulbs cost twenty cents apiece and more in Holland, but you should see the huge trumpets!

As we write this they are growiny a huge lot of Rambler roses, Hydrangeas and Lily plants for the Easter business. Their Yellow Callas are blooming in profusion now.

Most of this article has dealt with the cut flowers so far, but don't forget that they have a large section of potted plants, too, ably presided over by Mr. Wm. Hogie. What he don't know about shaving production costs isn't worth knowing anyhow, and you'd really think he was holding an exhibit, when you see how neat his stock always looks. To name the kinds of pot stock he grows would take up too much of this magazine, because this is a seasonable affair, and he always keep pace with the fickle public taste, yes—and anticipates it. Although he is solid with the usual hardy foliage plants, ferns, geraniums, begonias

(Continued on page 139)

A Rose Bud at the Milwaukee Flower Show.

THE INSECT PAGE

Edited by E. L. Chambers, Assistant State Entomologist

A New Insecticide

"Poisoned Bordeaux"

Arsenious oxide, or the ordinary white arsenic of commerce, is the base from which all arsenical insecticides such as Paris green, arsenate of lead, etc., are made. It is by far the cheapest, and also the most concentrated form in which to buy the element arsenic. Because of its injury to the foliage it has not heretofore been successfully used on it. After a great deal of experimenting it was determined that if Bordeaux mixture containing white arsenic was made in such a way that the major portion of the white arsenic went into combination with the copper, and that the ratio of copper and arsenic present were within certain limits, that a Bordeaux-white-arsenic mixture could be produced which would be safe on foliage. The following is the method employed. The arsenic must be superfine, that is, guaranteed to pass through a screen of 250 meshes to the inch. In order to make ten gallons of copper sulphate stock solution, fill the vessel with ten gallons of water and sift into this a mixture of one pound of white arsenic and one pound of hydrated lime. Thoroughly agitate the mixture and suspend in this solution a sack containing ten pounds of crystal copper sulphate. It is preferable to stir occasionally while the copper sulphate is dissolving. This solution should be made at least twenty-four hours before it is used, and when made it will keep indefinitely. This stock solution should be stirred thoroughly before it is diluted and then it is used in precisely the same way as the stock solution of copper sulphate in making the ordinary Bordeaux mixture, that is, adding it to an equal amount of a stock solution of lime, made by slaking it in a little water and then diluting so that each gallon of water contains one pound of lime. To make up 50 gallons of this poisoned Bordeaux mixture ready to spray it is only necessary to take four gallons of each stock solution and after they have been diluted in separate containers to twenty-five gallons, they should be poured into the spray tank simultaneously. This material has the toxic value, per unit of arsenic, equal to the best form of any other arsenic, and has its usual fungicidal value.

The low cost is, of course, the great advantage in using this formula. It is possible by using it to spray an acre of potatoes with both fungicide and insecticide at approximately the same cost as that required to spray with an insecticide, such as Paris green or arsenate of lead, alone.

A Remedy for the Cucumber Beetle

A material composed of one part of calcium arsenate and twenty parts of land plaster was found effective in the control of this pest in recent tests made at the Ohio Experimental Station. This material acts as a poison, repellent and fertilizer. It was found to be superior in its effectiveness to twenty-five different materials and compounds tested for the control of the Striped Cucumber Beetle.

The dust may be applied with a simple shaker, made by punching a score of holes with an eight-penny nail into the bottom of a half gallon tin can or by means of shaking it through the meshes of a course burlap sack. A duster may also be used.

The first application is made as soon as the young plants appear above the ground. Two applications per week are adequate during fair weather, but during rainy seasons it should be applied after each rain. Usually ten or twelve applications per season are said to be required. The dust adheres best, however, when the plants are wet with dew or rain.

News Notes

The San Jose scale outbreak at Whitewater which the city council asked the State Department to look after last season was found to have reached considerable proportions. About four hundred different properties are involved. These are being sprayed by Hanson and Gilbert with a Myers power sprayer, together with some assistance from outside. The work is receiving strong local support.

The State Department of Agriculture and the College are cooperating in a series of demonstration potato spraying plots in the northern part of the state. The object is a tryout and demonstration of the control measures recommended for the potato leafhopper. Most of the experimental work against this insect was carried on in the southern part of

the state and the series of demonstration plots will be the first work in the commercial potato sections.

The presidents of the Farm Bureaus of Minnesota, South Dakota, Iowa and other states appeared before the senate committee on appropriations in March asking congress to push the barberry eradication campaign more rapidly. The situation is said to be especially serious in South Dakota where such grain rust outbreaks as have occurred during the last few years have all been directly traceable to the presence of barberries in the immediate neighborhood. Senator Lenroot, of Wisconsin, made the motion increasing the amount used in the barberry eradication work. In Wisconsin the problem centers around the eradication of escaped bushes in the woods, such areas occurring in several localities, the most important being near Black Earth, Glen Haven, Marshfield and Trempealeau, respectively.

A warning has been sent out to the press stating that the cankerworm outbreak of a year ago is likely to be repeated this spring. The manner in which the farm orchards of the entire western quarter of the state were defoliated last season threatens serious damage to the trees this year if the cankerworms come again. Only the orchards sprayed with arsenicals, first before the blossoms open and, second, after the petals fall, will be safe from the depredations of the worms. Both the fall and spring species are present, the females of the fall species laying eggs in large numbers last October and those of the spring species being engaged in the same undertaking at the time this is written.

Hardiness In Small Fruits

(Continued from page 131)

plants once established are hard to eradicate owing to their persistent habit of sprouting from the root. They are not a popular berry among commercial fruit growers because of their tenderness in winter and the difficulty of handling.

Out of some seventy varieties of grapes with which I have had some experience the only one possessing hardiness to any extent in our latitude is Beta. Several new seedlings of Beta will doubtless prove to be equally as hardy and of better quality commercially. Moore's Early fruits for me each year without protection but I would not recommend general planting of it without earth covering.

Strawberries differ from the fruits already mentioned in that the plants do not have so pronounced a period of dormancy as the woody stemmed fruits. Growth apparently ceases entirely but there is not the same appearance of maturing and ripening of the plant structure as in the cane fruits. It is the popular belief that strawberry plants receive their greatest injury during the winter months from damage to the roots caused by alternate freezing and thawing of the soil, but I am convinced that almost if not quite as much injury results from lack of sufficient moisture. It is not only a fact that some varieties are more capable of enduring severe cold than others but that the blossoms of some varieties seem better able to withstand frosts during the blooming season. In this respect the everbearing varieties appear to have the advantage over the June bearing varieties. Professor Dorsey noticed in some observations made last spring that runner plants exhibited a greater degree of hardiness than parent plants in the same hill. Plants which, by a discoloration of the interior of the crown and roots, indicate that they have suffered serious winter injury may survive but it is safe to predict that if they produce any fruit that year the crop will be small, probably consisting of one or two light pickings.

It was for a long time thought that lack of hardiness was an almost unsurmountable obstacle to the successful growing of commercial fruits in these northern latitudes, but we have come to believe that what we at first supposed to be a misfortune is in reality a blessing for were it not for the necessity of originating new fruits adaptable to these conditions the names of many of our most valuable varieties would still be missing from our lists of desirable fruits.

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A New Movement of Much Promise

The Massachusetts Horticultural Society is exclusively a society of amateurs. The Illinois Society is an example of a commercial fruit growers' organization.

The Wisconsin Society has aimed to serve both the amateur and the commercial interests. In the beginning it was necessarily a society of amateurs, there was no commercial industry, and at the present time its membership is comprised of about 75 per cent amateurs and the balance professional growers. In spite of this preponderance of amateurs those who have managed the Society's affairs have devoted much of their energies and spent a very large part of the available funds in promoting and developing commercial fruit growing. This industry has developed in twenty-five years from almost nothing to a big business, due in no small measure to the work of this Society.

In spite of our best efforts, however, there has been for years more or less dissatisfaction on the part of the commercial men with the conduct of the Society, a slight murmur of discontent, now swelling, now falling. The spokesmen for the commercial growers have said: "The convention program does not offer enough in our line to attract growers from a distance; we need two or three days to discuss our problems." That was manifestly impossible and so the feeling of discontent remained until recently.

As the outcome of a meeting of growers, a committee appointed by the State Farm Bureau, a preliminary conference of commercial men, both tree fruit and berry growers, will be held at the time and place of our summer meeting.

The purpose of this preliminary conference is to arrange for a two or three-day conference to be held in connection with the winter meeting in Madison next December and to arrange a program. This is an excellent plan and offers a happy solution of a troublesome problem. The bigger growers can have two days all to themselves when they can discuss power sprayers, spray guns, marketing and a dozen other problems of peculiar interest to themselves. Following that the best of their ideas will be drafted for the regular convention program which will follow and the amateurs and "semi-pros" will show these tree and berry men the true road to salvation and, if possible, save their souls. An appeal for the preliminary conference by Moulton B. Goff, chairman of the Farm Bureau Fruit Marketing Committee, follows.

An Appeal to Wisconsin Fruit Growers

By Moulton B. Goff

Shall Wisconsin fruit growers play a lone hand? This is the question asked by the State Farm Bureau Marketing Committee after a year's thoughtful consideration of Wisconsin's fruit problems.

Now, as never before, the questions before the growing fruit industry in this state need attention. There are many fruit growers in Wisconsin, and they are not confined to one or two areas. All are faced by marketing questions, standards of grading, styles of packing, discriminatory rates on freight shipments, lack of market information, utter absence of understanding among dealers of Wisconsin's excellence in fruit production. These and many other questions of magnitude have brought the State Fruit Marketing Committee of the Farm Bureau to issue a general call to Wisconsin fruit growers to meet with them in a statewide conference at the time and place of the summer meeting of the State Horticultural Society (Sturgeon Bay, Aug. 16, 17).

During the interval of over a year since the Fruit Marketing Committee was appointed, its members have discussed the problems of handling Wisconsin fruit

with growers from all parts of the state. The unanimous decision of the committee at their meeting of March 23d was: "The present is the time for a better co-ordination of fruit men and fruit interests."

The National Committee of 21 are asking questions of Wisconsin fruit growers. What do we want? What are Wisconsin's ideas on packages, on grading, on fake and imitation fruit juices, on shipping point inspection, on revision of discriminatory freight rates, on more adequate market information?

The answers to some of these questions can be secured at a general fruit growers' conference, where fruit growing interests alone are represented. The general conference to be held in connection with the State Horticultural Society summer meeting is to be just such a meeting of simon pure fruit growing interests, where fruit is to be the morning, noon and night discussion, and the only subject of thought. Fruit growers generally have objected to the general Horticultural Society program on the score that they have had too little of any one subject to give the maximum of returns for the time and expense of attendance. So far there has been no sufficient reason for a change in policy, but the magnitude and growing importance of the fruit interests of the state demand a common meeting ground for those engaged in this industry.

The Farm Bureau Fruit Marketing Committee consists of M. S. Kellogg, of Janesville; W. H. Hanchett, of Sparta; N. A. Rasmussen, of Oshkosh; Frederic Cranefield, of Madison; and the writer, of Sturgeon Bay. Our call to fruit growers to meet for a day this summer is made after a most serious consideration of all of the factors involved. We are enthusiastically and whole heartedly in favor of this move to give Wisconsin fruit growers representation through a meeting of their own, and are leaving the discussion of the manner and the method squarely up to this summer conference. The conference will be called on to deliberate on the following questions:

Shall a fruit growers' society be formed in Wisconsin?

Shall it be a co-ordinated part of the State Horticultural Society?

Shall it endeavor to bring Wisconsin growers into such intimate fellowship with each other, and with the men who are brought in to speak at these meetings, that these growers will go out to put across such ideas as, "Wisconsin fruits for Wisconsin's use," "Fair packing rules, and better packages," "Unified standards of spray materials," "Dishonestly packed shipments from out of the state eliminated," "Fake fruit juices not made from fruits abolished," and lastly, shall we begin now to perfect an organization that can stage a combined convention and fruit show the coming winter to consist of a program solely of, by, and for fruit growing interests?

From now until the August meeting we want every fruit grower in Wisconsin to plan to make this gathering the epoch in Wisconsin's horticultural history that it deserves to be. Let us all resolve to be there to speak our convictions on the important questions involved, and to determine that the day of isolation for us is past; that henceforward we will not play a lone hand.

A Short Sermon on the Rose

A member requests complete directions for growing roses. The scribe responded as follows:

Dear Sir:—I cannot give you complete directions for rose growing in a letter but will give you a few hints.

(1) The rose bush is not an ornamental plant, therefore do not put it in the front yard.

(2) The rose demands air and sunlight, therefore do not plant it close to the house or near shrubbery.

(3) It demands a deep, rich, mellow soil, well drained.

(4) For best results plant in the vegetable garden where the plants can be cultivated and hoed like potatoes.

(5) Buy two-year-old dormant plants. (Do not bother with greenhouse stock.) Set two feet apart in rows.

(6) Cut the tops back to mere stubs, not over four inches; two inches is better. Trim the roots little or not at all.

(7) Plant a little deeper than the plants grew in the nursery, at least so that the entire "crown" is covered. That is about all for this year.

The American Rose Society, John C. Wister, secretary, 606 Finance, Bldg., Philadelphia, Pa., offers valuable information on this subject. The annual membership fee is $3.00, which includes a splendid book on rose growing.

Summer Meeting

Sturgeon Bay

August 16, 17, 1922

Will You Organize a Local Society?

MRS. N. A. RASMUSSEN

In the March issue of WISCONSIN HORTICULTURE Secretary Cranefield urged the organization of more local societies. Many of our readers no doubt read every word of the article and then said, "Yes, he's right, we ought to organize a horticulture society here. Our community needs it," and there it ended.

Now, dear friends, make it your business to do something. Start the ball rolling and then keep it rolling just like when you were a youngster and rolled a ball of snow. My, how big it got! All you need to start with is a part of a skeleton and a few live people to work with it. One good head, five or six strong vertebrae and a few live ladies will make any society a success.

I am going to tell you the history of our local society with the hope that some of the more timid members may gain courage and start something.

On Oct. 3, 1907, a small gathering of men and women met and decided to organize a horticultural society. There were twelve charter members, among whom were H. C. Christensen, N. A. Rasmussen, J. W. Roe, Wm. Nelson and C. Philipson. Two have passed away and others have taken up their residence elsewhere. They held their meetings monthly in Good Templars Hall and later in Chamber of Commerce rooms. In looking over the minutes of these meetings I found such as this: "Program postponed—too few present." The following summer the ladies came to the rescue, meetings were held at the homes of the members, refreshments were served, interesting programs were presented and a general good time was enjoyed. Programs were made up of local topics, by local men and women, and music was never forgotten. Local problems were discussed and those who were having troubles were greatly benefited. When large problems presented themselves which we were unable to handle we secured help from the university, State Horticultural Association and other sources. Names which appear in the minutes of our meetings are those of Professors Moore, Milward, Potter, Vaughan, Roberts, Wilson, Sanders, Jones, Fracker and Gifford; Messrs. Cranefield, Coe, Bingham, Goff, Luther, Norgord and many others. In many instances these men held demonstrations which were very beneficial.

Who is eligible to membership in our society? Anyone interested in trees, shrubs, flowers, fruits, grains, vegetables, grass, weeds, nuts, birds and bees or, in fact, anything having to do with nature. Our annual membership fee is $1.00 and, mind you, this includes the whole family. We want the children interested also, for are they not the horticulturists of tomorrow? We meet regularly the first Monday of the month at the homes of members. The six summer meetings are held with country members when we all get together late in the afternoon, inspect the fields and gardens, have a picnic supper and then our program. The six winter meetings are held with city members in the evening, when, after our program, light refreshments are served. We arrange several special features during the year, including, perhaps, an oyster supper, a strawberry festival, a corn roast, a melon feast, a box supper, an auto trip to a neighboring county fair or a dance in Rasmussen's garage. We believe in combining pleasure with business, interesting the young people and keeping the older people young.

Then, too, we have flower, fruit and vegetable shows and we cooperate in every way possible with other civic organizations in beautifying local surroundings. We take an active interest in our county fair and our worthy judge, Billy Toole, will tell you we are second only to the state fair in horticultural exhibits. We send four delegates to the winter convention and one to the summer convention annually and find this a valuable asset to our society.

We have a live president and several committees all working together for a common good; executive, program and refreshment committees. We meet regularly, do not postpone a meeting unless absolutely necessary, have a definite program at each meeting and endeavor to attend every meeting. We have had as high as 104 members (this means 104 families).

Our April meeting will be held at the home of J. E. Taylor, head of the Miles Co., the oldest and largest florist shop in our town. We will visit the numerous greenhouses, covering about one acre of space. Our program includes a talk on "Annuals for Cut Flowers," by Ward B. Davis; "Perennials for Cut Flowers," by J. E. Taylor, and "What I Am Going to Raise in My Garden This Year," by C. R. Fiss.

Should any members of the

state society happen to be in this vicinity on the first Monday of the month we should be glad indeed to have you attend our meeting.

We have entertained the state society three times during our existence and hope to be able to do so many times more. We still have in our spinal column the five vertebrae mentioned in the beginning of this article, besides many more equally as strong.

The C. C. Pollworth Co. of Milwaukee

(Continued from page 132)

Sansevierias, Coleus, Crotons and such, he is always growing novelties in Improved Primula obconica, Cyclamen, Calceolarias, Cinerarias, Azaleas, Genistas, Jap Lilies, Ice-plants, Cleveland Cherries and such plants. He is generally to be found around the fern house seeing that the hundreds of Schroeder Sunset Orchid Plants and Cypripedium insigne are properly cared for. And let me ask you if one orchid plant that produces 24 blooms at $2.00 per, at one time, is properly cared for? If we could grow a dozen of these for a year, we would consider retiring.

We have hinted before that Clem Pollworth is well thought of at home. He is a leading light, indeed, in the Milwaukee Florists Club which comprises 80 florists in Milwaukee, some 42 of which are growers. Of course, with such an establishment, he cannot begin to grow all he can sell, so he handles quantities of their stock as a wholesaler.

Mr. Pollworth is also a member of the board of directors of the National Florists and as we write this, is down in Indianapolis, Indiana, arranging for their annual show. He expects to make quite a display at this show, especially in carnations. And we hope and expect that he'll show the world that hooch isn't the only thing that makes Milwaukee famous!

Wisconsin State Florists' Association

The summer meeting of the Wisconsin State Florists' Association will be held at Oshkosh, July 25th. President Rentschler has appointed the following committee in charge of arrangements: Jas. E. Taylor, chairman; Wm. Buchholz, Ward B. Davis, Carl Fugleberg, J. V. Nelson and R. E. Pamplin. Henry R. Welke.
Secretary.

The beekeeper's section of WISCONSIN HORTICULTURE, formerly found on the four back pages is now printed as a "separate" and mailed only to members of the State Beekeepers' Association. This plan will no doubt satisfy members who are not beekeepers. Others who may be interested should join the Beekeepers' Association. Fee $1.00 for annual membership. M. F. Hildreth, secretary, Madison, Wis.

Summer Meeting

Sturgeon Bay

August 16, 17, 1922

Everlasting or Strawflowers

CONTRIBUTED BY J. F. HAUSER

These have become very popular the past few years and perhaps the names of the various kinds of flowers and grasses that are suitable for winter bouquets and together with a few brief cultural directions would be welcome to some of the readers of WISCONSIN HORTICULTURE.

The cultivation is very simple. The annual kinds can mostly be classed as half hardy and tender annuals and would need about the same treatment as your Asters and Zinnias.

In the open, seeds should be sown about the 10th or 15th of May; if started in hotbeds they may be sown so as to make plants for transplanting about June 1st. The flowers of most kinds should be picked before they are entirely open, or in the bud state, tied up in small bunches and hung up in an airy, cool room to dry with their heads down.

Acroclinium: Half hardy annual, color pink and white. This blooms very early and attracts a great deal of attention, holds its color well, and should be in every collection.

Ammobium: Tender annual, white; should be picked in the bud or it will show a brown center.

Gomphrena (Globe Amaranth): Tender annual; color purple, white, variegated, and a novelty whose color is said to be yellow.

Helichrysum: This is the most popular ore; comes in a good many colors. Much better if picked in the bud state. The leaves should be removed when the flowers are picked.

Physalis Franchetti (Chinese Lantern plant): Hardy perennial.

Rhodanthe (Swan River daisy): Half hardy annual; a very desirable kind; color pink and white.

Statice Bondnelli: Half hardy annual; yellow. Statice *Sinnata* in blue pink and white.

The above Statice should have quite a bit of room as they are spreading in habit of growh.

Statice Latifolia is a perennial not very easily started from seed.

Statice Suworowi or Russian Rat Tail: Very attractive; should be started in boxes, as seeds are very small. Annual.

Lunaria: Biennial used for its transparent seed pods.

Catananche: Hardy perennial; color blue and white; daisy-like flower.

Echinops Ritro: The best of the Globe Thistles; hardy perennial.

Erynguim (Sea Holly): A smaller thistle-like flower with blue stems; hardy perennial.

Gnaphalium Foetidum: Half hardy annual.

Gypsophila Paniculata: (Baby's breath): Hardy perennial; cures quite well, especially the double forms.

Xeranthemum: Hardy annual not unlike the Centurea (Bachelor Button); color purple and white.

Negilla (Love in the Mist): A hardy annual. The seed pods of this very good for winter keeping.

The better ornamental grasses are *Briza Maxima* (Quaking grass), *Tricholaena rosea* and *Agrostis Nebulosa*, all annuals.

Summer Meeting
Sturgeon Bay
August 16, 17, 1922

Again and Again

Although the nursery inspection law in this state has been in force for over twenty years we are constatnly in receipt of inquiries about inspection. These letters are all referred to Dr. S. B. Fracker, state entomologist, who has charge of nursery inspection. Although the information has been given in WISCONSIN HORTICULTURE many times we give it again in the form of a letter written by Dr. Fracker to one of our members:

"Under section 1494-1 to 1494-10i of the statutes it is necessary for you to have an inspection certificate in order to sell nursery stock, including flowering shrubs, field grown florists' stock and strawberries.

No fees are charged for inspection if that can be made in the regular season, which comes in July and August. If you need a special permit this spring it will be necessary for you to pay the traveling expenses of an inspector from Madison to (————————) and return, unless we happen to have an inspector in that neighborhood. Please indicate on the enclosed blank whether you desire inspection at this time of the year at your expense or in July without charge." S. B. Fracker,
State Entomologist.

Lime Sulphur Keeps

I have part of a five-gallon wood keg of lime sulphur which is two years old. It has been kept corked up tight. I would like to know if it would be O. K. to use as a dormant spray this spring or as a summer spray without injury to trees, and if one would get results from using it.

Ans.—Lime sulphur compound is just what the name indicates, lime and sulphur combined by boiling, in the case of the home-made product; by a chemical process, as made commercially. The only change that takes place in lapse of time is precipitation, settling, of one or both of the ingredients. The remaining liquid is not injurious nor is it effective. It is simply a waste of time to use it.

Precipitation might take place even if the container was tightly corked.

If no precipitation has taken place the lime sulphur may be safely used no matter how old it is.

Summer Meeting
Sturgeon Bay
August 16, 17, 1922

Does Million Dollar Business

The Door County Fruit Growers' Union did over a million dollars business during the past year, according to the report just issued by Earl L. Johnson, secretary of the corporation.

Following are the net sales and income on the various fruit handled through the Union:

Richmonds	$440,571.06	
Montmorencies	436,150.18	
		$877,721.24
Apples		79,156.96
Strawberries		14,571.23
Currants		2,977.65
Plums		2,593.79
Gooseberries		925.50
Raspberries		53.30
Total		977,999.87

It will be observed that there was only a difference of $4,420.88 between the receipts of Early Richmonds and Montmorencies in favor of the former.

The average price for fresh fruit and at the cannery (combined) was Richmonds—No. 1, $2.60; No. 2, $2.55; Montmorencies—No. 1, $2.67; No. 2, $2.65; strawberries—(fresh) No. 1, $3.03; No. 2, $2.63; currants, $2.98; gooseberries, $2.75; raspberries, $4.11 per 24 pint crate.

The above averages on cherries are net after deducting the cost of the crate, 35 cents.

Growers who picked on the stem for the fresh market received in addition to the above price 25 cents per crate on cherries. Growers picking off the stem were charged with $.088 per crate of 25 pounds net weight cherries delivered to the cannery.

Following is a comparative statement of the number of 16-quart crates handled by the company in the years 1919, 1920 and 1921:

	1921	1920	1919
Cherries	344,695	188,080	205,453
Strawberries	4,844	9,840	2,395
Currants	998	1,821	1,640
Gooseberries	336	527	693
Raspberries	13	10	30
Plums	2,940	1,192	
Apples (barrels)			8,552
Apples (bushels)			18,167

There were a total of 179,975 cases of Richmonds and 173,720 cases of Montmorencies delivered by the growers. There were 67 carloads of Richmonds and 94 carloads of Montmorencies; 9 of strawberries and 87 of apples, a total of 258 carloads. This represented a total of 100,060 cases of small fruits shipped to the fresh markets. In addition to this there were 8,100 cases shipped by express.

There were delivered to the cannery 3,298,292 pounds of Richmonds, equivalent to 131,932 cases of 16 quarts, and 2,854,855 pounds of Montmorencies, or 114,194 16-quart cases at 25 pounds each.

There is a total of 322 stockholders in the Door County Fruit Growers' Union and the total number of growers marketing fruit was 302.

NEWS, Sturgeon Bay.

A New Farm Orchard Era

Wisconsin farmers are showing a keen interest in bettering the production of the home apple orchards. More than 160 orchardists in four counties have benefited by co-operating with the horticultural extension service of the University of Wisconsin the past season. Farmers in other parts of the state are now clamoring for similar aid.

When it is understood that a total of more than 9,500 apple trees within the boundaries of these four counties came through the season with a good crop of sound fruit, and that hundreds of farmers all over the state increased their apple yields, it is not difficult to see that a tremendous impetus is being given to Wisconsin's fruit production.

More than 250 enthusiastic followers of the gospel of better fruit, with their families, attended a mid-summer round-up picnic in Grant county recently. At the picnic, the Mount Hope boys' club orchard demonstration team gave an exhibition of spraying. This team was the first orchard team to show at the state fair, and took first prize on their booth, and fourth prize on their demonstration work.

COOPERATIVE APPLE MARKETING STARTED

Jefferson county inaugurated this past season an organization for picking, grading and marketing the apples of its growers which was the first organization of its kind, and as a general movement promises to add many dollars to the pockets of the farmers all over the state.

Here is a concrete example of what grading apples will do toward bringing in the dollars. A lady in Dodge county brought to market four bushels of "orchard run" or unsorted apples which she was selling in the orchard for $2 a bushel. F. R. Gifford of the horticultural staff of the Univer-

SUMMER MEETING
AND CONFERENCE COMMERCIAL FRUIT GROWERS
STURGEON BAY
August 16 and 17, 1922

sity of Wisconsin took the apples and by sorting them got three bushels of first-grade apples worth $3 a bushel and one bushel of second grade apples selling at $2 a bushel, a total of $11 or $3 more in favor of the graded apples.

Clean-up Campaigns Popular

The story of the county fruit clean-ups now going on in the Badger state reads like a romance. This is the second year for this movement and its popularity is already spreading throughout the state. Here is what happens in a county organizing to eradicate orchard pests:

During the winter months the county agent round up a half dozen communities "raring to go" on this proposition. Directly he writes to Mr. Gifford at Madison, and this fruit specialist schedules a few big meetings in the county. The meetings are advertised in the local papers and often as many as a hundred farmers are in attendance to listen to a general talk on the care of the orchard.

The next step in organizing a county fruit clean-up is to hold pruning demonstrations in each community wanting to organize a "spray ring." The demonstrations are attended by upwards of fifty to one hundred interested men, many of whom bring their own saws and pruning shears. These men climb up into the trees and Mr. Gifford keeps them busy until the orchard is in first class shape.

Organizing a "Spray Ring"

After the pruning is done the men sit down together under the trees and organize a "ring," electing a president and a treasurer. Each member then contributes an equal share toward a power sprayer. One man is selected who is responsible for the operating of this machine.

If a fertilizing demonstration is necessary, Mr. Gifford conducts one soon after the pruning demonstration. The material for spraying all the trees in the "ring" is purchased and divided into three lots and distributed at convenient farms in the community. The organization of a "spray ring" is now completed and real work begins. Four sprays are made during each season. At each spray, Mr. Gifford is on hand to help with the work.

Each year four counties receive the personal aid of the fruit expert. Jefferson, Grant, La Crosse and Dodge were on the list last season. After a two-year period of supervision a county is sufficiently "cleaned up" so that the expert can move on to another county. The work is so arranged that only two new counties are taken on each year. Grant and Dodge have now finished their allotted time and will give way to Kenosha and Fond du Lac counties this year. So convincing have been the results during the two years of supervised work in these counties that the farmers need no urging to continue their efforts.

After the "rings" have gotten into full swing, a county-wide spraying demonstration is held. Farmers from all over the county assemble at a certain orchard to be shown why a power sprayer is absolutely essential to obtain successful results on 500 to 2,000 trees. Usually four kinds of sprayers are shown at work. Starting with a small hand force pump, small hand sprayer, and next with a large lever sprayer requiring two men at the handles, and ending with a motor driven power sprayer, a comparison is obtained that opens the eyes of many.

SUMMER MEETING at Sturgeon Bay, August 16 and 17, 1922.

WISCONSIN BEEKEEPING

Official Organ of The State Beekeepers Association

Supplement to WISCONSIN HORTICULTURE, *May 1922*

Wisconsin State Fair 1922

Have you made arrangements to put in an exhibit at the state fair? If not, write at once to Mr. Gus Dittmer, superintendent, Augusta, Wisconsin, for space. Date, *August 28 to September 2, 1922.*

Beekeepers' Chautauqua and Conference

The fourth annual beekeepers' chautauqua will be held at Green Bay, August 7th to 11th. The date of this conference was originally set for the third week in August, but it has been found desirable to change it to the second week. Make your preparations now to attend.

The Relation of Queens to Seasonal Management

G. H. COLE,
Of the Dadant Apiaries, Hamilton, Ill.

In a general way, it is well known that a good queen is essential to the health, strength, and prosperity of a colony. However, an attempted analysis of the definite relation a queen has to success in the management of bees during the year may be of some value.

It is an axiom in beekeeping that, when other things are favorable, the amount of honey obtained from a surplus flow depends, to a large extent, upon the number and condition of the colonies of bees. Therefore, the object of all well directed manipulation previous to the honey flow is to have colonies overflowing with bees just as the flow begins. The effort to obtain this objective is begun in the fall in the preparation of the winter colony and it is at this time that the influence of the queen is especially noticeable. An inferior queen can now do much to defeat the beekeeper's purposes.

The point has been frequently stressed that to become rapidly strong and prosperous in the spring the colony must contain numerous young, vigorous bees, just before the winter period begins. Colonies that are small in numbers or that have a large percentage of old bees suffer severely in the winter and may be quickly reduced to a critical condition. Such colonies begin brood rearing too soon, often in January or February, forcing the bees to expend their energy in maintaining an abnormally high temperature. Under these conditions colonies may die in winter or be so weak in spring that the queens cannot furnish brood with sufficient rapidity.

In the average strong winter colony there should be, at least, three or four pounds of bees, raised at about the same time from eggs laid as late as possible in the fall. Since the occurrence of killing frosts usually marks the end of brood rearing, the winter colony must be secured before this. Three to four frames of brood, Langstroth size, just previous to frost will insure the emergence of 15,000 to 20,000 young bees for winter, but this is an abnormal amount of brood for this time of year, requiring the use of queens which are at their prime in productiveness and activity.

Queens which have been laying one or more seasons rapidly slow down in their egg laying at the end of the season and stop brood rearing early, especially where there is little nectar from fall flowers. They do not provide ideal winter colonies. The activity of young queens is just the opposite to this. They usually lay eggs continuously until frost, insuring an abundance of young bees.

The writer was once interested in an experiment which entailed the daily counting of the brood cells in eight colonies of bees and some of the results obtained well illustrate this difference in the behavior of queens at this time. Some of these colonies were headed by queens which had been in use some one or more seasons and others by young queens introduced in May, August, or September. On October 28th, an average of four frames of brood in all stages was found for the young queens and an average of one frame of sealed brood for the old queens. Colony 1, with a queen which began laying only 16 days before frost, had 3½ frames of sealed brood on November 3rd. Colony 7, with a queen which began laying 6 weeks before frost, had still 336 eggs in cells on November 3rd Colonies 3 and 4, with queens introduced in May, previous to the honeyflow, had two frames of brood and no eggs on this date. The older queens had ceased egg laying long before and all of the cells were empty.

In this case, it can readily be seen that the colonies with the youngest queens were in the best shape for the winter in numbers of young bees. It could also be reasonably expected that, in the spring, these colonies would still have a maximum population sufficiently young and virile to push brood rearing activities rapidly forward.

When brood rearing is renewed in the spring, the difference in the behavior of young and old queens has been frequently noted. Here again, old or inferior queens do not serve our purposes. It is normal at this time of year for the colony to increase its adult population until the queen reaches the maximum of her capacity in egg laying. This point has been aptly called the peak of brood rearing and, from the standpoint of honey production, the occurrence of this peak is of extreme importance. For best results in the honeyflow, each colony must be built up to its greatest possible strength so quickly that most of the workers shall be young and vigorous when the flow begins.

Brood rearing usually starts moderately in March or April and

Wisconsin Beekeeping
H. F. WILSON, Editor

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Remit to M. F. Hildreth, Secy., Madison, Wis.

increases steadily until the first of May or June. If we could accurately depict the behavior of queens during this period it would probably be something like the accompanying diagram. (Fig. 1)

Queens whose activity brings results of this sort are ideal but not all queens meet the requirements. A reduction in prolificness, due to age or inferiority, changes the picture materially. Brood rearing is then too moderate and protracted so that the peak of population comes too late.

Demuth has estimated the honey gathering population as five times normal or about 100,000 bees, a large majority of which should be reared in the month or six weeks preceding the flow. This means that 70,000 to 80,000 cells of brood must be present in the hive at about the same time. It means 2,500 to 3,000 eggs each day. This smacks of theory but the facts of experience show that these high requirements are actually met. Doolittle, whose word is well estimated among beekeepers, states that a good queen is one which will give us 3,000 to 4,000 eggs a day for a month previous to the honeyflow. Charles Dadant recorded the presence of 73,000 cells of brood filled in 21 days. In Maryland, with the honeyflow from the tulip tree due the tenth of May, the writer found colonies in the Government apiary with 14 Langstroth frames, or about 70,000 cells of brood, on April 14th, four weeks before the flow. However, this was only from young queens introduced the previous fall. Brood in this amount, at one time, cannot be expected when a single Langstroth hive is used. These colonies were each occupying two 10 frame hive bodies.

A further experience to illustrate this point was furnished during the past season in the Dadant apiaries. We have a yard of 90 colonies, known as the Gillam yard, located on the East bluff of the Mississippi River, in reach of a large acreage of heart's-ease and Spanish needle from which we obtain a fall flow. The colonies in this yard were largely headed by 1919 queens and, due to the pressure of other work, they were not requeened this year. The fall crop from the 90 colonies was 3½ barrels of honey, or about 22 pounds per colony. Further down the bluff is the Spencer yard. This started the season with 65 colonies, also headed by old queens. The colonies were weak in spring and built up slowly, finally showing a bad infection with European foulbrood. We strengthened and requeened with young queens in June to clean up the disease, reducing the number of colonies to 40. This was eight weeks before the fall flow. By the time of the flow the colonies were exceptionally strong and the crop from the 40 was 3½ barrels, or 50 pounds per colony. In this case, the difference in crop between the two yards, due largely to a difference in queens, was 28 pounds per colony, or $2.80 per colony.

There is a further objection to old or inferior queens, often overlooked, in that way they are frequently superseded in the spring or summer. To be sure, this gives us young queens, but often so late that the peak of population is delayed until during or at the close of the honey harvest and a reduction in crop results. Supersedure will also increase the amount of swarming since conditions favoring swarming are often present when the supersedure cells are built. In the Dadant apiaries, we use the large Dadant hives and seldom have many swarms. This year, of about twenty swarms, over 75 per cent were from colonies that were superseding their queens.

So far, this has very evidently been an argument favoring the maintenance of young, virile queens as an essential part of good management. There is one last gun to fire, however, which gives no mean finish to the list of facts and that is the great value of such queens in the control of European foulbrood. Everyone familiar with this disease will agree that young Italian queens do much to keep the diseases in check. Dr. Miller's slogan was, "Strong colonies of strong bees," and he had European foulbrood all around him. Yet he had little of it himself because he kept his colonies so strong that it was rare for a colony to show European at all. When it did show there was a comparatively small amount, easily eliminated. Sturdevant at Washington, found it difficult to infect strong colonies headed by young Italian queens, even when large amounts of diseased material are fed directly to the bees. He has emphasized the fact that colonies with European foulbrood may be comparatively easily cleaned by strengthening and requeening. The strength of the colony has much to do with recovery. During his experiments, Sturdevant found that of 10 strong colonies, treated by requeening only, 20 per cent showed recurrence of the disease; of 20 medium colonies, so treated, 50 per cent recurred; of 14 weak colonies, 57 per cent recurred.

Our own experience this past season with European foulbrood, at the Spencer apiary, has already been mentioned. Of 65 colonies, over 25 had European foulbrood in early summer. These were treated successfully by requeening and strengthening with frames of emerging brood. Indeed, where the brood of the colony was not badly diseased it was merely removed, completely or in part and

given in exchange for sealed brood from strong colonies, resulting in the complete elimination of the disease. It must be remembered, however, that this is not a method to be generally recommended and that a mistake in diagnosis would be disastrous.

Since good queens are so much the soul of the colony, it would be within the scope of this article to tell how queens are secured and introduced but this is a fundamental matter in which most beekeepers are well schooled and it is not our purpose to include it. There are a few things of importance, however, which may well be mentioned. In our own experience of several years trial, we do not believe it pays to requeen apiaries entirely with queens sent by mail. Supersedure is too common and too many queens fail or are slow to regain their prolificness. We think that the best results will be secured by raising queens from selected stock in our own apiaries. To secure good stock, try several untested queens from several breeders, line them up and watch them. It is usually possible to get a very good stock of breeding queens out of the lot. Queen-breeders will agree that untested queens ship best and there is a better chance of the purchaser getting his queen laying in the hive. On the other hand, a breeding queen is a year old, her ovaries are heavy, and frequently she is injured in the mails. Thus it often happens that a fine queen will be obtained and superseded almost at once.

In selecting a breeding queen from the apiary, individual colony records are almost a necessity. The common practice of transferring brood, from colonies that are strong to colonies having little brood, makes accurate selection impossible. Queens not sufficiently prolific are thus helped out and at the end of the season the comparative value of queens cannot be known. A good breeding queen should give bees that are gentle, industrious and not given to much swarming. A queen which has a fine record for two successive seasons is preferred to one with the same kind of record for one season. Nothing can be decided by the color of queens since queens are very irregular in their markings and often dark queens that look like hybrids produce fine bees. The only way to test queens is to judge their worker progeny.

The frequency of requeening is a matter of varying opinion. Some good beekeepers believe that a queen is good until she shows signs of decline, while others insist on annual or biennial replacement. The proper measure of a queen's term of usefulness is to be found in the severity with which she is used. Seasons and locations vary in this respect, but it must be remembered that in none of the cardinal periods which we have mentioned must a queen offer a chance of failing. In most locations requeening is necessary at least once in two years and it is frequently necessary every year. In extracted honey production, especially where there are two flows a year, as with us, queens are worked very hard and must be replaced often to keep the colonies in prime condition.

The best time of year to requeen is sometimes given as August but, in the Dadant apiaries, this time is inadvisable since it means the removal of queens just before or at the beginning of the fall flow. A break in brood rearing then would be certain to reduce our crop. Unless queens are noticeably failing, they should not be removed during the six weeks previous to a honeyflow nor during the first part of the honeyflow. After that they are of little further use, as far as that flow is concerned, and may be taken out at any time. The same is true of the six week period preceding frost. We are compelled, therefore, to requeen, as far as possible, earlier in the season and aim to do it during the latter part of the clover flow. This avoids the midsummer dearth when the work would be difficult because of robbing and the failure of colonies to accept new queens. The only other time available to us is towards the close of the fall flow and this necessitates the introduction of laying queens previously produced and mated in nuclei.

The majority of our queens must bear the burden of brood rearing for the fall crop, the winter colony and the spring crop. It is a good queen that will keep this up for two seasons and, therefore, annual replacement is becoming more and more a part of our manipulation.

A labor saving method of requeening is by the introduction of ripe grafted cells previously produced in cell building colonies. Where this method is used, however, it is important to remember that the raising of cells must be so timed that they may be introduced to the colonies to be requeened and the virgins which emerge may mate and begin laying at least six weeks before either a honeyflow or the end of the brood rearing in the fall. The time usually allowed from the starting of cells to the beginning of egg laying is about 25 days. Also, for best results, the mating period should come when there is a nectar flow, otherwise there is too great a loss of virgins and too many are either imperfectly mated or fail entirely to mate. Sufficient extra queens should be raised to introduce to colonies in which this happens. These queens may be mated in nuclei and the latter may be reunited with the colonies from which they were made. Queens left over may be disposed of as desired.

The editor of Wisconsin Horticulture regrets that the diagram referred to in Mr. Cole's paper, line 6 p. 14 is lost, strayed or stolen. Anyway, it can't be found.

Bee Bulletins

Control of European Foulbrood.

Farmers' Bulletin No. 1084.—Control of American Foulbrood.

Farmers' Bulletin No. 1198.—Swarm Control.

Farmers' Bulletin No. 1215.—Beekeeping in the Clover Region.

Farmers' Bulletin No 1216.—Beekeeping in the Buckwheat Region.

Copies of these bulletins can be secured by writing to the U. S. Department of Agriculture, Washington, D. C.

Farmers' Bulletin No. 975.—The Government Bulletins—

Wisconsin Agricultural Experiment Station Publications—

Bulletin 333.—How to Control American Foulbrood.

Bulletin 338.—Winter Care of Bees in Wisconsin.

Stencil Bulletin No. 11.—*Better Queens.*

Copies of these bulletins can be secured by writing this office.

Local Association Notes

The following resolutions were adopted by the Marathon County Beekeepers' Association at a recent meeting. Such resolutions should be adopted and carried out by each and every local association in the state.

Dear Fellow Beekeeper:

We, the undersigned, being gathered together in solemn and serious conclave, over the grave state of affairs imposed upon our society by the unbecoming silence of many warm-hearted beekeepers of Marathon county, who should be enthusiasts for our county and our state beekeepers' associations, do hereby draw up and present for your approval and action, the following resolutions:

That, Whereas, Many members of our beekeepers' associations, both county and state, and many more who ought to be members have forgetfully, inadventently, or bashfully failed to send in their "50 cents dues" for the county and "$1.00 dues" for the state association, and

Whereas, The said associations cannot promote the great bee business of our county, state and nation, entirely on "hot air," be it hereby hastily

Resolved, (1) To amend the deficiencies by common consent; (2) to mutually agree to deprive ourselves of one round half dollar and one large dollar or their equivalent before March 10th; (3) to see that our secretaries at once get these humble tokens of our undying interest in the success of the bee business.

If this sentiment produces a sufficiently satisfying sensation to awaken your slumbering love for our beekeepers' organizations and all they have meant and are destined to mean to you, do not delay to respond to the often repeated calls of your county secretary and your state secretary.

Faithfully and cordially yours for progress in the production and marketing of the best honey in the world.

LEWIS FRANCISCO,
President.
ENGELBERT HENSELER,
1st Vice President.
RALPH GUNZEL,
2nd Vice President.
I. C. PAINTER,
Sec'y-Treas.

Advertising

The following notes from the Texas Honey Producers' Association will show how our Wisconsin beekeepers may profit from the plans followed by other associations.

WHAT THE MEMBERS SAY

The two letters which follow happen to both come in the same mail and both from the same town. They are not exceptional. They show the spirit and temper of every member who has expressed himself at all. The letters follow:

I am sending check for two dollars ($2.00) for your advertising fund. I have fifty colonies of bees, in good condition; much better than at this time last last.—John Donegan.

Received the Honey Producer today. Think the association did exactly right by voting not to pay a dividend this year. Enclosed you will find 25 cents in stamps, the one cent per colony tax on my bees, for advertising Texas honey.—Glenn M. Anderson.

League Notes

The American Honey Producers' League is preparing a book on legal rights of beekeepers through Mr. Colan P. Campbell. This book will include all possible data with reference to matters pertaining to keeping bees in villages, towns, the decisions handed down by courts in different states where such matters have been taken to courts. It is expected that the book will sell at 50c per copy and as the number to be printed will not exceed 5,000 copies, all of our beekeepers who desire a copy should send in their name at once. This book will not be ready for several months, so do not send in your money at this time, just your name.

.....

Please place my name on your order file for one copy of the book on legal rights to be issued by the American Honey Producers' League.

Name .....

Address .....

Notes

Washington, D. C.—A traffic census of bees coming home from work is being taken by scientists of the Bureau of Entomology. A gate is provided that works on the one-way street principle and only one bee can enter the hive at a time. The apiculturists keep tab on the bees by the same device that is used by the telephone company in keeping track of the number of times a subscriber uses his telephone. As the number of entrances made by the bees is something like 300,000 a day, the Bureau of Standards experts who constructed the counting device had to provide a special source of electric current to operate the apparatus.

WISCONSIN HORTICULTURE

Vol. XII JUNE 1922 No. 10

"Variability of the Wealthy Apple"

WILL J. PLATTEN

To the average child all Chinese look alike; to the average person all apples of a variety look very similar. Yet there are as many differences between the apples of one variety as there are between Chinese individuals.

I will attempt a little non-technical discussion of the differences or variability of the Wealthy apple from the standpoint of possible utilization of these differences in the improvement of the variety for commercial purposes. I choose the Wealthy because it is the chief commercial apple of Wisconsin and has certain outstanding faults—a tendency to run too small in old trees, apples not hanging well on tree, quality not perfect, should be better keepers, trees not as vigorous as they should be, etc.

It has been stated that there are two ways of improving a variety, by deliberate hybridizing (crossing with another variety), or by sports or mutations that arise within a variety. A sport is not considered as such, unless it differs considerably from its fellows. Therefore, sports are rare, especially those that are decided improvements over the others. There exist, however, many minor differences between individual apples, trees, manner of growth, fruiting qualities and keeping ability of the Wealthy apple. The differences occur in the size, shape, color, quality and season of the fruit, and in the vigor and growth habit of the tree and its branches. In my opinion, just as many variations exist in individual branches and fruits of each tree as exist in the separate trees as compared with each other. A tree might be considered as a large family of branches and buds, all somewhat alike, but each having its certain distinctive traits, which are inheritable.

There are several causes for variability, first, environment or conditions of soil, moisture, heat and light; second, the character of root stock used; third, the influence of pollenization from neighboring varieties on the fruit; and fourth, the natural variation resulting from nature's law that "No two identical individuals ever occur."

As the variations that would be important in the selection of an improved strain could come only from this last group, it would be necessary to eliminate variations resulting from the first three causes. This is quite possible, I believe, but difficult. Difficult because orchards in different localities are certain to have different climates, different soil conditions of fertility and moisture, which are bound to affect the type and quality of the apple. With present nursery methods, the root stocks are very diverse in character and influence mainly the vigor of tree growth.

The improvement of the Wealthy, or any variety, by the selection method would depend upon the selection of a large number of trees under as uniform environments as possible, and having a known uniform type of root; and the further selection of a large number of branches on these trees, located similarly as regards exposure, crowding and amount of fruit. Then critically compare the fruit on all these branches, classify as to type, and select one apple, the best specimen of the type desired. Mark this apple and next spring graft the scion taken from as close to this apple as practical. Use long scion, and short root, plant deep, allow only one bud to develop on the scion. Next spring dig up and prune off original root to force a self-rooted stock. The tree coming from this one bud would make a pure strain. The bud would thus be considered the unit for improvement, though even these propagated vegetatively would have variable descendants, but much more uniform than would be the descendants of other collective buds or scions of the same tree. One scion with one bud only let grow should be the basis of a start for improvement by selection.

The failure of so-called "Pedigree" apples is, I believe, due to the fact that a whole tree was selected as the start of a new strain, instead of a single bud of some tree wherein environmental conditions were average. While the single tree may have been much better than its neighbors, yet its various buds have such diverse hereditary habits that the resulting propagated trees would be even more diverse.

There are many types of the Wealthy. Most every grower will recognize that there is a striped type and a clear color type with prominent dots. There is a long apple and a flatter one. There is a very marked difference in the quality and keeping. For the patient, long-time experimenter, this would be worthy subject of research.

Members of the California Fruit Exchange last year sold $61,080,000 worth of citrus fruit. This was 7.25 per cent of the state's production.

Blueberry Culture

Blueberries as large as Concord grapes have been produced through hybridization. Introduction of the blueberry into agriculture has more significance than the mere addition of one more agricultural industry to those already in existence. Blueberries thrive best in soils so acid as to be considered worthless for ordinary agricultural purposes. Blueberry culture, therefore, not only promises to add to the general welfare through the utilization of land almost valueless otherwise, but it offers a profitable industry to individual land owners in certain districts in which general agricultural conditions are especially hard and unpromising, and it suggests the possibility of further utilization of such lands by means of other crops adapted to acid conditions.

Blueberry Grows Only in Acid Soil

Success in blueberry culture rests especially on the recognition of two peculiarities in the nutrition of these plants, says Frederick V. Coville in a new bulletin No. 974, Directions for Blueberry Culture, 1921, recently issued by the United States Department of Agriculture. These peculiarities are the requirement of an acid soil and their possession of a root fungus that appears to have the beneficial function of supplying them with nitrogen. Good aeration of the soil is another essential. Although the highbush or swamp blueberry occurs frequently in swamps or other wet places, the plants occupy situations which are exposed to air during the root-forming period of summer and autumn. The swamp blueberry grows best in soils naturally or artificially supplied with adequate moisture.

Next in importance to soil conditions is a convenient location with reference to a good market, the bulletin points out. The berries should reach their destination without delay, preferably early in the morning following the day of picking. To secure the best price they should also reach the market before the height of the main wild blueberry season. A situation to the south of the great areas of wild blueberries in northern New England, Canada and northern Michigan, is therefore desirable. One of the most promising districts for blueberry culture is the cranberry region of New Jersey, for there an ideal soil occurs in conjunction with an early-maturing season and excellent shipping facilities to the markets of Philadelphia and New York.

Value of Orchard Lands

What is the true value of an acre of cherry orchard land?

This appears to be a bone of contention on the part of members of the Board of Review, the local assessor and income assessor.

In the past, land of this nature has been assessed on an average of $135 an acre. It is the contention of Income Assessor Dvorak that this is too low and he believes that an assessment of $200 and $250, depending on location and condition, would be a fair valuation.

There is considerable ground for argument on this subject. The orchard owners maintain that the land is of no more value than any other farm land, inasmuch as the business is largely, if not entirely, a speculative one. They are assessed on the earnings of business, according to the amount of money they earn, in addition to the tax on the property. In view of this they claim that the fact that there are fruit bearing trees on the property, instead of agricultural products, should not have any bearing whatever on the value of the land.

The orchardists maintain that they obtain a crop from the land just the same as the agriculturists, that this crop is disposed of and money received the same as any other product and that they are obliged to pay an income tax if their earnings warrant, just as others do, and they can see no reason why the land should be considered of any more value than any other from which crops are produced.

The position that the assessor takes in the matter is that the value of a piece of property is based on what the owner will take and the buyer is willing to give for it.—*News, Sturgeon Bay.*

This is an interesting subject. Expressions of opinion from readers will be welcomed by the editor.

The right sort of advertising will create a demand for what you have to sell. A good example of creating a demand is that of a certain new confection just lately put on the market. It is said that in four months the new firm putting this product out did a business of $2,000,000.

An unsprayed orchard may be a menace to other orchards, as it is a harbor for insects and vermin. Better either spray and prune and take care of the trees generally, or else cut them down.

The total returns from the vegetable growing greenhouses of the United States according to the last census were $15,487,878. Ohio produced the most—about $2,740,000 worth. Minnesota produced $171,540 worth.

THE FLORISTS PAGE

EDITED BY
HURON H. SMITH, Curator of Botany
PUBLIC MUSEUM MILWAUKEE, WIS.

Rentschler Floral Company

HURON H. SMITH

The florist plays a hard game—his stuff is highly perishable and twelve hours may mean a bad loss. It takes a wizard to guess the public taste and to anticipate it. Fred Rentschler knows his trade. He knows what he will need and grows it. He is long past the experimental stage and the largest grower-retailer in the state. The state florists, seeing his success and sound judgment in his own business, have pronounced it good and made him president of the association. Blessed be the man who sees his work—and does it.

Twenty-five years ago Fred Rentschler came to Madison from Janesville and rented three small houses 12 by 50 feet on Spaight street. He has seen Madison grow from a village to a city, and he has grown with it. He really has no competition in Madison and is in a class by himself, for the usual retailer has to look to various growers for his stock. If Fred, the retailer, don't get the stock, he asks Fred, the grower, whynell he fell down on the job.

Twenty-one years ago he bought and moved from Spaight to Williamson and Baldwin. Along about this time when he wanted to expand he fell heir to the wherewithall and bought 12 acres out on Highland Avenue, moving his old houses to that location. This is just at the gate of the Forest Hill Protestant Cemetery and the Calvary Catholic Cemetery, a very strategic point for any grower.

Eleven years ago he built the present store on State street uptown and, with his brother George, incorporated the Rentschler Floral Co., which has been increasingly successful as the years have passed. The retail store is a subtantial three story and basement brick, where 16

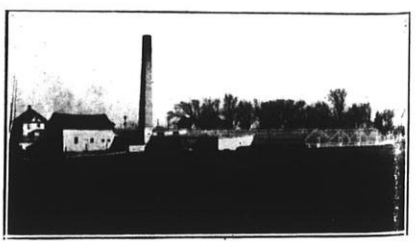
A MARCH CROP.

people are regularly employed. He has his own wire men for designs and does a large out-of-town business. In fact, for a radius of 80 miles in every direction save Milwaukee, he is the chief source of supply for all weddings, funerals and orders for various fetes. The office and stock rooms are on the second floor, the retail store and work rooms on the main floor, while the basement is a huge icebox.

The greenhouses regularly empioy 18 people and are a marvel of efficiency. There are 17 houses in all, eleven 100 foot, and six 150's. There is an office also, where some retail business is done, and a bulb storage basement. From May 1st to July 1st there is an immense amount of plant business done from this office, both in outdoor residence planting materials and in cemetery stock. The coal shed houses 550 tons of coal to feed the three boilers through the winter. A special vacuum system is used in heating the houses. Of course there are the regular pot and bulb storage sheds, and the outdoor cold frames where 10,000 pansies and violets are grown. This summer they will erect four more hundred-foot houses. As we discussed the Easter business, Mr. Rentschler showed me his past week's payroll, 40 employes in all. No mean help in these days of unemployment.

The first thing that strikes the observer is the lack of any idle space in the houses. Every plant must justify its existence. Asparagus plumosus nanus did not do that, so only Asparagus sprengeri is grown, with the regular smilax for strings. The floors along the walls are space for sprouting Cannas, 3,500 of them in four or five varieties, in sphagnum moss, ere they will be wanted in the spring. Even the walls are covered with ivy. There is no space going to waste overhead either, for iron pipes support flats of various propagations there. We saw 7,000 Vincas ranged along the carnation bed sides.

At this visit they were preparing for Easter and some 1,500 pots of Darwin tulips and a like number of Narcissus bi-colors were tucked away in every available corner, as well as 2,500 pots of Easter Lilies. The spring planting was also going forward for home stock and 20,000 geraniums, 40,000 gladiolus and



THE RENTSCHLER GREENHOUSES.

25,000 carnations were awaiting the time of outdoor planting to harden off the stock. Just a small list of other material grown for the home which I saw started. I give this list without comment: Centaurea cyanus, Thunbergia, Petunias, Impatiens sultana, hollyhock, Begonias, Gypsophila paniculata, Lobelias, Cobaea, Gallardia, Canterbury Bells Digitalis, Delphinium, English Daisy (Bellis), Stocks, Vinca rosea, Forget-me-not, Maurandia, Shasta and other daisies, Primula obconica, Verbenas, Dianthus singles, Cleveland Cherries, Strawflower (Helichrysum), Scabiosa, Antirrhinum, Globe Amaranth, Phlox, Calendulas, Cinerarias, Zinnas, Marigolds, Cosmos, Calliopsis, Coreopsis, Callas and a few more.

Now a final word as to their specialties. Their snapdragons are perhaps their most striking flower. These they originated themselves by crossing two superior varieties and the resulting pink blossoms are the finest we have ever seen. Callas seem also to be a specialty and grow in a rank tropical mass. When we observed the lot, there were 1,000 blooms. In carnations, but few kinds are grown—the Matchless for white, the Ward and Enchantress for pink, and the Nebraska for red. The coming year, Edna will be added to the reds.

Another very valuable plant with the Rentschler Floral Company is the Swansonia, a vetch-like plant with flowers like small clustered sweet peas. This is really the backbone of their retail trade for use in bridal sprays and funeral designs. It is a prolific bearer and from February on they pick 500 stalks a day from a bed 10 feet long and you would never miss the flowers.

If you are coming to Madison do not fail to visit the Rentschler greenhouses. They are in a class by themselves.

RENTSCHLER'S SILVER KING.

A Determination To Do Better

"Please advise us what to do for our young apple trees, also some old trees. They have some form of blight, the tips of limbs become covered with small white scales, which will scrape off with your finger nail. This runs down the limb leaving it dead as it goes, sometimes affecting the trunk of a tree, thus killing off the whole top. We just noticed it now while pruning, although we noticed several branches in summer where the leaves had blackened and fallen off. We have a very old orchard, not in the habit of bearing very heavily some seasons. We have about 100 trees and last year we had no apples at all, but lots of them the year before. It is in sod now and has been for some time. We manure heavily around the base of the trees every spring. Would you advise spraying? Whitewashing? With what should we spray and when." C. F.

The above letter was written April 21st and the time for the 1-10 lime sulphur is now in the dim past. Simply a reminder for another year.

On referring this one to Dr. E. B. Fracker, state entomologist, we get the following:

"I would judge from your letter of April 3d that your trees are being attacked by oyster shell scale, possibly with scurfy scale in addition. These scale insects may be killed by spraying immediately with lime sulphur solution in the proportion of about 1-10 as outlined on page 5 of the enclosed copy of Bulletin 36.

"The materials will have to be applied before the leaves appear as it is a strong alkali and burns the foliage.

The blackening of the leaves and twigs last summer was probably due to fireblight instead of to the insects. Fireblight is more difficult to control than the scales and you are likely to have continual trouble with it on any Transcendent crab of Yellow Transparent apple trees which may be present in your orchard."

SUMMER MEETING
at Sturgeon Bay
August 16 and 17, 1922

THE INSECT PAGE

Edited by E. L. Chambers, Assistant State Entomologist

Grasshoppers

Poisoned bran bait made up according to the following formula has been giving excellent results in the control of the grasshoppers in this state when properly applied:

Bran (Coarse)	100 pounds
White Arsenic (Powdered)	4 pounds
Salt	4 pounds
Molasses	2 gallons
Banana Oil	3 ounces

White arsenic and banana oil may be purchased through your local druggist. For best results the poison bait should be applied in the early morning when it should be sown broadcast at the rate of 6 or 8 pounds to an acre. It usually takes 24 hours or more for the full effect of the bait to become apparent. The more injurious kinds of grasshoppers nearly all live over winter in the eggs which are placed in the ground by the old females in late summer or early fall. The eggs hatch the following spring, usually during the months of May and June in this section. Every effort should be made to discover the young insects before they have attained any considerable size, when the injury done by them is still slight and when they are wingless and easily attracted and killed by this poison. Because of their cannibalistic habits, frequently only the heads of the dead grasshoppers will be found and the poisoned bodies will serve as poison to others. Care should be taken not to allow poultry to feed upon these poisoned "hoppers" for obvious reasons.

To Control Cane Borers

Cutting out and burning infested raspberry and blackberry canes as soon as they are noticed is the only practical remedy to be used in controling the borers.

There are two cane borers in the state that are destructive to both the raspberries and blackberries, the Raspberry Cane Borer and the Red-Necked Cane Borer. The injuries caused by these two forms as well as the differences in the adult beetles serve to distinguish them.

The Raspberry Cane Borer is about one-half inch long, deep black in color, with the exception of the thorax (the part between head and body proper), which is yellow and bears two or three black spots. The body of this beetle is long and slender with the sides parallel and the antennae are as long as the body. Injury by this insect is caused, both by the adults and the larvae or grubs. The females girdle a shoot by cutting two rings an inch apart around it and then laying an egg between these rings. The injured shoot soon withers and dies and the grub hatching from the egg burrows through the pith to the base of the cane, killing it. These wilted tips may very easily be detected and removed about the time the fruit is picked.

The Red-Necked Cane Borer is about one-third inch long with brownish black, lustrous wing covers and with a coppery-colored neck and thorax. The body is flattened and tapers at the end of the abdomen. The injury caused by this insect consists of gall-like swellings which have numerous slits, and which are caused by the working of the larvae in the bark layer of the canes. Infested canes rarely ripen fruit and usually die during the season.

Frequently the larvae and adults of a species of Digger Wasps are found within the pith of a dead cane and are mistaken for a cane borer responsible for the death of the cane, however the adult female confines her eggs to the dead canes.

Crop Pest Reports

The first series of crop pest report letters have just been sent out to some of the 250 subscribers on our lists. Not enough time has elapsed at the time of this writing for any returns.

This work is being done in cooperation with the United States Department of Agriculture and promises to be of great value in keeping this office informed of the insect pest and plant disease situation throughout the state.

Fire Blight Project

At this writing efforts are being continued to complete the Fire Blight control campaign begun during the past season in the vicinity of Hatchville in Dunn county, where an area of 36 square miles has been undertaken.

To Kill Ants

Colonies of ants can be destroyed with very little difficulty when their nests are found by the use of carbon bisulphide. Make several holes in the "ant hill" five or six inches in depth and pour a tablespoon or two of this liquid into each and then replace the dirt and cover the entire nest with a couple of wet burlap sacks. Upon votalilizing this gas will penetrate all parts of the nest.

Since the material is highly explosive it must be kept away from fire.

In dwelling houses where the little red and brown ants are a nuisance they can be killed by sprinkling a little sodium fluoride or pyrethrum powder, or both, across their path and over surfaces frequented by the pests.

Cranberry Insect Survey

At the request of a special meeting of the Cranberry Growers' Association in March the state department of agriculture has organized a cranberry insect survey under the direction of O. G. Malde, of Tomah, cranberry specialist. Mr. Malde has been employed as cranberry nursery inspector for several seasons but this year will give half his time to the work from May 15th to September 1st.

Control measures for cranberry insects, principally fireworms, tipworm, and fruit worm were worked out by the cranberry experiment station before it was discontinued in 1917. These measures consist of flooding the bogs when the insects are at an especially vulnerable stage. The growers have recently been experiencing difficulty in getting the floods on at the proper time and serious insect injury has resulted. The need for a permanent service of this kind will be considered as a result of the season's work.

To Control Flea-Beetles On Tomato Sets

Make up a spray by adding seven level tablespoonfuls of powdered arsenate of lead to each gallon of bordeaux mixture needed and dip the tops of the plants prior to setting. In case of those already set, spray the young injured plants thoroughly with a spray made up of five level tablespoons of powdered arsenate of lead to each gallon of bordeaux mixture.

Every gardener has had more or less experience with these small, black, jumping beetles which eat small holes in the leaves of newly set plants and often completely riddle them.

The Apple Tree Borer

"I have trouble with the apple tree borer on young trees. They mine the trunks on the south side and the worms eat between the bark and wood and it dries up where they work."

Thus writes a member who says he has quite a nice orchard and wants to give it the best of care.

Yes, the borer will do all that is described and more. He is a bad actor and has the meanest kind of a disposition, hiding in a hole where no spray can reach. Dr. Fracker advises a probe: "The only way of killing the borers in your apple trees is to cut them out with a knife or wire. You can prevent further infestation, however, by whitewashing the trees. The borers are the larvae or grub stage of certain beetles and the whitewash repels the beetles so that they do not lay eggs on the whitewashed trees."

Don't Make It At Home

"I am planning making lime sulphur wash. Would like information as to the quality of lime, sulphur and ingredients contained in lime sulphur wash and information with regard to strength, etc." C. E.G.

"The state horticultural society has referred your letter of March 21st to the undersigned for reply. We should certainly not recommend your making lime sulphur yourself under present conditions. The commercial concentrated solution is now made by a number of commercial concerns and can be secured easily through seed houses at reasonable prices. Its manufacture is a fairly difficult and very disagreeable undertaking, involving the handling and heating of solutions in large vats and for the home orchard cannot be at all recommended.

"If you will spray your trees with commercial concentrated lime sulphur solution or arsenate of lead in the proper proportion you will secure much more satisfactory results with considerably less work."

S. B. F.

One of Two Evils

"I have some plum trees that have borne fruit for three years. Each year the fruit has dark gummy spots on it. Some only have two or three spots, others have so many that one-half of the plum is spoiled. They are a splendid fruit otherwise, being large and of excellent quality. Can you tell me what causes this condition and just when and how to treat this disease."

B. H.

It is not entirely certain whether in mentioning dark, gummy spots on your plums you mean areas of rot in which the skin is not broken and the diseased material is entirely beneath the surface, or whether you refer to exudations through breaks in the skin. The first might be caused by the disease known as plum rot, whereas the second are the results of an insect known as the plum curculio.

If you will spray your plum trees with lime sulphur and arsenate of lead in the proportion of one and one-fourth gallons of lime sulphur solution and three-fourths of a pound of powdered arsenate of lead to fifty gallons of water, both of these injuries can be controlled. The

(Contiued on page 159.)

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Postage stamps not accepted.

The Summer Meeting

The dates of the summer meeting have been changed from August 9th and 10th, as announced in April WISCONSIN HORTICULTURE, to August 16th and 17th and the place, Sturgeon Bay. Cordial invitations from the Fruit Growers' Union, The Door County Chamber of Commerce, The Fish Creek Horticultural Society and from individuals left the board of managers in no doubt as to the place. The dates are, unfortunately, too late to enable our members to see the cherry trees in fruit, although specimen trees will be left unpicked for our benefit. We could not go in cherry time. The growers simply would not be able to give us any attention whatever nor would any reasonable minded person ask it of them. However, the cherry orchards will be there and the apple orchards also, something over 3,000 acres of the latter. The people of Door county will be there and we know something of their brand of hospitality. We were their guests in 1908 and again in 1913 and on that account we want to go again.

The Fruit Growers' Conference

The conference to be held at Sturgeon Bay August 15th and 16th in connection with the summer meeting of this society should interest every fruit grower in the state and for that matter every member.

There was a time in our history when fruit growing in this state was a theory. It's now a fact and the time has come when a mixed program at our conventions does not satisfy the commercial men. It is their privilege and right to demand more. The preliminary conference at Sturgeon Bay will clear the air and enable everybody to see a bit better into the future. The amateurs need not fear this movement will in any way interfere with the established policy of the society so far as their interests are concerned. It is merely a widening of our field of work.

Considerable space is given to this subject as it is an important one.

THE CONFERENCE AT STURGEON BAY

Why should such a conference be needed? Why *waste* time and money to attend such a gathering? A certain class of people would do just that, waste their time and money going to such a meeting, but the honest-to-goodness fruit grower who depends on his fruit yields for his bread and butter will go to such a conference and by exchanging ideas with fellow fruit growers will go home a *bigger,* better fruit grower, and a grower of better fruit. Such a conference of commercial fruit interests will give pep and punch to the growing of Wisconsin fruit for Wisconsin people. Every time you meet and rub elbows with a lot of people who have a common interest with you along some line of activity you give and take in spite of yourself. Give information and help and take the same for yourself.

The marketing problems of the fruit grower, the growing problems and the thousand and one questions he has to answer will be matters of universal interest and the discussion of the major issue will give interest and entertainment for a conference of real fruit growers.

Watch this paper for further announcements and take time to get to the conference and get acquainted with your fellow fruit grower—it might be you would like him.

M. S. KELLOGG.
Janesville, Wis.

Mr. Arno Wittich, of Sturgeon Bay, a member of our executive committee, says: "Regarding the matter of a separate state fruit growers 'organization, will say that I am heartily in favor of such a move. I have attended all but one of the winter meetings of our state horticultural society for the past six years and it has always been my impression that neither of the various phases of horticulture could receive due attention at such a joint meeting. Further than this, the displays of flowers, vegetables and fruits have been pitiably small as being representative of the members of such a large organization.

"From my rather limited observations at these winter meetings I would say that it would be far more profitable to all concerned if our state horticultural society were divided into several separate organizations, such as fruit growers, florists and vegetable gardeners. Members of such organizations would then be more apt to attend annual meetings, knowing, as they would, that their particular subject would be

THE topic of discussion and that no other subjects would interfere."

This from Mr. E. G. Hanson, Fish Creek, Door county: "If the fruit growing industry of this state is going to prosper in the future we must take steps toward establishing better grading, better packing and packages, also better marketing facilities, and this can only be done through a state-wide fruit growers' organization. I am greatly in favor of this move and shall try to do my best in seeing it through."

This from Mr. Wm. Knight, of Bayfield: "I have felt for years that what the fruit growers of Wisconsin needed was an organization that could concentrate the best thought and efforts of the fruit growers and their interests in advertising and marketing. Full cooperation of individuals to further the fruit interests and no side issues be allowed to creep into the organization. It must be purely fruit. We neither want flowers nor cows mixed with the feast when we meet to discuss fruit and fruit interests.

"When all men are operating in the same line of business it is much easier for them to co-operate and be loyal to each other. In the fruit business we should not attempt to carry along the side branches of horticulture, for then it becomes a mongrel and interests of different branches become mixed and our work becomes scattered and nothing of value is well done. The fruit interests in Wisconsin are large enough now to demand an organization directed in that line only. And I believe it would aid the industry and be an advantage to the grower and the consumer as well. It should bring about a better method of grading and a package adapted to the varieties grown in this state."

Prof. J. G. Moore says: "I think the proposed meeting of fruit growers to discuss matters of so much importance to Wisconsin fruit growers, as those suggested in your letter, a very good suggestion To my mind there is no question but that an organization where such questions can be fully considered is essential to the best development of the fruit industry of the state. That a new and separate organization is needed to give such facilities is one seemingly open to debate. It would seem to me that there there is no inherent reason why the present horticultural society or an affiliated organization could not be so operated as to meet any needs of this character which may arise.

"I am for your proposed meeting to consider these problems."

"I am heartily in favor of the movement. There is nothing to lose and much may be gained by a meeting of fruit growers to discuss problems of mutual concern."

J. A. HARLEY.

"I think a fruit growers' society would be a great help to the Wisconsin fruit grower and thereby bring about the standardization of fruits for marketing.

"Co-ordination with the state horticultural society would indeed be of great help. This society is well organized, as we all know, and with its help and influence would give the organization much of the backing it needs."

W. E. DAUS, Sturgeon Bay.

I am a commercial fruit grower and am in favor of the suggestion in your letter. I believe the fruit growers of Wisconsin need an organization for mutual benefit. Would favor organizing it as an adjunct of the State Horticultural Society.—Ralph A. Irwin.

From J. R. Williams: I think the fruit grower of Wisconsin has played a lone hand long enough. I have spent several winters in California and Florida and I have seen how much help a state organization is to the growers. I can see many ways that a state society can help us. I am very much in favor of a state organization.

It would seem to me that the call for an organization of the kind you speak of is an urgent one and that to hold it in connection with the summer meeting is a good idea. As to whether or not this organization should be affiliated with the state society, I believe it should. Not only can the state society be helpful to such an organization, but the commercial apple growers owe a debt to the society, for it was through the society that the pioneers, like Mr. Tuttle, Dr. Loope, A. J. Phillips, Mr. Plumb and others, laid the foundations of successful commercial fruit growing.—H. C. Christensen, president.

Nursery Licenses Again

This license business is getting on our nerves but we certainly propose to go the limit on giving information. The lack of knowledge is something amazing.

"Must a nursery located in another state take out a license before being permitted to sell their goods in this state? If so, what is the license?"

"Must a salesman of nursery stock for a nursery outside this state take out a license before being permitted to sell such goods? If so, what does said license cost?

"To whom should I apply for license?" H. C.

Nurseries located outside Wisconsin must file a copy of their own state certificate with this office before they are permitted to sell nursery stock in Wisconsin. They are then granted a Wisconsin nonresident certificate without charge. Salesmen representing nurseries outside this state are issued copies of the Wisconsin license held by the nurseries for which they work. These copies are also issued without cost.

All applications for nursery licenses should be addressed to the State Department of Agriculture, Capitol Annex, Madison, Wisconsin.

S. B. FRACKER.
State Entomologist

The Garden Fairies

ELIZABETH HELD

The little girl who played in the old garden was very lonely sometimes, for there was no one to play with but mother and mothers are awfully busy people. So when she was tired of dolls she would climb up in the old Transcendent Crab tree that stood in the middle of the garden and from a seat high up among its leafy branches look down toward the town and think what a wonderful thing it would be if she could go everywhere and see things.

One evening when there was company and no one was paying much attention to little girls she slipped out of the house and climbed up to her favorite seat in the old crab tree. Far down the street she could hear the voices of children at play. It made her feel very lonely indeed—and unconsciously she voiced her desire: "Oh, how I wish I could see things." To her amazement someone answered her: "Because you have desired it so earnestly I grant your wish. I give you the 'gift of seeing things,' it is the most wonderful gift in the world. Having it, you need never be lonely or unhappy very long for the Door of The Enchanted Palace will open for you."

"Who are you?" asked the little girl.

"I am the Spirit of the Garden, and my work is to make children happy Look at the garden. Did you ever see it before?"

The little girl looked down at the garden. The moon was shining brightly, the air was sweet with the perfume of roses, every flower and leaf was covered with tiny dew drops that sparkled in the moonlight like precious jewels. It was very beautiful but she had seen all this before. Then all at once she wanted to pinch herself to make sure she was awake, for dancing on the lawn were fairies and elves, while over them floated their queen on wings like a gorgeous butterfly. Waving their hands gaily at the surprised little girl they ran from flower to flower, sipping the honey, laughing merrily at the protests of the sleepy bumble bees. They climbed to the tops of the tall Delphiniums and swung from the tips as a boy swings from the tree tops. They swayed the stalks of Foxglove and Canterbury bells until their bells gave forth a sweet music. They pulled the petals from the roses and pelted each other until the garden looked as though the west wind had been blowing. Then altogether they played hide-and-seek among the flowers, stopping now and then to tweak the pretty upturned noses of the Pansies. Suddenly there was a dreadful racket; several tiny elves had filled their hands with the pollen from the tiger lilies and were darting hither and thither, streaking and spotting their companions' pretty faces and gossamer laces until they bore no resemblance to fairy folk at all.

The little girl laughed and laughed she was so happy. Why the fairies were playing like happy children in her very own garden! Suddenly every fairly disappeared and the little girl heard her mother calling her, "Come right in. You will catch cold out there when the dew is falling. It is long past your bedtime." She ran to the house and told the folks how the Spirits of the Garden had talked to her and given her the wonderful gift and how the fairies had danced and played in the moonlight. They all laughed at her, saying: "You fell asleep and dreamed these things. There are no fairies nor Spirits of the Garden." Now no little girl likes to be laughed at, so she never told anyone any more stories of what she saw and heard in the garden, but she was sure she had not been dreaming because the garden became a most wonderful place to her. She saw things she would never have seen it she had not been given the "Gift of seeing things." When she weeded the Pansies she laughed softly to herself at their indignant expressions when the fairies tweaked their noses. The tall, swaying Salpiglosses looked just like the fairies did when the naughty elves streaked them with pollen and weren't bumble bees sleepy heads though? They would not sting you if you disturbed them on rainy days or in the evening—they just sputtered and grumbled like a little boy she knew when his mother wanted him to get up early. Every flower in the garden became a friend, she loved them. The more she thought about it the surer she was that she had not been asleep. The Spirit of the Garden said her work was to make children happy. That was it, of course. Grown-up people were so busy doing other things they forgot all about what little girls and boys really need to make them happy. And then she became very thoughtful. Perhaps they really had never seen these things and, of course, if they had not——why she wouldn't have believed it herself if she had not seen with her own eyes. So she ought to be real happy to think she was so fortunate as to be given this wonderful gift.

She is a woman now and she will tell you very gravely that the fairies still dance in her garden on moonlight nights. That the birds, trees, flowers and the south wind whisper their secrets to her. But if you ask

her to tell you more about these things she will shake her head and say, "I cannot, you would not understand. The Spirit of the Garden must come to you and give you the 'Gift of seeing things.'" Isn't she a queer woman? But do you know I believe most folks are a little bit queer until you understand them. But she is happy and a garden is still a most wonderful place to her. There is always something new, something interesting. A garden never grows old, so she says, and neither do you in your heart if you love one.

An Invaluable Service to Fruit Growers

There is great need in North America for a central organization which will combine the forces of existing fruit bodies and which can act as a clearing house of all information of interest to fruit growers. Much has already been accomplished but it will take more effort to build up such an organization of sufficient magnitude fully to satisfy this need and to finance its development and work. This can be done through the co-operation of the fruit growers of the United States and Canada.

The American Pomological Society, for over seventy years an influence for the betterment of the fruit industry, is now reorganized with a broader program and on a business basis, with an active executive committee, a board of business managers and a paid secretary with office facilities. This society has pledged itself to this end.

The services that will be given members in 1922 are:

1. The annual convention, with valuable program.
2. The report of the proceedings of the convention, together with the Pomological Annual containing much material indispensable both to commercial and amateur growers.
3. A quarterly bulletin containing other matter of concern to the society and of permanent value.
4. Letters at frequent intervals which will embody information of current interests.
5. Reports on the size, condition and character of fruit crops gathered and disseminated.
6. A campaign for greater fruit consumption, carried on through all available organizations.
7. Efforts lent to the stimulation of export trade.
8. Affiliation with and service to state, provincial and local horticultural societies.
9. Co-operation with fruit growers' marketing associations.
10. Encouragement of better grading and packing.
11. Encouragement of the breeding of new fruits and the thorough testing and dissemination of valuable kinds.
12. Awarding of prizes for meritorious fruits, worthy inventions and for notable contributions to the science and practice of pomology.
13. Making public the best information on the new means and methods in fruit growing.
14. Condensed reviews of new books and bulletins.
15. Establishment of branches in the colleges of agriculture.
16. Registration of new fruits with accurate descriptions.
17. Legislation encouraged and fostered for the extension and safeguarding of the fruit interests.
18. Correspondence with the membership from the secretary's office.

There is no other organization giving such broad service. Join now. Send your application to the secretary-treasurer, R. B. Cruickshank, Columbus, Ohio.

Melons for the Home Garden

WILL J. PLATTEN, Green Bay, Wis.

Every home garden should produce melons for its owner every year for several months in the fall. Here (Green Bay) they should be ripe every year by August 20th, some years earlier.

The main essential to keep in mind is that melons are heat loving, and that if they are planted and treated like our hardy vegetables, they will not always ripen fruits before frost or will ripen only a very few. Probably three out of four failures in raising melons is due to this careless method of treating them.

An early start with the plants, and the conserving of heat in the hills in the early spring is quite necessary. I find that only about a week is gained by starting plants in sod or in berry boxes in a hotbed or cold frame. When transplanting, soil about plants is left intact. Plants are set out about May 15th; seeds are ordinarily planted in hills about May 10th. In the conserving of heat the best way is to plant on a sandy loam southeast slope or on the south or southeast side of a building. There is a much greater absorption of heat into the soil in these locations. This is very important in the getting of early melons. A small amount of manure in each hill gives up heat for some while. One must be careful not to use too much or the hills will dry out in mid-summer. The hills are not mounded but depressed a little, the heat is held better. (Hollow hills sound a little odd, but I mean well anyway.) In early spring the main heat is in the sun's rays and the nights are cool. As soon as young plants appear, they are covered with paper cones weighted on edges with sand to prevent being blown away. The heat from the sun heats the air under the paper and the heat is retained all night, permitting the plants to grow continually. Paper coverings are needed for 10 days to two weeks, depending on the season. Some years they will not be needed at all. An oiled waterproof paper is used. Cheesecloth frames, glass frames, or bell jars would all serve the same purpose.

Plenty seeds are planted to have enough left after the cutworms and striped beetle have their share. After a number of years experimenting with various varieties, early and late, I confine myself to one variety, force some to have them early, and get the later ones from later plantings. This has the big advantage that one may save seed without danger of admixture. I confine my varieties to the following three: Milwaukee Market Musk Melon, Kleckley Sweet Watermelon and the Honey Dew Melon.

The Milwaukee Market melon is a large, orange fleshed, thick meated melon; a very heavy continuous bearer, having quality equal to the Osage, almost as early as the Emerald Gem, and wherever planted by commercial growers is soon the market favorite. The only places I know of it being sold are Currie Bros., Milwaukee, and Olds Seed House, at Madison.

The Kleckley Sweet Watermelon is the only watermelon to consistently ripen early for me every year. It is a large, long, dark green melon, has a thin rind, and is of extra fine quality.

The Honey Dew Melons take about two weeks longer to mature than do watermelons, so that they

should have the warmest location and the best care. I kept a number of large ones last year in an ordinary cellar till Christmas.

Too many people assume that these good melons cannot be raised in our cold northern climate. Try giving them an early, warm start and there will be melons for all.

Salient Points in Spraying

Spraying is an "art" and recommendations must be followed closely if results as good as those obtained in experimental work are expected. Make sure you are using the proper material in the proper proportions and at correct time. Use enough of the material to completely and thoroughly cover the entire surface to be sprayed. There is a tendency to use too little material and apply it to the surfaces easiest reached with the result that the parts left unsprayed afford re-infection to the sprayed surfaces. Investigations recently conducted by the Oregon Experimental Station have shown that for best results from dormant spraying 4.1 gallons of spraying solution should be used on an eleven year old apple tree with an increase in amount for older trees, eight gallons being necessary for a fifteen year old tree. Owing to slower growth slightly smaller amounts are needed in Wisconsin for the age of tree.

The matter of application is likewise important. High pressure is essential, since it facilitates application by breaking the spray into fine particles. The ideal spray is a floating fog-like mist. Another important condition governing the size of the particles is the size of the holes in the discs of the nozzles, the smaller the holes the finer the particles. Rods, therefore, equipped with nozzles having finer holes than the spray guns can be used when the pressures are too low for guns. These discs must be watched closely and changed when the holes become worn too large for efficient work.

A revised spray calendar, Bulletin No. 36 "Control of Insects and Plant Diseases," explaining in detail the preparation and use of these sprays is now available and can be secured upon request from the state entomologist, Capitol Annex, Madison, Wis.

The Minnesota Fruit Breeding farm showed two or three hundred seedling apples at the crop show, among them about a dozen that will bear close watching. They bid fair to give Minnesota a long-keeping apple. Wedge and No. 90 are two good ones.

A Real Hailstorm

(Contributed by Dr. A. H. Lemke.)

This is May, 1921. The day was threatened by local showers. One welcome shower of a few minutes' duration passed over the city from the west about 2:30 p. m., and at one hour intervals more heavy clouds appeared but no rain. After six a heavy bank appeared at the horizon. I watched it with much anxiety because we, my family and some friends, had a pleasant(?) two mile walk before us. We had well entered the outskirts of the city when these threatening clouds overtook us. A little store building was our refuge. We had hardly entered when glass began falling. Night had fallen in a few minutes. The time was now 7:50 p. m. The wind came in terrific gusts. The clouds rolled like huge boulders ("thunderheads") over each other, streaked grayish white and inky black. The cloud action was best observed by being several miles north of the edge of the storm. The drops were few but large. The predominating feature of the storm was the hail which came in several distinct sizes. The small size averaged one-half inch. The second size was about hen's egg size. To be more exact, by weight they averaged two ounces apiece. In a garden plot prepared several days previous for seed sowing these pieces buried themselves below the level of the surface. On a 4 by 4 foot space there were 87 indentations, averaging five and one-half to the square foot. The smaller sizes were slightly in excess of the two ounce size. In the southwest part of the city the extra large pieces fell. Size approximates base balls. Measurements showed them to run between nine and ten inches in circumference. This size seems to have fallen in groups of a few and then walk two or three hundred feet before more could be found. The largest piece picked up weighed one and one-fourth pounds. Among the larger sizes about 10 to 15 per cent of the hail was a conglomeration of smaller pieces firmly congealed into one solid mass. One freak piece was eight inches in length, on the order of an icicle but of many nuclei. On an east and west line at south edge of the city was the zone of large hail. From here on south for another mile the hail was what may be called normal size, like peas. At Rothschild's, four and one-half miles south, there was only a slight mist falling and no sign of any hail.

The total width of storm was about four miles. The distance it traveled was approximately 23 miles from west to east with Wausau in the very midst of the storm area. The wonderful feature of the storm was to have stood at a suitable point to observe the falling pieces. Not parallel to each other like drops of rain in a quiet shower. They twirled and gyrated at all angles and in all planes. Possibly caused by their various shapes by the forces, whether at the ascending or descending edge of the cyclonic centers, among the clouds. Some disc shaped pieces traveled in a nearly horizontal plane for many yards (10). The damage to glass was enormous. Art glass windows, automobile tops, old shingle roofs and paper roofing with poor base. The telephone building is tile veneer, the coping of which is badly chipped. One greenhouse was a complete knockout.

Streets well lined with shade trees were well covered with foliage, twigs, and even some larger branches. Under an American larch a one-inch size branch was broken off.

I have today mailed via parcels post a bundle of branches showing bruises caused by this storm. I think it worth while to place them for future use into the Museum or into the forestry department of the University, properly labeled.

A. H. Lemke, D.D.S., B.Sc.

Repairing Storm Damaged Trees

By the time this appears in print many of the scars caused by the terribly destructive ice storm which visited eastern Wisconsin February 22 and 23, will in part be healed. Inquiries and pleas for help were numerous. Fortunately, Prof. F. A. Aust grasped the situation and almost before the storm was over had prepared and forwarded to the stricken district a newspaper bulletin packed with common sense, every line of practical value. Although we could not get this to our readers sooner it is felt worth while to print it now for repair work may yet be done.

There was much controversy in

SUMMER MEETING

AND CONFERENCE COMMERCIAL FRUIT GROWERS

STURGEON BAY

August 16 and 17, 1922

One of Two Evils.

(Continued from page 151.)

applications should be made—first, just after the petals fall; second, ten days or two weeks later and if plum rot has been common in the past, once again in mid-summer, three or four weeks before the fruit is ripe.

S. B. F.

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local papers concerning the particular substance to be applied to wounds as if that were the most important point. Really it is secondary for even if nothing whatever were applied wounds would heal. Antisepsis is not as important in plant healing as in surgery. The following by Prof. Aust should be read and preserved.

How to Treat Trees

The sooner the pruning is done, the better.

An experienced tree surgeon should be consulted if possible.

Tools necessary for the job are —a good hand saw, bit and brace, a short bar, pliers, paint brush, a pole pruner, a safety belt and ladders.

Branches with one-fourth of their bark intact can be saved.

These branches are brought back into place by block and tackles and held permanently by bolts or wire cables.

Branches with straight breaks are removed by a process called undecutting.

All wounds should be painted with asphaltum or carbolineum.

Tree surgery is common sense applied. Use good judgment and a liberal amount of common sense.

Thousands of shade and orchard trees, bent and broken by the sleet which ravaged the state, can be saved if proper pruning operations are employed immediately, according to F. A. Aust, department of horticulture, University of Wisconsin.

"The sooner the trimming and repair work is done after the ice has left the trees, the better," Mr. Aust said. "The argument that work should be done before the sap starts has little weight, because if a tree is going to bleed badly, as the maples and box elders do, there is no way of stopping it completely.

Apply Common Sense

"Tree surgery is but a matter of common sense applied and if it is impossible to procure the services of an experienced tree surgeon, the work can be done by an able man.

"The ordinary pruning tools necessary for this work are a good hand saw, a pole pruner as is used in orchard work, and if possible, a curved-bladed saw attached to a 10-foot pole, a bit and brace, a short bar, pliers, paint brush and necessary ladders, and for heavy cable work a safety belt also is essential.

"Branches on most trees are broken in two ways, either as a split in the crotch, or as a straight break. A straight break requires complete removal of the branch. A crotch break may be repaired if a quarter of the bark is intact and has not been separated from the wood. Branches with straight breaks should be removed at such a point where there will be a remaining twig or bud to continue the growth of a new branch.

Undercut All Branches

"All branches two inches in diameter or more should be undercut. This consists of first making a saw cut on the under side of the branch 8 or 10 inches above the point where the branch is ultimately to be removed. Cut in until the saw pinches. Now go two or three inches above this cut and make another cut from on top of the weight. The stub can then be cut off.

"Where large branches are to be removed it is well to lower the branch to the ground with a rope. The falling of the branch can be controlled completely in this way, and further injury to the rest of the tree avoided.

"Whenever a branch is removed it is well to treat the wound with a disinfectant. Lead paints should never be used as they prevent healing. Good preservatives are ordinary asphaltum paint, procured at any drug store or paint shop, and carbolineum, procurable at most seed stores.

Use Caliper Hooks

"To save branches where one-quarter of the bark is intact and not torn from the wood, is usually not a difficult process if carefully planned and engineered. Two lag screws are first placed in the branches above the split crotch. Six or eight-inch branches can be pulled back in place on a half-inch caliper screw hook. For heavy oak branches, a three-quarter-inch caliper hook is necessary.

"In placing the screw hooks into the branch, it is necessary to bore a hole into the branch with a bit one size smaller than the screw. The screw hook is screwed in so that there is just enough room to pass in the wire or chain which will be used to hold the branch or the block and tackle. If the hooks have been properly placed, the block and tackles are attached to this set of hooks. Two additional hooks are placed below this first set to which the cable or chain will be attached.

"Blocks and tackles should never be attached to the branches of the tree by means of chains, ropes or wires wrapped around the branches.

Treat Exposed Surfaces

"Before pulling the branch back into shape it is usually best to treat the exposed surfaces with either asphaltum or carbolineum. This had best be applied with paint brushes.

"The size of the block and tackle will depend upon the weight of the branch to be pulled back. By the proper use of two or three sets of tackles, two men can easily move a heavy branch. To accomplish this the lead rope of the primary set is attached to the movable block of the secondary set, and the lead rope of the secondary set is attached to the movable block of the third set.

"By threading a No. 12 galvanized soft annealed wire back and forth between the lower hooks after the wire has been hooked over one hook with a seven-inch end projecting, until the required number of strands are secured, a cable that will last 10 to 12 years will hold the branch in place.

"For a branch of medium size where a three-eighths-inch hook was used, from six to eight strands will be sufficient. For a larger branch where one-half to five-eighths-inch hook is necessary, 12 to 16 strands are necessary.

"After the cable is completed, the last end is cut seven to 10 inches long and bent downwards. A short iron bar is then placed in the center of the wires and the wires are twisted into a compact hook.

"Where the branches are particularly large, or there is likely to be twisting by the wind, it is necessary to place additional cables to prevent swaying of the branches. Judgment must be used in placing these cables. They are usually placed six or eight feet above the first cable or cross cabled to other branches of the trees.

"It is often desirable to place a bolt through the tree just below the broken crotch. The heads of the bolts should be placed through iron washers and these countersunk through the outer layer of the tree.

"Wherever branches are bolted together which are six or eight inches in diameter it is desirable to cap the crotch with a cap or watershed. However, it is always best to have this work done by someone experienced in this work."

WISCONSIN BEEKEEPING

Official Organ of The State Beekeepers Association

Supplement to WISCONSIN HORTICULTURE, *June 1922*

Attention! Members of State Beekeepers' Association:

Please mark August 7th to 11th on your calendar as a vacation week. This is the time for the Beekeepers' Chautauqua which will be held at *Green Bay, Brown County*, and should mean a vacation to every beekeeper, especially our members of the state association. Make your plans right now to come. If you have attended any of the previous ones, I need not tell you that it will be *worth while*, but many of our members have not had this opportunity and, therefore, I will give a few of the benefits to be derived from a meeting of this kind.

1. You will receive information from national authorities, men who have carried on research work for years and years to determine the most practical and economic manipulations for beekeepers. Men who can give you the *"latest"* in beekeeping. Men who can tell you about beekeeping in all sections of the United States because they have covered thousands of miles of beekeeping territory each year. Such men are Dr. E. F. Phillips, National Apiarist; E. R. Root, of the A. I. Root Company; Mr C. P Dadant, of the Dadant Company.

2. You will be given an opportunity to ask questions concerning your own particular problems.

3. You will have the pleasure of meeting other brother and sister beekeepers of Wisconsin and what is more worth while than the development of friendship with people interested in the same work.

4. You will have a good time. How do we know? We have personally met members of the Brown County Beekeepers' Association and we know when Brother Brenner or Morgin says, "Brown County Beekeepers' Association will show the beekeepers attending the Chautauqua the best time they ever had" that they mean what they say and that we'll all have a good time.

These are only a few of the benefits the Chautauqua will offer. Make your vacation a profitable one this year and come to this conference or we might call it, "Wisconsin State Beekeepers' Field Meet." Fill out the blank in this issue, mail it to the secretary and start *boosting* this meeting now. Invite your neighbor beekeepers to come also. This conference is free and every beekeeper in the state is welcome.

SECRETARY,
Wisconsin State Beekeepers' Association.

.....

Name .....

Address .....

Check dates you can attend: Aug. 7....., Aug. 8....., 9....., 10....., 11.....

Do you want us to make room reservation for you?.....

If so, answer following questions: Kind of room—Single.....double ..... No. of days .....

Remarks .....

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Experience in Pasturing Bees on Buckwheat

Conrad G. Kruse.

Buckwheat is grown in scattered areas throughout almost the entire state.

There are perhaps a dozen counties, most of them in the extreme northern part in which it is not grown to any extent. The remaining counties had an acreage totalling near the 26,000 mark in 1921, so, though it is classed among the minor crops, it is nevertheless of much importance.

Throughout southern and central Wisconsin it is seldom grown on a soil that will raise a fair oat crop, or timothy, the latter crop fitting better into our livestock system of agriculture. But there are many lowlands, newly drained marshes, or marshes fairly drained where small grain has failed, where buckwheat fits in well and usually pays well.

Another type of soil to which buckwheat is often sown for a cash crop is the sand, drift sand, or sandy soil too poor to grow anything but rye or buckwheat or soy beans. If drouth is not too severe, a good crop is usually secured, and in my experience the past two seasons, this type of soil yields the most buckwheat honey per acre.

The buckwheat fields of Sauk County are from 20 to 40 miles from the home apiary and one of the big problems is getting within bee range of them. August first is usually the time bloom begins to show and by the tenth is generally secreting freely so it is important to move the bees early and have them on the job at the start.

My main object in migrating to buckwheat fields is to secure increase in colonies as cheaply as possible. There is no fall flow of any kind at the home yards as the country is well stocked with dairy cattle which keep down the golden rod, aster and sweet clover.

Near the end of the clover flow, usually about July 10 to 15th, I begin to make increase, dividing the original colony into two, three, or four parts, depending upon its condition. These nuclei average from three to five comb in strength and are placed in regular ten frame hives, filling space with drawn comb and closing entrances almost to one bee space. Each nucleus is given a ripe cell or virgin soon after and left until the young queen is laying.

Wisconsin Beekeeping
H. F. WILSON, Editor

Experience has taught that to move before the new queen is laying usually results in queenlessness, but as soon as eggs are to be found, they are ready.

Smothering heat or driving rains do not stop or hinder our operations much when moving time comes. This year, with the help of one 17-year-old boy we moved 115 colonies per day for four consecutive days, thermometer registering near the 90 mark each day and bees being on the road about three hours. Of course, they are sprayed with water while loading, and if necessary, again enroute.

All of our equipment is the standard ten frame stuff, two story hives are stapled together, bottoms are stapled on, entrance closed by pushing in a V shaped screen, cover removed and a two-inch screen frame stapled over the top.

They are stacked two and three deep on the truck and trailer, two by fours and boards between the tiers provide ventilation. Less than a handful of bees have been smothered in my two seasons of migration to and from buckwheat, even though sometimes we started at high noon, with the thermometer at 90 and a sum total of about 1500 colonies have been moved (counting both ways).

In 1920, 200 of the divided colonies were moved to two buckwheat regions, one 20 and the other 37 miles from home. The total cost of truck hire was forty cents per hive, round trip. Nearly all of these were in two story hives stapled together.

Season was favorable, bees built up fast to rousing colonies and a surplus of 6000 pounds was extracted, leaving plenty for winter and spring feed.

In 1921, 525 colonies in one and two story hives were moved 25 miles and all placed in one yard. They were within easy range of 150 acres of buckwheat in good condition. Total cost of truck hire was 37 cents per hive, round trip.

Colonies built up fast, and the scale hive showed a total gain of 37 pounds which was a fair average for the whole 525. Season was short, ending abruptly after a three day blow of hot dry winds which blighted the buckwheat, even killing the newly set seed.

Honey is given as rent for the apiary sites and bees are away from home about six or eight weeks. They are not placed near buildings, no one is left in charge, and sometimes I am not near the yard for two weeks at a time. Honey thieves are rare, only nine combs being taken in the two years of migration.

I consider three or four, two story colonies a proper force for an acre of buckwheat in good condition. At this ratio, the buckwheat grown in Wisconsin is sufficient for 6000 colonies to feed upon, taking nothing of value to the planter, assisting in pollination, and they would save many a carload of honey, if we would but move them a few miles.

The Cost of Honey Production

A strong, active organization is the most urgent need of the honey producer today. Already the Wisconsin State Beekeepers' Association has done much for the beekeepers of the state in making possible increased appropriations for the eradication of foul brood, and in obtaining a practical honey grading law. Grading will do much to stabilize the price of honey. Slowly but surely the demand for Wisconsin graded honey will increase as the Wisconsin consumer learns that the state stands behind and absolutely guarantees the purity and quality of Wisconsin graded honey. This will assist the business-like producer to maintain a fair price for his crop, as the price "cutter" is usually the one who does not take the pains to grade his honey, and simply markets it "Ungraded Honey" to comply with the law.

ORGANIZATION SPELLS SUCCESS

One may wonder what organization has to do with the cost of producing a crop of honey. Possibly in a direct way it does not have much to do with it, but indirectly, in the writer's opinion, it has very much to do with it. The figures thus far available on the cost of honey production plainly indicate that the present price of honey should be maintained, and efficient methods of increasing production must be used. A good start has been made in maintaining the price of honey by the application of the Wisconsin grading law. This, in the writer's opinion, may be followed by the consideration of standard containers, and further greatly popularizing the use of honey as a valuable food. Such problems may only be worked out through organized effort. Tips and pointers on better beekeeping management are often obtained by attending association meetings, and from official publications of the association. The beekeeper is thus able to keep abreast of the times, and use the information which is applicable to his own particular situation.

KEEP ADEQUATE RECORDS

The cost of producing a pound of honey varies from year to year, depending on the season and the skill of the beekeeper. Therefore, records must be kept over a period of years before any definite conclusion can be reached on the cost of producing a pound of honey.

The figures given in this paper are based on the opinions of Mr. Frank Rauchfuss, manager of the Colorado Honey Producers' Association, and the writer.

TABLE 1

INVESTMENT FOR 500 COLONIES OF BEES

500 colonies of bees in one story, ten frame	

Langstroth hives, metal roof cover with inner cover frames with full sheet wire foundation at $10.00	$ 5,000.00
50 one-story, ten frame hives with full sheets of foundation at $3.96	198.00
1500 extracted bodies with combs complete at $2.22	3,330.00
8 frame power extractor	191.25
Capping melter	17.85
Steam heated capping knife with generator	5.95
Honey straining apparatus	5.00
150 gallon honey tank	27.20
Fairbank scale	20.00
Hershiser wax press	38.76
Miscellaneous tools and fence for out yards and rents	150.00
Buildings — Extracting and honey house	600.00
Vehicles — One Ford truck	483.00
	$10,067.01

TABLE 2

OVERHEAD EXPENSES FOR RUNNING 500 COLONIES

Six per cent of investment	$ 604.65
Five per cent depreciation on equipment—20 years	479.72
Depreciation on Ford truck 20 per cent—5 years	96.60
Insurance on buildings and equipment	200.00
Salary of owner, 8 months at $200.00 per month	1,600.00
One helper, 3 months at $80.00 per month, without board	240.00
Expense for running truck for six months at $40.00 per month	240.00
Total Expenses	$3,460.97

COSTS VARIABLE

The items given in Table 1 will, of course, vary according to the personal preference of different honey producers, and with the number of colonies kept.

Five hundred colonies kept in six yards are taken and so located merely as a unit to figure with. Much of the equipment listed in Table 1 would be needed for less than 500 colonies of bees and, on the other hand, some of it could be used efficiently for more than 500 colonies, thus, in one case slightly increasing the cost of production per pound, and in the other slightly reducing it. Such questions as to when the four frame extractor should be replaced by an eight frame machine must be based on the judgment of the owner. When another out yard should be established and when the point is reached that a separate or enlarged building will be advisable as a work shop and storage plant, will also have to be decided by the owner. The skill with which these decisions are made will influence the cost of honey production.

INTEREST ON INVESTMENT

The items listed in Table 1 are figured at a discount of 15 per cent off 1922 catalog prices, on the assumption that the owner is a member of a beekeepers' association which is entitled to 15 per cent discount. The capital invested in this case for 500 colonies of bees is $10,067.01. The honey producer knowing definitely the amount of money he has invested can then proceed to figure overhead expenses on the production of the crop of honey. In Table 2 will be noted that 6 per cent interest is charged on the capital invested. The capital of $10,067.01 invested in good securities should yield 6 per cent. Therefore, it must be expected to yield the same when invested in honey production.

DEPRECIATION OCCURS

The equipment in an apiary gradually wears out from continuous use and at the end of a period of years it has to be replaced by new material. Improvements on appliances are made from time to time, some of which enable the producer to handle his crop more efficiently, thus making the purchase of improved equipment a good investment. In order to make possible the purchase of improved and to renew worn out equipment, it is a sound business policy to establish a depreciation fund. In Table 2 it will be noted that 5 per cent depreciation on all equipment with the exception of on the Ford truck is recommended. This means that the equipment could be entirely replaced at the end of twenty years. The depreciation on a Ford truck is figured higher, as it is considered by the users of these vehicles that they are good for about four years.

The question of insurance is well worth considering. Hive and supers filled with combs built from full sheets of comb foundation are of inestimable value to the beekeeper. Therefore, to carry adequate insurance on buildings and equipment is sound business.

BRAINS AND LABOR WORTH MONEY

The salary to be paid is a much-mooted question, and one that the owner must largely determine for himself. It is the opinion of the writer that a man who thoroughly knows the game and will put his knowledge into action, and also knows the fundamentals of business should be worth at least a salary of $200.00 a month for every month he devotes his full time and thought to the business. The work of producing a crop of honey can be wound up in eight months in most cases. During the rush season hired help will be required. Wages at $80.00 per month for one man for three months is by no means extravagant in most cases.

The expense of running a truck at $40.00 per month for six months is based on the estimates of other business concerns, and is possibly none too high if our apiaries are established on poor roads.

Approximately, the expense for running an apiary in a poor season is as great as in running it during a good season. All too frequently the beekeeper neglects the bees in an off year. The results of this neglect are invariably carried over to a material loss of crop the following year.

When the owner's time is figured for eight months during the year, but little time will be available for selling honey at retail prices. The

honey crop in Table 3 has been figured at 10 cents and 15 cents per pound to emphasize the importance of obtaining a fair price for the crop.

TABLE 3

COST OF PRODUCTION—WITH 25 POUND AVERAGE

Expenses:		
105 cases 5 gallon cans at $1.30	$ 136.50	
Overhead	3,460.97	
Total expenses	$3,597.47	
	15c per lb.	10c per lb.
Returns:		
12,500 lbs. honey	$1,875.00	$1,250.00
106 lbs. beeswax at 27c	28.62	28.62
Gross income	$1,903.62	$1,278.62
Deficit	$1,693.85	$2,318.85
Cost to produce 1 lb. of honey	$ .28	

WITH 50 POUND AVERAGE

Expenses:		
210 cases 5 gallon cans at $1.30	$ 253.00	
Overhead	3,460.97	
Total expenses	$3,713.97	
	15c per lb.	10c per lb.
Returns:		
25,000 lbs. of honey	$3,750.00	$2,500.00
212 lbs. of beeswax at 27c	57.24	57.24
Gross income	$3,807.24	$2,557.24
Profit	$ 93.27	
Deficit		$1,156.73
Cost to produce 1 lb. of honey	$.148	

WITH 60 POUND AVERAGE

Expenses:		
250 cases 5 gallon cans at $1.30	$ 325.00	
Overhead	3,460.97	
Total expenses	$3,785.97	
	15c per lb.	10c per lb.
Returns:		
30,000 lbs. honey	$4,500.00	$3,000.00
250 lbs. beeswax at 27c	67.50	67.50
Gross income	$4,567.50	$3,067.50
Profit	$ 781.53	
Deficit		$ 718.47
Cost to produce 1 lb. of honey	$.126	

WITH 75 POUND AVERAGE

Expenses:		
320 cases of 5 gallon cans at $1.30	$ 416.00	
Overhead	3,460.97	
Total expenses	$3,876.97	
	15c per lb.	10c per lb.
Returns:		
37,500 lbs. honey	$5,625.00	$3,750.00
312 lbs. beeswax at 27c	84.24	84.24
Gross income	$5,709.24	$3,834.24
Profit	$1,382.21	
Deficit		$ 42.73
Cost to produce 1 lb. of honey	$.103	

WITH 100 POUND AVERAGE

Expenses:		
417 cases of 5 gallon cans at $1.30	$ 542.10	
Overhead	3,460.97	
Total expenses	$4,003.07	
	15c per lb.	10c per lb.
Returns:		
50,000 lbs. horey	$7,500.00	$5,000.00
417 lbs. beeswax at 27c	112.59	112.59
Gross income	$7,612.59	$5,112.59
Profit	$3,609.52	
Deficit		$1,109.52
Cost to produce 1 lb. of honey	$ .08	

CONCLUSIONS

From a study of the cost of production it will be noted that three factors are essential in order to make honey production profitable:

1. To work out the most efficient system of management possible in order to cut down the cost of production.
2. To increase the average production per colony by improved methods of beekeeping.
3. To maintain a fair price for honey.

The first two factors are largely within the range of the individual beekeeper. The third can only be obtained by organization, through which extensive advertising and selling campaigns may be launched.

E. W. ATKINS, G. B. LEWIS CO.
Watertown, Wis.

"Together We Stick, Divided We're Stuck"

So says Brother Beekeeper Painter, secretary of the Marathon County Beekeepers' Association. It is to be regretted that our beekeepers are not co-operating with one another in the way they should. The secretary of the state association has a list of over 1,000 beekeepers who have, one time or another, been members of the state beekeepers' association. Out of this 1,000 but 539 have renewed their membership for 1922. Ninety-one *new* members have been secured to date, which gives the state association a paid-up membership of 630. The Wisconsin State Beekeepers' Association should have at least 2,000 members in order to place *Wisconsin beekeeping* where it justly belongs. One dollar will not make or break any of us, but $2,000 will give Wisconsin beekeepers an organization worth while. Will not each member take it upon himself to round up one or more of the old members and secure his dollar. If you do not know who they are, ask your neighbor beekeeper whether or not he belongs to the association. If he does not happen to be an old unpaid member, get his dollar anyway, as new members are always welcome.

WISCONSIN HORTICULTURE

Vol. XII Madison, Wisconsin, July, 1922 No. 11

Happy Trudy in Mrs. Strong's Iris Garden.

The Idea Spreads

George Ade, who won fame and fortune as a writer, has retired to a farm in Indiana. He is an agriculturist, we imagine, rather than a farmer, but as shown in his article on another page he soon learned the need, the hunger for recreation among country people, and the lack of places to play. We have been advocating country and community parks for five years and welcome George Ade to our ranks. Will you think about the needs of **your** community and write us your thoughts?

George Ade on Rural Recreation

A picnic and outing for all the farmers of the region was held at my place, Hazelton Farm, Brook, Indiana, on September 24. We had thousands of people here. The schools in the county rehearsed for the community singing and there were many games and entertainment features. The party was a little hard on the lawn and the shrubbery, but it was a great thing for the community.

I am becoming almost an expert on Community Service.

In 1904 I moved to the country, in order to find a quiet spot where I could do my work undisturbed by the complications of city life. My house was built at one corner of a farm which I own and because this corner of the farm bordered a small river and was wooded with very fine specimens of our best native trees, I became generous and gave myself a wide domain for the private grounds surrounding the house. In clearing up the grounds we opened many spaces and threw them into stretches of lawn but at the same time we preserved as a background a great variety of the large and small trees and brush and vines that we found in the woods. People came in large numbers to ramble about the premises and hold picnic parties. We had about the only playground in the whole region which was cleared away and had an artificial setting of flowers and greensward.

In 1908 Mr. Taft opened his presidential campaign here at Hazelden, and we had 15,000 to 20,000 people on the grounds that day.

I built a swimming pool out at the west of the grounds and later on built a dancing pavilion, fifty by thirty-five feet, and that building has been used for a hundred purposes since 1910. The State Council of Defense met there and also the County Council. The Red Cross used it during the war as an assembling depot. Clubs and societies from Chicago and Indianapolis and other cities have made it their headquarters at various outings. Near the pavilion, as we call it, was a fine open playground entirely circled by trees.

Here we laid out a small diamond and the business men from surrounding towns came once a week to play soft ball. Later on we laid out a little nine-hole golf course within the home grounds. The neighbors became so fond of the baby course that a club was formed and now we have a real nine-hole course, three thousand yards long, and we have a clubhouse and a good tennis court and nearly all of the usual fixtures of an up-to-date country club.

Several years ago the Sunday visitors swamped us and we had to close the grounds on Sunday, but I have made it a rule not to turn down week-day visitors whether they come in small family parties or in large organizations. We have entertained parties ranging in size from fifty to eighteen thousand. The banner day was the Home-Coming celebration for soldiers and sailors on July 4, 1919, when we had by actual count twenty-six hundred motor cars parked in the pastures and along the roadways.

My experience with large crowds has been that people behave themselves and do not wilfully destroy property or do any damage. Of course, when you have several thousand people swarming in the ten-acre enclosure at one time, they will kick up the turf a little and make a good deal of a muss, but they don't really do any damage that cannot be repaired. They enjoy a visit to grounds that are landscaped and well kept and they turn out in droves whenever invited.

Since motor cars have eliminated distance and good roads have directly connected all the townships in every county, the "county park" has become almost a necessity. Every small town and every rural township should have near at hand for the free use of the public, a large park which will serve all the purposes for which we have used our grounds, here at Hazelden. The forest preserve idea is all right and the state parks deserve public support, but they are too far apart. Each family that owns a little motor car should have a park within easy riding distance. In the average county of the corn belt, the family that starts out for a day of recreation usually winds up by taking a picnic lunch in the open highway. The woodland pastures are either barred

against visitors or they are littered and dirty and uninviting. I believe the county park would be a real blessing. Part of it should be cleared for parking space and athletic field and the remainder should be left in a natural condition except that deadwood and down timber should be cleared away. All the native trees and shrubs and flowers should find a refuge in this local park. All the important athletic contests of the county should be held on the athletic field. In each county you will now find several towns and each of these towns has a sorry-looking ball park and a weed-grown open space somewhere which is used for football and track meets, but, if all the towns in the county should unite they could support a first-class athletic field surrounded by bleachers and comparing with any college outfit.

We need in the country more playgrounds and more shower baths and recognition of the truth that the men and women who live in the country need not regard themselves as mere work animals. We need these things if we are to check the flow of population to the cities. By accident, and not because I started out to be a benefactor, I have been conducting an experimental park of the kind I am now advocating. Accept my assurance that the public will gladly make use of picnic groves and recreation grounds, if they are put within reasonable reach.

The acreage of watermelons in Florida, Georgia and South Carolina is estimated at 102,100, as compared to 63,300 acres last year.

Federated Fruit Growers Formed

The American Farm Bureau Federation sees another ideal realized with the launching of the Federated Fruit Growers. The new organization is the result of the deliberation of the Fruit Growers' Marketing Committee of 21, which held its final sessions in the general offices of the American Farm Bureau Federation, April 24th-29th. This is the third of the farm bureau commodity committee to report. The Fruit Growers' Marketing Committee of 21 was appointed by Pres. J. R. Howard on August 25, 1921, upon authorization of the National Fruit Marketing Conference called by the American Farm Federation on April 5, 1921.

To Open Sales Agency

The committee of 21 made plans to establish a national grower-owned and grower-controlled sales agency at once. A temporary board of directors for the Federated Fruit Growers was appointed by the committee of 21. J. S. Edwards was made vice president and acting manager and instructed to proceed at once to organize the sales department.

Associations Are Members

The memberships in the Federated Fruit Growers will be held by co-operative fruit marketing associations and not by individuals. No regular employe of the national sales agency can be a member of the board of directors. The organization is completely grower-owned and grower controlled. Representation on the governing board is by both commodity and district. The nation will be divided into some 16 districts, according to the importance of the various sections in producing fruits and allied perishables. Each commodity, such as citrous fruits, apples, grapes, etc., will be entitled to representation on the board and the districts will be recognized according to the importance of the industry there. The American Farm Bureau Federation will appoint one director.

Tonnage Assured

Already Acting Manager Edwards has letters from various co-operatives indicating a strong demand for the sales service. The problem will be one of adequately caring for all the tonnage offered. The Federated Fruit Growers is determined to set up a sales service on a firm foundation strongly financed so that it will not have the usual annual struggle for existence, and commanding the complete confidence of the growers' organization which owns and controls it.

Service to Fruitmen

A campaign to increase the consumption of fruit and the standardization of fruit grades under a trade-mark of the organization will be two of the tasks undertaken by the organization. Nuts as well as fruit will be handled, and in some sections vegetables and other perishables.—Bulletin American Farm Bureau Federation.

Stop the insect when it first begins to work. It's easier to handle than when it has a large family and many friends about it.

A single flower is often more attractive in a vase than a handful jammed into a vase. Flowers are individuals. Why not treat them as such?

THE FLORISTS PAGE

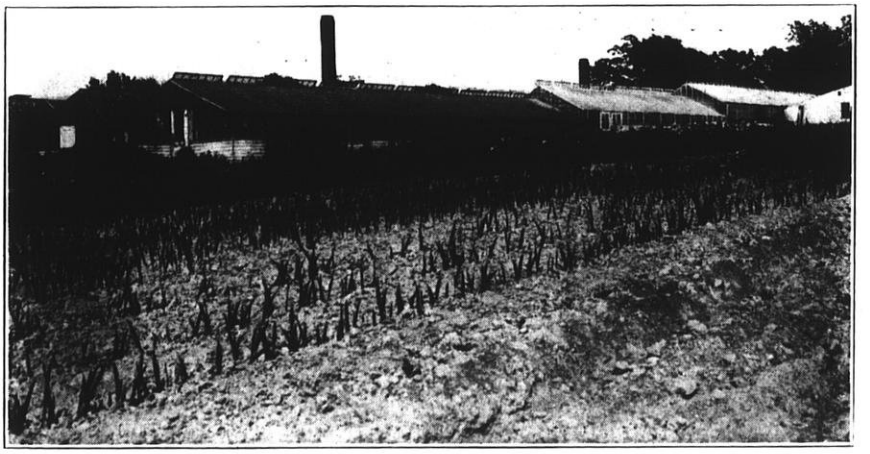
EDITED BY
HURON H. SMITH, Curator of Botany
PUBLIC MUSEUM MILWAUKEE, WIS.

The Meier-Schroeder Floral Company, of Green Bay

From our articles thus far, one might think that the floral industry centered around Milwaukee, but Wisconsin has some extensive establishments over the state. June 7th we were cruising the main street of Green Bay and spied a fine window of brides' boquets. Investigation proved it to be the Meier-Schroeder Floral Co., at 119 North Washington St. We use a motorcycle and appropriate costume, which precipitated a scare into genial Carl Meier, who is the proprietor and sole owner. He had just paid out $15.55 to the Green Bay judge for his boy had exceeded the speed limit, and he thought here came another motorcycle cop. However, when we claimed Clem Pollworth as a friend, the sun came out from under the cloud and everything was warmth again.

Carl Meier is another old-timer, having been right there in business for 25 years, wholesale and retail. He has one set of greenhouses out on Webster avenue on the other side of the fence from Woodlawn Cemetery, and another set of houses at Stiles, Oconto county, 25 miles north of Green Bay.

It is easily the largest florist's business in northeastern Wisconsin and he ships north, west and south for 250 miles. As a regular thing, he employes 10 people at the store, 9 at the greenhouses, and 5 at Stiles, making an even two dozen people on his payroll.



ONE SIDE OF THE MEIER-SCHROEDER HOUSES, GREEN BAY.

The houses at Stiles aggregate 300 by 40 feet and there are grown sweet peas, roses and carnations. Cuttings from this stock are received every day in Green Bay at 2:15 p. m. His sweet peas are very choice, the average stems being a foot long, and being produced at the rate of two thousand a day in season. He has 25,000 carnation plants at Stiles, growing the White Enchantress, the Pink Enchantress, Enchantress Supreme, and Philadelphia for pinks, and Edna and Aviator for reds. His roses are Columbia, Ophelia, Premier, Russell and Hill's new white Engele.

The Green Bay houses comprise seventeen 100 by 25-foot hothouses, barns, heating plant, potting and bulb sheds. He grows something over 75,000 bulbs in season.

This season finds a great deal of greenhouse stock outside, and on his 6 acres at Green Bay and 5 acres at Stiles much of the stock

MR. MEIER HIMSELF AND SOME OF HIS CHARMING HELPERS.

is now outdoors. He had as fine a range of colors as anyone would want to see in peonies. Next to them were three thousand Vincas, and all manner of hardy perennials for summer and fall cutting.

Meier and Schroeder do a large potting business, raising 3,000 cyclamens, 5,000 Easter lilies, 18,000 geraniums, 3,000 ferns and other things of like nature. They had a half a bench of Swainsona, which they use freely in corsage and wedding bouquets and funeral sprays. They grow most of their own Asparagus plumosus and sprengerii, and quite a lot of their own smilax. For next fall and winter there were 20,000 "mums" that are about 6 inches high at the present writing.

Mr. Schroeder, a son-in-law of Mr. Meier, is no longer in the business, but the firm name is maintained.

Carl Meier is progressive, and likes his own city, state and country better than any other place on the globe. He is proud of Wisconsin's resources and scenery and likes nothing better than a fishing trip with Clem Pollworth. Yes, we said fishing, but you can all guess that fishing don't occupy all their attention. His retail store is a credit to Green Bay and stacks up with any business on the street. We are mighty glad to see so progressive a florist so far north in Wisconsin.

The Greatest Pleasure

Contributed by Mrs. C. E. Strong

When I agreed to do my share of the work the Woman's Auxiliary planned for the year I didn't expect my "share" would come in the busiest time of the year for me, when I am either working in a garden or else reading, hearing or thinking about gardens. I hardly think I should have written about gardens, mine in particular though, had I not been told the other day that the greatest pleasure my garden could give me was the admiration bestowed upon it by the casual passer-by or those who visited it. I did not agree, but the person who was arguing was pretty positive, so I decided to think it over. So I thought considerably the morning I donned my husband's rubber boots and dug a ditch to drain the water from my Iris. Thought swiftly and emphatically as the thorny branches of the rose bushes raked by face and hands while I pruned and tied them up. Kept right on thinking as I blistered my fingers and contracted a sore throat digging out dandelions. Thought long and earnestly as I spent all the money I could afford and some I couldn't for seeds, plants and shrubs. (I'll omit the thoughts of my husband on this subject. This is the woman's section.) The more I thought the surer I became that the admiration of the casual passerby and the visitor, while pleasing, was not the greatest pleasure my garden gives me. To begin with, I am not angelic enough to do all the things I do in my garden for others' pleasure. I am doing this work, some of it hard and disagreeable, and actually enjoying it, because I am thinking of the morning when the first Iris blossom will open. I forget the cold east wind and the thorns when I think of the sweetness and the riot of color in my garden in June time, when roses, pinks and peonies, stately delphiniums and gorgeous poppies are in bloom. The mere fact that this is my garden is of more pleasure to me than other's admiration of its beauty. It is a pleasure to pick the flowers, to give them to those who are sorrowful and those who are glad. And when I hear the children at the library say "here comes the flower lady" as they run to meet me, when I watch their happy faces as I fill the vases with the flowers they are beginning to know and love I think this is the greatest pleasure of all. I have heard of people who grew gardens just for others' pleasure. I am sure they must be angels. Did you know we had some in our midst? Just listen and you'll hear the rustle of their wings.

Caroline E. Strong.

Annual Meeting State Florists

The Wisconsin State Florists' Association will meet at Oshkosh July 25th. No definite program had been outlined at the time this issue went to press, but there will be no lack of activity on that day, for beside the usual business session the committee in charge of arrangements has been very active in making provisions for an excellent entertainment program. Make a ring around Tuesday, July 25th, and write Oshkosh underneath in red ink, for it will be more than worth your while to be with us. Bring the family.

Henry R. Welke, Sec.

THE INSECT PAGE

Edited by E. L. Chambers, Assistant State Entomologist

Why Eradicate the Barberry?

(Noel F. Thompson, Assistant Pathologist in Charge of Barberry Eradication in Wisconsin)

Renewed interest by agricultural organizations in the control of black stem rust outbreaks on grain has been aroused by the continued finding of numerous barberry plantings on farms and the consequent necessity of increased support if the eradication campaign is to be brought to a successful conclusion.

To those who grow or have grown any of the small grains, wheat, oats, barley or rye, no brief of the case against black stem rust is needed. This rust is by far the most serious disease of grain the farmer has to contend with. The estimated annual loss in the United States from this cause alone for the past six years has been over eight per cent of the total crop. Agriculturists and scientists have for years been working on this problem and three lines of attack have been evolved.

Rust is a plant parasite, a fungus which attacks and and grows upon and in the grain. It is spread from one grain plant to the next by means of small spores carried by the wind. To grow and attack the grain these spores need warm moist weather, and to cause serious damage to the crop the spores must be abundant. Since they multiply rapidly during the summer they are usually sufficiently abundant late in the season to cause a severe rust epidemic if the weather conditions are favorable for their growth. Early maturing grains frequently escape the rust while grain maturing a week or two later may be a total loss. This suggests the first line of attack against the rust and for years agronomists and others have been selecting and breeding early maturing grains and improving cultural practices. Much has been accomplished in this line, but it is far from solving the problem.

A second line of attack has been to select or breed rust-resistant strains of grain. Just as we have blight-resistant apples, wilt-resistant flax, etc., why can't we get a rust-proof wheat? This is promising and much work has already been done along this line. In one experiment station alone during the last few years over 3,000 strains of spring wheat have been tested for rust resistance. Many experimenters believe that eventually a rust-resistant spring wheat having all the qualities demanded by the millers will be developed, but this work has been carried on for many years and complete success is yet lacking. Some success has been attained, it is true, as evidenced by Kanred, a wheat extensively grown in Kansas and which is quite resistant to rust in that section. But the same wheat grown in other parts of the country is one of the most severely

COLLECTOR- "Come across with your Barberry tax."
UNCLE SAM- "How much?"
COLLECTOR- "Fifty million bushels of wheat."

rusted. Why is this? Experiments show that there are at least 37 different strains of black stem rust in America. Some of these strains are prevalent in one section, while others are prevalent in other sections, and no wheat has yet been found which is resistant to all of these rust strains.

Meanwhile, are we to sit back and allow the American farmer to be taxed 50,000,000 bushels of wheat a year, to say nothing of the oats, barley and rye, by black stem rust? There is a third method of fighting the rust which has been proven successful in Denmark, in the Scandinavian peninsula, in sections of Ohio and in a number of other places where it has been tried. This is the eradication of the common barberry. In the northern part of the United States the rust fungus cannot live over winter and infect grain in the spring without the aid of the common barberry. It spends the winter on the dead stubble and in the spring attacks the common barberry, developing little yellow rust pustules in the leaves of that shrub during May. From the barberry it then spreads to the grain and can be found as red pustules on the grain near by about the first of June. From these grain plants it spreads rapidly to other grain plants until by the latter part of June it is fairly common. By removing the barberries we remove the chief source of the rust in the northern states. This is not supposition. It is an established fact and has repeatedly been demonstrated.

The barberry campaign has been in progress now for four years and nearly 4,500,000 barberries have been destroyed in the thirteen states engaged in the work, but many remain and several years will be required to finish the job. In Wisconsin, we have scouted nine counties, have found barberries growing on an average of over 100 farms in each county. Each of these farms was the center of the spread of black stem rust in the spring.

We will still have some rust when the barberry is gone, but it will get a later start and the danger of sweeping epidemics will be over.

Spraying Celery to Prevent Leaf Spots

Celery plants should be sprayed with Bordeaux mixture every ten days to two weeks to prevent leaf diseases which often seriously injure the crop for market purposes. These leaf spots occur generally in celery-growing districts in the United States during cool, moist weather. The spraying should be begun while the plants are still in the seed bed and continued throughout the season. The sprayings should be more frequent during moist, cool weather favorable to the development of the leaf spots and farther apart in dry, hot periods. Apply the mixture thoroughly with a pump which will give a very fine misty spray that will cover the plants, but not run down the stalks and thus disfigure the stems.

NEWS NOTES

The expected grasshopper outbreak is on in full force in northeastern Wisconsin, and the editor of this page is giving full time to it at present. In many sections the hoppers were reported as "very bad" as early as June 1. Fortunately poison was ordered early, and town and county boards are well organized for the fight wherever the distribution of poisoned bran is needed. The formula most used this year is:

Bran (coarse), 25 pounds
White arsenic, 1 pound
Banana oil (Amyl acetate), ¾ oz. (12 teaspoonfuls)
Salt, 1 pound
Water, 2½ gallons or more

O. G. Malde, deputy state entomologist on cranberry insect control, began work on May 15th and had completed his first survey of the larger bogs by the end of the month. The first few days' survey showed an unusually wide distribution of the black-head fireworm. On May 25th a mimeograph circular was sent to all cranberry growers advising a 36-hour flood to control the pest, a recommendation which was widely followed, especially in the Wood-Juneau-Jackson county district.

In spite of the delayed spring good progress was made in the fireblight control area west of Menomonie, Wisconsin. The area covers 36 square miles and now includes 119 properties on which there are apple trees. Half of these orchards contained heavily blighted crabapple trees, apparently with overwintering cankers, but the infected ones have now been voluntarily removed by the owners from all but nine places, and promises have been secured from these. Pruning diseased branches from other susceptible varieties, such as Yellow Transparent and McMahon, is also progressing.

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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.

Announcement, Summer Meeting

The summer meeting will be held at Sturgeon Bay, Wednesday and Thursday, August 16th and 17th. Following our established custom the first day will be devoted to papers and discussions, the second day to sight-seeing. While the following is scarcely a program, it is the only announcement that will reach you previous to the meeting unless we should be so fortunate as to get the August number of WISCONSIN HORTICULTURE on time, which is doubtful.

Wednesday Forenoon

An address by Prof. Leroy Cady, of the Minnesota Agricultural College. Professor Cady has not announced his subject, but he is quite certain to talk about the home and its surroundings.

Mr. Spidel, city forester of Milwaukee, has been invited to tell us about trees. No one is better qualified.

Many of our readers have expressed a desire to meet "Elizabeth Held," whose identity has so far remained more or less of a mystery. Those who have had the opportunity of reading her delightful stories in WISCONSIN HORTICULTURE will welcome the opportunity of meeting Mrs. Held. She will appear "in person."

If we still have time a discussion of the flowers and vegetables on exhibition will keep us busy until noon.

Wednesday Afternoon

Few, very few, of our members know the history of fruit growing in Door county, know about the peculiar soil conditions there, about the army of pickers employed and how they are handled, the marketing of the crop and all else that has made Door county so well known as a fruit district. In order that all who attend the summer meeting may know, your secretary has asked four Door county growers to tell these things on Wednesday afternoon, in general as follows:

Brief history of the industry; the pioneers; successes and failures both as to varieties and methods. D. E. Bingham.

Geology of Door county; climatic conditions; cultivation, spraying, etc. H. W. Ullsperger.

The business end: picking, packing, marketing, canning, packages, etc. M. B. Goff.

The present and the future. J. G. Martin.

A trip through the canning factory.

This, of itself, should provide a full and satisfying day, but there will be more. Somewhere about 6 p. m. we will be taken to the new Country Club grounds for a supper on the lawn, after the "eats" a discussion of the proposed commercial fruit growers' alliance.

In case the ladies conclude they prefer other sports than listening to the afternoon program the Sturgeon Bay folks are ready for such a contingency.

Thursday

From the point of view of many of the visiters this will be the big day. Beginning at 9 o'clock we will start on an all-day excursion, which will take us through Egg Harbor, Fish Creek, Sister Bay to Ellison Bay, 47 miles. From nine until eleven we will be shown how the big cherry and apple orchards are cultivated and sprayed, actual demonstrations. Every kind of orchard tool and sprayer may be seen in actual operation. About one o'clock we will arrive at the State Park, where lunch will be served *al fresco,* the Fish Creek Horticultural Society hosts.

After we have explored the park the trip will be continued to Ellison Bay, returning to Sturgeon Bay via Lake Michigan shore line. Please tell us where or how you can get more for your money.

Attention, Local Societies

The so-called bonus or premium money, twenty-five dollars, offered

to local societies in 1920 and 1921 is again offered this year. The societies, with the exception of three organized recently, were notified earlier in the season, but it appears that some notices must have gone astray, as inquiries are coming in about it.

There are but few restrictions.

The premium list must be confined to fruits or flowers or vegetables, or all of them, but canned goods barred.

Following the exhibition a report must be submitted to the secretary of this society giving a list of the premium winners and the amount paid to each and the estimated attendance. On receipt of the report a draft will be sent for the amount.

While it is not required, a report, a "story" of the local meeting and exhibition will be very acceptable. These stories will be edited and published as space permits.

The purpose behind this movement is to stimulate amateur or home gardening, not merely to make a present of twenty-five dollars to different communities, and it is assumed that amateurs only will exhibit.

Study Time Tables

While many of our members will use the state highways in traveling to Sturgeon Bay, many more will go by train. Study the time tables. Trains on the C. & N. W. road from points north, west and south of Green Bay connect at Green Bay Junction with Green Bay and Western trains for Sturgeon Bay. G. B. & W. trains leave the junction for Sturgeon Bay at 7:10 a. m. and 3:50 p. m.

PREMIUM LIST

The following premiums are offered for exhibits of flowers and vegetables, at the Summer Meeting, Sturgeon Bay, August 16 and 17, 1922.

Class I

	1st prize	2d	3d
10 vases of Asters, 1 doz. each	$3.00	$2.00	$1.00
5 vases of Asters, 1 doz. each	2.00	1.00	.50
Vase Asters, one color, 1 doz., for each color	1.00	.50	.25
Display Dahlias, not less than 5 varieties	3.00	2.00	1.00
Display Pansies	3.00	2.00	1.00
Display Perennial Phlox, not less than 5 varieties	3.00	2.00	1.00
Display of Gladioli, not less than 25 blooms	3.00	2.00	1.00
Display of Annual Garden Flowers, not less than 12 varieties nor less than 3 blooms of each	3.00	2.00	1.00
Display Herbaceous perennials correctly named not less than 10 varieties	3.00	2.00	1.00
For best specimens Fuchsia, Rex Begonia, Begonia of any other variety, Sword Fern, Asparagus Sprengerii, for each	2.00	1.00	.50
Best collection native flowers in arrangement and variety; varieties to be shown separately, each with card attached giving both common and botanical name, not less than 10 varieties	3.00	2.00	1.00

Class II

Snap Beans, 1 lb.	2.00	1.00	.50
Lima Beans, 1 lb.	2.00	1.00	.50
Cranberry Beans	2.00	1.00	.50
Two Heads Cabbage	2.00	1.00	.50
Six Onions	2.00	1.00	.50
Six Ears Sweet Corn	2.00	1.00	.50
Three Cucumbers	2.00	1.00	.50
Three Muskmelons	2.00	1.00	.50
Six Tomatoes	2.00	1.00	.50
Six Beets	2.00	1.00	.50
Six Carrots	2.00	1.00	.50
Two Egg Plant	2.00	1.00	.50

Class III

Best display vegetables grown by boy or girl under 16, in home or school garden. Ten dollars divided pro rata.

Exhibitors in Class III may also show in Class II.

In Classes I and II the exact number or quantity must be shown, neither more nor less, in order to compete.

The Fruit Growers' Conference

The call for a commercial fruit growers' conference at Sturgeon Bay, August 16th, has met with an unexpectedly hearty response. This is the last call to everyone interested in fruit growing to meet around the campfire Wednesday evening of summer meeting and formulate a plan for future action. The trend of thought now seems to be toward an association of growers auxiliary to the state society with a two or three-day program either preceding or following the regular session. One more opinion and we will close the discussion until August 16th. This is from a veteran in the ranks:

"I am heartily in favor of such

(Continued on page 174.)

The Story of a Rose

Elizabeth Held

The car was crowded and for a moment not one vacant seat could I see. Then a well-remembered voice spoke my name and I dropped thankfully into a seat beside a friend whom I had not seen for years. For several hours we talked as old friends will, of bygone days, of friends still living and those who have passed on.

Suddenly I noticed that the object held between my friend's fingers was not a cigar, as I had thought, but a withered rose. "Are you really getting sentimental?" I laughingly asked him, for he is considered a confirmed bachelor. "Not exactly," he said with a little smile. "This rose was picked up in the street." Holding the withered flower up, he looked at it for a moment, then said gravely: "Flowers can tell strange stories if you can understand their language. Even this withered rose could tell a story if you would care to listen."

For once I was speechless. Taking my silence for assent he began "I was one of three roses that grew on the same plant in a greenhouse. One was given by a man to a woman because of a desire to be kind and to win her friendship. He saw the pleasure in her face as she carefully pinned the rose to her gown, where its beauty and fragrance could reach her, and it gladdened his heart. He did not know that in giving the rose he had erased bitter thoughts and given her courage to once more take up the burden of everyday life cheerfully. That for a week she carefully gave it fresh water and when at last it faded she kissed its faded petals and murmured, "It's a beautiful world after all when friends are kind," then placed it with the treasures every woman keeps to remind her of happy hours.

The second rose was worn by a girl when she visited a hospital where many of the boys who had been "over there" were lying. Their faces brightened as she stopped to speak to each one, asking what she could do for them or send them to make them happier and more comfortable. Down at the end of the ward was one "boy" whose face was distorted with pain. The nurse shook her head slightly as the girl drew near. But the girl, bending down, gently asked him the same question: "What can I do for you that will make you happier or more comfortable?" He pointed to the rose she wore. "Will you give me that?" Quickly she placed it in his hand. As he raised the rose to his face he smiled for the first time since he entered the hospital. "Does it help to ease the pain?" asked the girl. He nodded. "Then you shall have one every day," she promised. That night, with the rose still clasped tight in his hand and a smile on his lips, he passed on. The rose and its giver had helped.

I, the last one, was chosen by a man to give to the woman he loved because of a desire to please her and because a flower seemed to him a most fitting gift to express affection. I expected to be received with words of pleasure, to be treasured both for my own sake and because of the giver. But I was doomed to disappointment. Scarcely glancing at me, she pinned me to her gown, saying: "I needed a touch of color with this dress." To her I was only an ornament to enhance her beauty. In a little while, my petals crushed and broken, I dropped to the pavement. I was forgotten. She loves neither him nor his gift, and the pain in his eyes still lingers in my memory. I had thought only the memory of an aching heart was to be mine, but a little child picked me up. Though I was crushed and broken, still to her I was a lovely rose. Her warm little hand held me close as she played in the street. I am content. I, too, have made someone happy.

There was a few moments of silence then. As the train neared a station my friend shook hands and said "good-by." As he turned away he hesitated for a moment, then added: "And the story the rose told is a really true one."

As he went down the aisle I noticed the withered rose was still in his hand and I wondered.

Loading Cars With Bushel Baskets

By John T. Glass

It has been estimated by reliable authorities that the loss on perishable crops in transit amounts to more than ten million dollars each year. It has also been proven that a good proportion of this loss can be traced, directly or indirectly, to improper loading of cars by the shipper.

The appearance and condition of fruits and vegetables on arrival in consuming markets largely determines the sales value, and when a car of such produce arrives at destination with the load shifted, packages broken, or overturned and contents spilled, it is sure to sell for less than the market price of similar commodities

in good condition. Improper refrigeration and consequent decay of perishables in transit often occurs when cars have not been properly loaded, and shippers of such cars have sometimes taken heavy losses.

The railroads may be partly responsible for the losses mentioned, through faulty equipment, delay, and rough handling of cars, and shippers may recover part or all of the loss sustained by filing claims against the carriers. Filing damage claims and waiting perhaps many months for a settlement, however, is a very unsatisfactory method of securing returns from a fruit crop, and progressive shippers will use every means in their power to reduce these claims to a minimum.

The remarkable increase in recent years in the use of the bushel basket for the shipment of fruits and vegetables, has caused considerable investigation to be made by shippers, carriers, package manufacturers and government officials as to the best methods of loading these packages in cars. As a result of these investigations certain methods of loading have been worked out which have proven very successful, and have largely eliminated losses in cars properly loaded by these methods.

End to End Offset Method

For most perishable crops, including apples, peaches, pears, onions and sweet potatoes, when loaded in cars not more than eight feet four inches wide (practically all refrigerator cars are in this classification), the end to end offset method will give best results.

This method of loading has several advantages not found in any other style of loading. Some of these advantages are:

(1) It gives a greater number of baskets to the car for the same height of load over any other method of loading in which the baskets are upright and offset.

(2) It gives an even doorway load which does not shift during transit, so that the inspector or buyer receives a good first impression of the carload when the door is opened.

(3) It is easier for the average loader to keep a tight load lengthwise, with this load, and it is the lengthwise slack that causes damage.

(4) No bracing or gates in the doorway is required in building this load, thereby saving time and material.

To build this load place the first basket snugly in the corner of the far side of the car with the basket handles diagonal to the side of the car. Continue with a row of baskets along the far side of the car, extending from one end of the car through the doorway to the opposite end, placing each basket tight against the next basket in the row and tight against the side of the car. Each basket should be placed with the handles diagonal to the side of the car.

The next layer of baskets is placed on top the first layer in such manner that joints are broken, that is, each basket in the second layer should rest on the

rims of two baskets in the row beneath. Each additional layer is arranged in the same manner, and the first row is built to full height before starting the second row. The second, third and fourth rows are built up exactly as outlined for the first row, always keeping each basket tight against the other baskets in the same row and adjoining rows. The fifth and sixth row are built up together from each end of the car, and will come out even in the doorway if the load has been properly stowed with uniform packages.

Five-Five Offset Method

For extra wide refrigerator cars, or box cars wider than eight feet four inches, the five-five offset method will usually be found most satisfactory. In building this load the first basket is placed snugly in one corner of the car with the handles diagonal to the end of the car. Continue with a row of five baskets across the end of the car, each with handles arranged as above. Start the second layer from the opposite side of the car, breaking joints so that each basket rests on the rims of two baskets in the row beneath. Continue until the stack is completed, then build each succeeding stack in the same manner, until one end of the car is filled as far as the doorway. The opposite end of the car is then loaded in the same manner, leaving the doorway until the last.

The doorway is the most difficult part of this load to build, and success depends on arranging the baskets in the doorway in the best manner to insure a tight load with no slack space. It may sometimes be necessary to invert a few baskets in the doorway to secure a snug fit, and occasionally it is advisable to build a gate out of two-by-fours and inch boards to fill up a space too narrow for another stack of baskets.

Success in loading cars so that they will carry to destination without shifting or damage depends mainly on the ability of the loader to take up every inch of slack space in the rows. This can only be accomplished by forcing every basket, as it is loaded, as tightly as possible against the adjoining baskets. Careful attention to this point will insure a tight load which will not shift in transit even if the car is roughly handled.

Cheer Up, the Worst Is Here

One may easily get discouraged if so inclined, but what's the use! Here we have been trying for years to teach the amateur how and when to use Bordeaux mixture, lime sulphur, nicotine, etc., and then to read stuff like this. It's from The Call of Racine: "To renew old, exhausted fruit trees, plow the whole orchard early in the spring, and enfuse the soil around the trees with a mixture of manure, muck and lime, applied a half bushel at a time, with a half bushel of fine charcoal around each tree. Scrape off the old bark, and paint as high as you can reach with good, strong soapsuds. When the tree is in full bloom, dust the whole tree with an ample amount of fine slaked lime, and you will be more than repaid with an abundancy of fruit."

Never mind about the pink bud spray, scab, codling moth, arsenate of lead or other foolishness. According to this wiseacre, all you need to do is to crawl up in the tree with a pepper box and shake some slaked lime over the blossoms. Verily, we must exclaim with the prophets, how do they get this way? F. C.

A Case of Blister Canker On Apple Trees.

So far Wisconsin apple growers have not suffered from blister canker, which has been destructive in Illinois and other central states.

A member from Grant county forwarded specimens which were pronounced canker by Prof. G. W. Keitt. The letter and reply which follow should be read carefully by owners of apple trees in southern Wisconsin.

"Under separate cover I am sending you a sample of the bark from an apple tree. This seems to be spreading. The bark on the apple trees curls up in thin layers. This curling begins on the trunk of the tree and spreads to the branches, finally killing the branches and then the tree. Little white worms about one-fourth inch long and as thick as a needle were under this curling bark last year.

"What causes the bark to curl and how may it be stopped?"

A. D.

"Your letter of April 28 addressed to Mr. Frederic Cranefield, relative to a specimen from an apple tree, has been referred to me.

"The trouble in question is known as 'blister canker' or 'Illinois canker.' It is caused by a parasitic fungus which invades the bark and wood of the tree, frequently involving large branches,

and, in extreme cases, spreading to include most of the parts of the tree above ground. The fungus gains entrance commonly through pruning wounds or following injuries of various kinds. This disease has been reported as very common and destructive in southern Ohio, Indiana and Illinois, but has not been observed as a very serious disease in Wisconsin. Whether this is because our climate is not favorable to the disease, or because this trouble has not yet spread into our orchards is uncertain.

"Fully satisfactory methods for the control of blister canker have not been developed. The following methods are recommended: (1) In the development of young orchards, train the trees in such a way as to reduce the amount of pruning as much as possible after the trees are grown. (2) Avoid wounding the trees as much as possible and disinfect and dress the necessary wounds. (3) Cut out and burn diseased parts, thereby lessening the source of infectious material.

"The areas affected by this disease are easily recognized by the so-called 'nail head' stage of the fungus. This shows very strikingly in the specimen which you sent in. It is from such material that the spores of the fungus are spread.

"In the latest work on this disease, Mr. W. O. Gloyer, of the New York Experiment Station recommends the following treatment for wounds: (1) Apply a coat of orange or common shellac; after a few minutes follow this with a coating of coal tar."

G. W. Keitt,
Prof. Plant Path., Univ. Wis.

Raspberry Crown Gall

Crown gall is rapidly becoming the limiting factor in growing red and black raspberries in Illinois. During the early life of an affected plantation, especially if there is no anthracnose present, the plants may in favorable seasons grow indifferently and produce fair crops. With the added handicap of unfavorable weather, however, such as prevailed last summer and fall, the plants go into winter in a weakened condition resulting in much so-called winter injury. In a number of plantations observed this year many fruiting buds appeared to be alive when the pruning was done, but did not have enough vigor to leaf out in the spring. Many young shoots are wilting and breaking down in infected plantations, while much of the fruiting wood will fail to mature a crop.

Anthracnose can be controlled by spraying. Crown gall cannot. Infected nursery stock is spreading the disease far and wide. Considerable material bought especially for planting at the Experiment Station this season had to be destroyed because of numerous galls on the roots. If crown gall is to be controlled more care must be taken by those interested, both in refusing to accept and plant infected stock on the one hand, and in attempting to grow disease-free plants in clean soil on the other. A system of selection of clean plants through a period of years of planting on uninfected ground and carefully inspecting every plant before shipment, will result in a supply of stock practically disease free. This will be well worth a slight premium both to the amateur and commercial

grower in the establishment of new patches, and in giving a fresh start to the industry.—A. S. Colby, U. of I. News Letter, Illinois Horticultural Society.

Apple Crop Reports

The apple crop in Illinois will not exceed 60 per cent of normal. There seems to be no uniformity in the behavior of certain varieties with the possible exception of Ben Davis and Winesap, both of which are uniformly light. This report is purely preliminary and subject to modification following the June drop which is not yet over in central and northern sections. The crop in Virginia, Maryland, and Pennsylvania is estimtaed at from 20 to 40 per cent. New York and Michigan report conditions as average, but admit that Baldwins and Spys failed to bloom very heavily.—News Letter, Illinois Horticultural Society.

"We have had a little damage in frost pockets, but the whole Northwest promises increased crop. Last year this valley (Wenatchee) shipped 14,000 cars of apples, should ship 15,000 to 18,000 this year, other valleys in proportion. Spray campaign very thorough.—M. D. Dean, Secretary Washington State Horticultural Society.

Keep the cultivator going just a little ahead of the weeds. It's easier than to kill large weeds.

Everyone should care for a garden at least one year if for no other reason than to realize better the amount of work connected with it.

The Fruit Growers' Conference

(Continued from page 169.)

a convention as you have planned, where the fruit growers may air their grievances, condole with each other, and relieve their minds generally.

If any legislation is contemplated I hope it may be only after due and proper consideration. A little legislation is sometimes a dangerous thing.

At least let us regulate the other fellow as well as ourselves. A convention and fruit show solely for fruit growers meets with my approval and I shall be glad to help in whatever way I am able."

J. S. Palmer,
The Orchards, Baraboo, Wis.

Virtue Its Own Reward.

Brother Brock, secretary of the Illinois Horticultural Society, is having troubles of his own these days. Brock started a paper, The News Letter, expecting, of course, that the members would turn in and help a little. Brock is a mighty good fellow and ambitious, but he has much yet to learn about the "so-called human race." (B. L. T.) For instance, this from The News Letter of June 1st: "How do you expect the secretary to get out a bulletin or letter which will carry the right kind of news unless you say something about it? What do you want in the July bulletin? Do you read the news letter or does it go into the waste basket? Even a "kick" would be appreciated."

That's good stuff, brother; give 'em h——l. They will come across after a while. We've had twelve years of it and still kicking.

The Midwest Exposition

Council Bluffs, Iowa, Nov. 13th to 18th

The Midwest affords an excellent opportunity to advertise Wisconsin fruit. It is exactly what the name indicates, a mid-west show, and attracts growers and buyers from Missouri, Arkansas, Illinois, Indiana, Ohio and, in fact, all central states. The premium list is now in press and will be available by the time this is read. Growers who plan to exhibit should write to this office for a copy.

The state department of agriculture and the experiment station are co-operating in a series of potato spraying demonstration plots in Price, Oneida, Marinette and Waupaca counties. The "potato trip," August 7th to 17th, includes visits to these plots in the itinerary.

Northern Wisconsin papers report the "biggest crop of blueberries in 20 years."

Make Raspberry Vinegar for Salads and Beverages

An excellent vinegar may be made from raspberries which will retain indefinitely the odor and flavor if properly preserved. Ex-

SUMMER MEETING

AND CONFERENCE COMMERCIAL FRUIT GROWERS

STURGEON BAY

August 16 and 17, 1922

periments carried out in the Bureau of Chemistry of the United States Department of Agriculture, have shown that this delicious vinegar can be made in the home when the garden affords a liberal supply of this fruit.

Vinegar made from raspberries is dark in color. Samples made in the Bureau of Chemistry and properly bottled were found after three years to have retained not only the original degree of acidity, but the odor and flavor. In salads and other table delicacies the raspberry flavor is very agreeable. A refreshing hot-weather drink can be prepared by adding a small amount of this vinegar to water, and icing and sweetening to taste.

How to Make the Vinegar

Two fermentations, the alcoholic and the acetic, are necessary in making vinegar. The method is as follows: Use ordinary straight-sided open-topped stone jars as receptacles. With the aid of a potato masher, mash up 8 quarts of good, ripe raspberries of either the red or black variety. Stir thoroughly into this mash one-half cake of compressed yeast which has first been macerated in a small amount of the juice. Let jar stand in a warm place (about 75 degrees F.) and keep covered either with lid or with cheesecloth to protect from insects. Stir well every day. About one week is required to complete the alcoholic fermentation. The time needed to utilize the sugar in the berries completely may be determined by one of two methods: (1) Weigh the jar carefully each day and record the weight; when loss of weight ceases, the fermentation is complete; (2) test some of the juice daily with a Brix or Balling hydrometer. The reading of a juice suitable for making a satisfactory vinegar should not be less than 10. As the fermentation proceeds, this will decrease daily until it is not more than 1 or 2, which indicates that the sugar has practically all been utilized.

The action of the yeasts on the cells makes it easy to separate the juice from the berries, squeezing it by hand through cheesecloth. The juice is then returned to the jar; and, to insure a proper acetic fermentation, a small amount of vinegar should be added as a starter. An unpasteurized vinegar is best for this purpose, but if this is not at hand, use any good vinegar in the proportion of 1 part to 4 of the fermented juice. Cover as before and allow to stand without agitation in a warm place. A scum or film will soon form. This should not be disturbed.

The ascetic fermentation sometimes takes place very rapidly where berries are used. The acidity should be determined daily by withdrawing a small amount of the vinegar by means of suction through a pipette or glass tube and submitting it to a test by the use of a vinegar tester, or in the absence of this, determining by the taste when it is sufficiently acid. As soon as the vinegar reaches a proper degree of acidity (it should contain 4 per cent acetic acid), the fermenting process should be stopped. This is done by first filtering through paper or filtering cloth, and bottling. Bottles should be well filled and sealed tightly with paraffined corks.

Another Nature Fakir

Small town newspapers bite at almost any bait. The following has appeared in several up-state papers:

"A crab apple tree at the John Parker home, Tomahawk, after losing its regular blossoms, developed a rose bud on one of its branches. As several rose bushes grow near the base of the tree, it is believed that the botanical freak is the result of a root graft by nature's process."

Can you conceive of anything more idiotic? And yet there are people who will believe it.

WISCONSIN BEEKEEPING

Official Organ of The State Beekeepers Association

Supplement to WISCONSIN HORTICULTURE, *July, 1922*

Fourth Wisconsin Beekeepers' Field Meet and Chautauqua, August 7 to 11, Green Bay, Wis.

This will be the biggest meeting of beekeepers ever held in Wisconsin. No greater array of talent has ever been secured for one meeting. Dr. Phillips, Mr. E. R. Root, Mr. C. P. Dadant, Mr. Geo. S. Demuth, Mr. E. W. Atkins and other speakers will be with us during the entire convention. The members of the Brown County Beekeepers' Association are putting forth unusual effort to make this meeting a success and accommodations are being arranged to well take care of all those who come. Splendid facilities for camping will be provided, but each beekeeper should bring his own tent. In case you do not care to cook your own meals, a restaurant will be on the grounds.

Look over the following program and then decide to meet with your brother and sister beekeepers. Fill out the blank below and return to this office so that complete arrangements can be made.

Name .....

Address .....

Reserve room.....
(for how many)

How many in your party and how many days will you attend?.....

.....

Mr. Cranefield, editor of Wisconsin Horticulture, has kindly given us four additional pages of space this month so that we might include a number of papers which it has been impossible to print before and should be published now in order that the information may be of value to beekeepers for this year's work.

August 7 to 11, 1922—Green Bay, Wisconsin

PROGRAM—Monday, August 7

Morning

9:00	Registration	
10:30	Address of Welcome	Mayor, Green Bay
11:00	Response for Beekeepers	
11:30	Announcements	

Afternoon

1:30	Early Preparation for the Honey Harvest	Dr. E. F. Phillips
2:45	Some Pre-Winter Requirements	Geo. S. Demuth
3:45	Foreign Beekeepers and Foreign Beekeeping Methods	C. P. Dadant

Tuesday—August 8

Morning

9:00	The Successful Wintering of Bees	Dr. E. F. Phillips
10:30	Wintering in Wisconsin	Geo. S. Demuth
11:30	Meeting Possible Losses with Reserves	Edw. Hassinger, Jr.

Afternoon

1:30	Fall Management	Kenneth Hawkins
2:15	Honey in Other Foods	E. R. Root
3:15	Popular Errors Concerning Bees and Honey	C. P. Dadant
4:00	Co-operative Beekeeping	H. L. McMurry

Wednesday—August 9

Morning

9:00	Loss of Honey in Extracting	H. F. Wilson
9:30	Spring Management	Dr. E. F. Phillips
10:45	Preparation for the Honey Flow	Geo. S. Demuth

Afternoon

1:30	Prevention of Swarming	C. P. Dadant
2:30	Some Recent Developments in Honey Selling	E. R. Root
3:30	How the Market Department Can Help the Beekeepers	C. D. Adams
4:15	The Relation of Beekeepers' Organizations to the Sale of Honey	Kenneth Hawkins
5:00	Business Session	Local Associations' Delegates

Thursday—August 10

Morning

9:00	How to Make the Bees Work with the Greatest Energy	Geo. S. Demuth
10:00	The Control of Brood Diseases	Dr. E. F. Phillips
11:30	How to Make Honey Vinegar	E. R. Root

Afternoon

1:30	How Shall We Winter Our Bees?	Dr. Robt. Siebecker
2:00	The Diseases of Adult Bees	Dr. E. F. Phillips
3:30	Commercial Aspects of Bee Disease Control	Dr. S. B. Fracker
4:15	Swarming and Swarm Control	Geo. S. Demuth
5:30	PICNIC	

Friday—August 11

Morning

9:00	The Entomological Basis of Beekeeping	Dr. S. B. Fracker
10:00	The Choice of a Locality	Dr. E. F. Phillips
11:00	Observations on Demonstration Apiaries	L. P. Whitehead
11:30	Recent Experiments in Foulbrood Control	H. F. Wilson

Afternoon

1:30	Various Ways of Preventing Foundation from Stretching in the Frames	E. R. Root
3:00	BUSINESS SESSION—State Association Problems	

Wisconsin Beekeeping
H. F. WILSON, Editor

Officers of The Wisconsin State Beekeepers Association
President.....F. F. Stelling, Reedsville
Vice President.....Conrad Kruse, Loganville
Treasurer.....C. W. Aeppler, Oconomowoc
Secretary.....Malitta F. Hildreth, Madison
Annual Membership Fee, $1.00
Remit to M. F. Hildreth, Secy., Madison, Wis.

Marketing Hints

There has been much controversy as to the size, style, and material of proper packages for the sale of honey. In this day of organization and co-operative buying and selling we must have uniform containers for our honey if we are going to make the co-operative selling of honey a success.

To obtain this uniform package or packages requires much thought and exchange of actual selling experience. To this end I submit my experience selling honey locally in Mason jars, direct to grocers on a fair wholesale scale, each grocery that handles my product having an average of 333 pounds of honey sold since last September to date. I consider that a fair average this year. The corn syrups have not moved across the counter in those stores as fast as the honey.

Let me state here that I am firm in my belief that we must have our product in stock at the grocery store to get proper distribution at least cost. I can sell a grocer one, two, or even three dozen Mason jars at one time at intervals of from 2 to 4 weeks when I am on the road on my regular route and can sell from four to eight grocers a day. How long would it take and at what expense would a person have to sell 100 quarts of honey? The profit the grocer gets would not pay for the time and energy spent in peddling. There are two items you cannot overlook when selling through the grocery store. First, your product must look neat and appealing to the eye and palatable. Second, you must visit, talk bees, and answer questions for the grocer to gain his confidence in you and your product. The merchants really aren't a bad lot. I find most of them open minded and always willing to talk. Once in a while one turns abruptly around and goes about his business.

I find that in this locality the quart Mason jar sells the best. This is my third year selling honey here, having sold honey in quarts, pints, and half gallon jars.

Here is the average grocer's opinion of liquid honey as shown by extract of typical dialogue between us.—Greetings, etc. upon entering store.

"Do you handle any honey, Mr. Blank?"

"Well, those small square boxes that the farmers bring in, and sometimes I have a deuce of a time to get them off my hands."

(One man showed me comb honey two years old packed in a cube paper cracker box, combs bulging, and capping scraped off, propolis and dirt over everything, and honey leaking out of box, just as farmer had brought it in and traded it out. No wonder the grocers think twice before buying.)

"Well," I would say, "I have some very nice honey with me that will not leak, and its place is where people can see it, because it looks and tastes good. In time it will candy or granulate, and if it is not sold before that time, I will exchange for liquid honey or take it back outright. This honey was extracted from the comb by special machinery, not squeezed out like our grandmothers used to do, etc."

"Well," he would say, "I don't want anything in tins; I tried that. A fellow sold me some once, and the only way I could get rid of it was to use it myself."

"Mr. Blank, I wouldn't sell you honey in tin; this honey is in Mason jars. The people can see what they are buying, besides there is a use for the jars when the honey is consumed."

By this time he would look interested and then I would get a quart and pint jar to show him.

"Is it pure?" he would ask.

"Yes sir, here is my stamp from the Division of Markets, which says that this is Wisconsin Extracted Honey, Grade No. 1. Color dark, and here is my number; if the honey would not be as represented, the Division of Markets would get after me in a hurry, and I am in the business for my income and to stay. How long would I last if the honey was not O. K. in every respect? You, as a grocer, know, in dealing with people, that anything misrepresented will not sell again, or the second time to the same party. Here is my proposition. I know this honey will sell; it has sold elsewhere and will sell here. Take a dozen quarts; they sell best in other stores, and sell them at so much (one-fourth more as he has no freight or drayage), and if you haven't sold them by the time I make my next trip, I'll take back what is left, if you don't want it; besides you needn't pay for it now. I haven't had a single turn down so far, so it must be a square deal. Most always, I am paid on the spot."

When putting the jars on the counter in a conspicuous place, I give the grocer a show card in colors, something like this, and ask him if he won't please hang it directly across the counter where most trading is done. I paint these cards myself, have a new color scheme and legend for the occasion. They help wonderfully in selling the honey.

When I would come back on my next trip, he'd say, "By George, that honey of yours sold fast; I've been out of it for some time. Have you got some along? How much have you at home?"

He would then order enough for some time and pay on the spot.

I have yet to take back any of my jars that wouldn't go except

the half gallon size; they were a little big for trade, but they were exchanged for quarts.

Why I am in favor of Mason jars in this locality, or any similar to this. Extracted honey was comparatively new to people here when I arrived with bees in 1916. In order to help educate the people to the use of honey, it had to be put in glass where it could be seen, and a container used that would be of some value when the honey was consumed. I can put up honey at less cost in Mason jars than in other jars holding the same amount. When properly labeled, a quart jar of liquid honey looks good enough to eat. Most grocers will not take honey in tin, because they generally are not attractively labeled. Rather than work up hill with tins, I use Mason jars. Managing a general merchandise store in the winter, my jars come to me at wholesale figures. I can sell many more new customers honey in glass than in tin, because new patrons generally want just a taste at a time and in glass is the best way to sell it to them. They can see that it looks good. After buying in that form for sometime I call their attention to the saving when buying larger quantities, such as 10-pound pail and 60-pound tin. They become steady customers while to some I have sold a ten-pound pail at first and next year they still have half of it. Why? Their taste had become glutted, they were sick of honey from eating too much at first when it tasted so good. I know of several such instances.

To sum up I believe that this is the best policy to sell new, or prospective customers small quantities in glass that their eyes may have a taste first, then their mouths will water and you will have a customer who will later buy larger quantities in tin.

Would like to give my opinion on subject of co-operative marketing. In first place why sell to big jobbers at a low figure? Do you think that those jobbers would handle the honey if their bank account did not swell when selling it again? Why can't the beekeepers who have a surplus over their local demand get together and have a packing house of their own?

Send a man on the road, a real drummer, the same as any other jobber. We Wisconsin honey producers could compete more successfully with western honey, instead of having our honey blended with it, in order to sell it to the people here. Western honey ranks very inferior to our product. Why, we couldn't eat the honey they have out there. Put a shoulder to the wheel and push.

An incident in our store today. Our grocery jobber's man was around, with him came a representative of a National Sugar Refining Co. His product was what he claimed to be 100 per cent cane syrup. After considerable talking (I always like to find what the other fellow knows) he said this syrup was 80 per cent invert sugar and 15 per cent pure corn syrup, making a 100 per cent product. He claims he was running in competition with Karo. But he also knew a lot about honey, but did not let out much as he knew that was my business in the summer. Indirectly that product is being passed as being as good as honey. It tastes as if you had made a syrup of brown sugar and the difference with Karo is very marked. I bought some because it was a good business proposition, and the grocer who knows little or nothing about honey will also buy. "Domino Syrup" is the trade name. In some families this syrup will take the place of honey. Remedy: "More Advertising."

Therefore, I repeat, we beekeepers must do something in the way of getting our product in an attractive form before the public through the regular trade channels for distribution, cutting out, of course, the bottling jobber by having our own plant. For instance, a central packing plant for uniform packages at minimum cost. Sell to wholesale grocers and have our man go with wholesale grocer's salesman giving demonstrations to introduce honey in our package with a proposition that will realize a profit for the grocer. I'm sure the producers will profit also.

A word about advertising. If every producer in the state would take it upon himself as a duty and a benefit to himself as well to paint or have painted neat honey selling signs and post same along main highways around his home, the state would be pretty well covered with signs, and then they will not think that their money in signs, or advertising is benefiting some one else more than themselves.

As I have painted some show cards, neat and attractive, I find it is not a cheap job. Why couldn't the State Association go together and have a quantity of signs, four by six feet as a suggestion, made and sell to members at cost? Everyone knows that advertising costs, but it brings returns.

H. A. Schaefer.

The Next Step in the Marketing of Honey

By C. D. Adams, Department of Markets.

Last year the reason for and effect of the state honey grading law was discussed at our annual meeting. It appears some believed the standardizing of honey grades would solve the whole problem of marketing honey. Such were doomed to disappointment. Others saw it as the first step in the right direction. Before any commodity can be successfully marketed it must be so classified that the various grades will mean something definite to those who deal in it. But every business man knows that there are other very important steps to be taken, before an article of real value is disposed of at a profit. Probably the first of these is an advertising campaign. One soap manufacturing concern in Milwaukee has planned an advertising campaign

for 1922 that will cost over $2,000,000. The value of the bee, bee supply, and honey business in Wisconsin, is conservatively estimated to amount to $5,000,000 annually. Probaby any manufacturing concern of like magnitude would not think of setting aside less than $50,000 for advertising purposes. As we have another paper dealing with this subject at this meeting I shall drop it here.

After a product is properly graded and advertised it is not ready to be marketed until it is put in suitable containers with attractive labels.

At present honey is marketed in 57 varieties of containers and about 40 of these are second-hand and look it. The most popular of these, and one of the poorest, is the screw-top Mason jar. Aside from being second-hand it has more serious faults. In most cases the glass is far from white and consequently the honey loses most of its attractiveness; secondly, even though a rubber is used on the top it is almost sure to leak. Still another objection is that the size and weight varies considerably. So it is not surprising that the grocer very seldom displays honey in such containers in a prominent place.

The various sized bottles are better in appearance, but for obvious reasons are seldom used by the producer. Much can be said in favor of the various sized tin containers, but a very valid objection is that the beauty of the honey itself is lost.

Special white glass containers holding three, six and twelve pounds have been tried out by several of our leading beekeepers in the last two or three years and the only objection to them heard so far is their cost.

I have only mentioned these containers to bring out the fact that we have too many poor containers on the market for the successful displaying of honey to the best advantage. Every successful manufacturer of food products endeavors to reduce the number of his containers and make them attractive and distinctive.

The next important step is an attractive label. There are already a great number of stock honey labels on the market, but little can be said in favor of most of them. In visiting the grocery stores over the state I find many beekeepers make their own labels. These may be made to comply with the law but a customer has to be pretty hungry for honey to buy it thus labeled. Grocers tell me almost daily that the average housewife judges food by its appearance rather than its flavor or food value.

Honey has few equals in its natural attractiveness and value as a food, but our containers and labels cover up the first and the housewife does not know the second point.

But granted we have a nice label we can easily spoil it smearing it with the rubber grading stamp. At best these stamps are none too attractive and as commonly used they are far from it. Another and more serious fault is that there is none of the common stamp pad inks that will not fade when exposed to the light a few weeks. Manufacturers tell us that only the black stamp pads are expected to be used when the printing is to be exposed to the light.

But you say, "What are we to do? We understood the law required us to use them." Such is not the case. The Department of Markets recommends that you have the wording of the stamp printed on your labels. If you have not the stamp you simply apply for a "Packer's Number." and with this have your labels printed. Your local printer can make a fairly satisfactory black and white label.

But with a correctly labeled article in a well labeled and attractive container you may become a bankrupt in one season. We must not overlook the most important factor—the cost of production.

Wisconsin beekeepers cannot now and may never be able to produce honey as cheaply as the western beekeepers. If it were not for the difference in the flavor of the honey there would be no reason why we should continue beekeeping in a commercial way. Until we know what it costs to produce honey under the varying conditions we shall not know what we are doing. The few beekeepers who are keeping books and charging their time against the bees are not the most enthusiastic. They know that the men who sold their honey this year around ten cents a pound wholesale made very poor wages. Let us have more bookkeepers.

The basic reason for grading Wisconsin honey was to call the attention of the consumer to "Wisconsin Honey." Even now a surprisingly large number of people do not know that there is a marked difference in pure honey. When they buy honey and do not like it they think they have been swindled with adulterated honey and refuse to buy again. These people must be educated to call for honey that is produced in the north central states under a trade mark that means something.

But there is such a diversity of honey produced in the various localities and in different seasons even in the same locality that it is very difficult for us to produce a uniform quality. This can only be done by blending the various honeys and this requires an expert. So we are forced to conclude that we need a central packing plant. This we shall certainly have in time but in the meantime we can greatly improve our marketing conditions by agreeing on fairly uniform containers and labels.

Why should the members of this association not have uniform labels? Certainly it is worth considering. Why not have a committee to submit samples at our next meeting?

It Pays to Organize

Every beekeeper is confronted with many problems, some of which he has no difficulty in dealing with, but there are some which defy the best efforts of the most enthusiastic person unless he directs his energies toward securing the support of his neighbors. Some beekeepers are members of the state and county associations and bewail the fact that all beekeepers do not support these organizations. If these members will work to make their association indispensable to every beekeeper in the county and state they will soon find that every interested person will be anxious to join and support the association. It is not always easy to convince the doubters that they should join, but the results obtained by one county association are such as to leave no room for argument as to whether or not it pays to organize.

During the year 1917 it became quite evident to a few of the beekeepers of Milwaukee county that, unless some very rigorous action was taken immediately, the beekeeping industry would become extinct in this part of our state. American foul brood had become so prevalent that almost every apiary was affected. The Milwaukee County Beekeepers' Association was organized on May 17, 1918, and had for its objective the elimination of American foul brood and the improvement of the home market. It was further stated that the association was devoted to the interests of the beekeepers of Milwaukee and adjoining counties. Thus, while the organizers had two main aims, they, at the same time, stated their desire to help the industry in every possible way.

As a result of the efforts of this association, the State Agricultural Department started a foul brood inspection during the summer of 1918. The result was as had been expected by those interested in forming the local association. The majority of apiaries were infected. The beekeeper was told to clean up the diseased colonies, but a re-inspection in 1919 showed a surprisingly large amount of disease still present. The clean-up edict was enforced more strictly than during the previous year and in a number of cases diseased colonies were destroyed by the inspectors. The amount of disease discovered during the 1919 inspection was so large as to very much discourage the officers in charge of the work. When they started on the clean-up campaign they fully realized that if they could eliminate American foul brood in Milwaukee county they had nothing to fear in the remainder of the state, but at this time it looked as if Milwaukee was hopeless. To illustrate the seriousness of the situation an officer of the agricultural department stated at a public meeting that if there was not an improvement the following year he would go before the legislature and request an act making it a crime to keep bees in the county. The following year showed a big improvement and after last summer's inspection Dr. Fracker looked pleased when Milwaukee was mentioned. In previous years the mention of the name brought a very sad look to his face. The state authorities very probably would not have come to this hotbed of disease to try out the area clean-up method if it had not been for the efforts of the founders of the local beekeepers' association. If your county is threatened with foul brood "Go thou and do likewise."

The second aim was the improvement of the home market. Every beekeeper knows that a few years ago there were almost as many prices asked for honey as there were beekeepers. This does not tend to an improvement of the market or to the prosperity of the industry. If any product is to command a permanent market at remunerative prices one of the first requisites is a reasonably uniform price. When one beekeeper sells his crop direct to the consumer at or near the wholesale price he is doing himself, as well as all other beekeepers, an injustice. When the consumer has used all his underpriced honey and is ready and willing to buy more the only honey available is selling at a higher, but quite reasonable price. The consumer frequently refuses to buy, believing the price asked is exorbitant. The beekeeper who sold retail quantities at wholesale prices believed that he was better off to spend his time and deliver the honey direct to the consumer instead of permitting it to go through the regular channels. Later when the consumer demands honey at wholesale prices the retail and wholesale merchants endeavor to meet that demand by buying at a figure that will enable them to supply it. The result is that when Mr. Beekeeper has a new crop the price is considerably lower than it was the previous year. Every county has one or more beekeepers who insist on selling below the prevailing price. A few years ago Milwaukee county had a number of them; last year there was only one. This result was attained because the beekeepers had learned that the demand for Wisconsin's superior honey always exceeds the supply and that by asking a fair price the demand was stimulated and the beekeepers received a reasonable price for their product. We do not ask or expect excessive prices, but merely sufficient to provide a reasonable return for the labor and capital invested, and some insurance against the poor season. Only by supporting an association can beekeepers hope to accomplish this. It may seem hopeless at first but gradually even the most skeptical see the advantages.

Several years ago a member of the State Agricultural Department urged the beekeepers of Milwaukee to club their orders for supplies and this advice was taken. The first year the order amounted to about $350.00, resulting in a saving of about $50.00. The following year the order amounted to about $800.00, with a saving of about $160.00. Naturally when a person finds a good thing they tell their friends about it. The fact that members could save money by placing their orders through the association was well advertised

among the beekeepers of the county. This year the order amounted to over $2,000.00, with a saving of over $550.00. This result can be duplicated by every county association in our state. A few years ago Milwaukee beekeepers offered as an excuse for some of their sins that this country was different from all others. Now we do not offer it as an excuse but say that while we are different from most others, there is no reason why every other county cannot do as well or better. It is up to you, Mr. Beekeeper; get behind your county and state association and boost. Make them such that the slightly interested and doubting beekeeper will become an enthusiastic supporter.

It DOES pay to organize.

H. V. WILSON.
Milwaukee.

The Beekeeper and the State Department of Agriculture

C. P. NORGORD, Commissioner of Agriculture

As I looked over the large number of beekeepers attending this convention I thought back to the small groups which met a number of years ago at Madison and discussed the problems of honey production. The rapid increase in the size of the association shows the work which you have done to stir up interest in organizing beekeepers and getting them to pull in the same direction. Getting together in large groups is the great slogan of the day and is, I believe, the secret of the freedom of the future farmer. He will have to depend upon it to receive justice in comparison with those engaging in other occupations. I am reminded of the story of the Texan who was adept with his whip. As he was driving along he would snap a fly here and snap another there with his whip. One day a stranger who was admiring his skill in picking them off noticed a hornet and asked, "Why don't you snap that fly?" "No! No!" said the Texan, "I don't snap that kind of a fly. Those fellows are organized."

When the beekeeper works alone others infringe on his rights and he is unable to protect himself. When he joins with other producers whose interests are the same he accomplishes a great deal more. We all have a selfish streak, we are out to get all we can. Merchants are in the best position to follow their inclinations and large corporations and dealers have long had close organizations which are effective in allowing them to dominate. Farmers so far have never developed a means of taking their share of the returns of their labor effectively. They must co-operate with each other in the same way that bankers, grocers, hardware dealers and lumbermen are organizing for mutual assistance.

Beekeepers, like all other agricultural producers—farmers, breeders, gardeners and fruit men—are being compelled to unite with each other as a result of the pressure of outside organizations. Where will they be if all other groups are organized except themselves? The farmers' work is the basis and foundation of all national prosperity and if agriculture is not profitable, commerce cannot be kept in a healthy condition.

The farmer should have the same advantage that everybody else has. We must have more of the spirit to see that everyone else gets their share as well as our selfish self. We should get less of Adam in us and more of Jesus Christ in us. The farmer has a better training of honesty in himself than anyone else. Business men know that honesty is the best policy. They are showing it more than they did years ago. It is wisdom to be honest, fair and just. We want farmers to get no more or less but the same that others are getting.

I am sure that Professor Wilson in organizing the county and state associations, Doctor Fracker and Mr. Adams in bee disease control, all of the men who have spread the beekeeping gospel and drawn the beekeepers together have been doing good work. What we want is to have that *seed* grow out and be the leaven to protect the beekeepers of the state in their business.

The State Department of Agriculture has a peculiar relation to you, particularly in the work of the eradication of bee diseases. I believe we are on the right track in eradicating the diseases of bees by the area clean-up method. We have been trying to eradicate foul brood for years. Here and there apiaries have been cleaned up and good work done but when apiaries were surrounded by oceans of foul brood, the condition was bad. The disease has not been getting back by one-hundredth part in the area clean-up campaign as before and we therefore feel that this is the right policy and that we are justified in going ahead with that policy. We cannot reach quite as many places in the area clean-up but we cannot get all good things by any one policy. We shall have to follow this policy, which I believe is a good one, and get funds enough to push it along fast enough so that it will get to your county in a reasonable length of time.

We are not all wise, we are of the class that makes mistakes and we have two ears open for any statement of mistakes that are made We have a will to follow any suggestions and to try and correct any mistakes. We shall be glad to correct any that have been made where possible. The state of Wisconsin is a big area and it is not an easy matter to avoid neglecting some one here and there, but our will is good and we have the way to do. We shall be glad to have the beekeepers offer suggestions at all times and the Department of Agriculture of the state of Wisconsin stands ready to co-operate and help you in every way possible.

The bee disease inspection reports show that the beekeepers clean up at the rate of about 50 per cent a year. This means that in the area clean-up campaigns for every 100 diseased apiaries there will be 50 less this year and 25 the following. In some counties the rate has

been faster than this and in others slower.

The department is not entirely satisfied with this rate of improvement. In fact, being satisfied is stagnation rather than life. We believe that with strongly organized groups of beekeepers, with ardent and enthusiastic support and with more general interest in the bee disease situation the rate of progress can be greatly increased. If counties which have 100 diseased apiaries one year could show a reduction to twenty-five the following year and to five in two years the costs of clean up would be much less and the losses from disease tremendously reduced.

There are two classes of critics of area clean-up work, whether it be cattle disease, bee disease, or plant disease, which we are trying to eliminate. The first group continually criticizes the inspectors for not being drastic enough; without appreciating in many cases the difficulty of the situation or the need of using reasonable care and tact they insist on an exaggerated amount of burning and killing. Many of them seem to believe that as long as their property is not involved there should be no limit to the drastic nature of the clean-up methods. The other group feels that conditions will right themselves eventually without very much assistance, that all the beekeeper needs is suggestions, that even a regulation or order is an infringement on personal liberty and that inspectors and officials should never go farther than to suggest means of improvement. It is clearly impossible for a department to satisfy both these groups. Representing the state, they must continuously appreciate the importance of private property and the value of tact in handling difficult situations. The same policy in all of the department's work is to give the owner an opportunity of saving everything possible out of a bad situation and only enforces severe regulations when other methods have failed.

On the other hand, no results can be secured without making the work cover 100 per cent of all the cases of disease and personally being sure that every case is finally cleaned up. There may be cases in which the employees of the department act too hastily but there are probably still more cases in which more pressure should have been used. No two men would be able to agree in every detail as to the handling of complicated clean-up cases, for no two of them have exactly the same slant at the situation.

Neither the State Department of Agriculture of Wisconsin nor the beekeepers of this or other states knew when the area clean-up campaign was adopted whether it would prove a success in eliminating American foul brood or not. The number of years the campaign has been carried on is too short to show positive results. The rate of progress is sufficient, however, to at least convince us in the department that it is possible to reduce the diseases of bees at least to a negligible quantity and probably, in most counties, at least, to eliminate them entirely.

As long as the department and the beekeepers' organizations *stick together*, support each other and are willing to make mutual sacrifices and expend mutual effort together, we can look for progress of which we shall all have the right to be proud.

Treating Diseased Bees Out of Season

By A. C. Allen

First I wish to say that I greatly regret not having the privilege of meeting with my fellow beekeepers in this convention. I do not think I have missed attending our annual convention for the past twenty years, and I doubt if there is another member of our association who can say that, and I want you to know that my thoughts are with you at this time.

This paper will be short but I hope valuable to some one. So much has been said and written about the curing of bee diseases that it might seem there is nothing more to say; yet there is nothing of which we can say "we know it all" and by experience we are finding that our past methods of dealing with American foulbrood has in many instances only prolonged its stay with us and encouraged its increase.

The general teaching and practice for many years has been that during a good honey flow was the only time the disease could be successfully eradicated.

To allow diseased colonies to remain in the yard from early spring to the June honey flow and, where some have not been treated during the flow, to remain for fall treatment or in most cases until the following June, is a most dangerous and unnecessary practice.

Every beekeeper of experience knows that when bees take their first flight upon being removed from the cellar, all do not return to their own hives, but in the excitement and joy of a recess from winter confinement some enter neighboring hives, and bees from diseased colonies having loaded themselves with honey caused by the disturbance of carrying them out of the cellar, are just as apt to enter wrong hives as the others are.

If colonies are known to be diseased when put in the cellar they should be marked and stacked separate from the others and removed first in the spring, placing them some distance from the main apiary or in the front row, and give them time enough to take their flight and quiet down to their own hives before removing those not diseased.

Then Treat Them

Any day after this at an hour when it is too cool for bees to be flying, yet warm enough so they will not chill, shake these bees from their combs into the same hives they were wintered in and return to the dark cellar without food for 48 hours. While they are in the cellar prepare other hives

on the same stands with packing and protection as warm as they would need in winter. At the end of 48 hours place five or six frames of wired foundation in these hives and toward evening dump the bees on them and at once invert a ten-pound pail of very warm sugar syrup on the frames and put on another hive body, which fill with leaves after covering the pails with paper and gunny sacks. In three or four days they will have the foundation quite well drawn out and you should then add some frames of honey saved over the previous fall from healthy colonies for this purpose, or continue feeding syrup until they complete the job of comb building and the queens are laying nicely. Thus you have cleaned up your yard in early spring.

During the honey flow use the common method of treating. Should any be found diseased after the flow is over they should be treated, but the method is somewhat different than that of springtime, which is as follows:

Fill as many clean hives with frames of wired foundation as you wish to treat. Then on a cloudy or misty day when bees are not flying much, or toward sunset, place these prepared hives under the diseased ones, lay a cloth (I use a flour sack) saturated with a 10 per cent solution of carbolic acid and water, which is just wet enough to not drip, over the frames of the diseased colony and place the hive cover on this. In a very few minutes nearly every bee will have left their combs and run down onto the foundation below, thus necessitating very little shaking or brushing, which latter should be done directly onto the frames before removing this upper hive body. Feed sugar syrup until all combs are well built.

In closing I wish to say that after four successive years in treating diseased bees by putting them onto full combs of honey in October and November, I find it to be a 75 per cent failure, the disease reappearing the next season, although in the last two trials the bees were starved 48 and some of them 56 hours before being put onto the solid combs of honey, and some of them had one empty dry comb in their hive while they starved that they might deposit any diseased honey, which was removed perfectly dry in every case, showing that if they had deposited any it had been consumed. However, three-fourths of those so treated had the disease the following season. They wintered as well as any, showing that their long fast did not reduce their vitality as some have claimed.

I now treat by the foundation and syrup plan as late as October and I know from experience that foulbrood can be successfully cured at any time from April to November, and when we reach the point of removing it as soon as discovered, then, and then only, will we be able to sing the song of victory. Portage, Wis.

Helping Our Beekeeping Industry

The Salem, Oregon, Statesman is pleased to receive and print the letter from Paul V. Maris, director of extension of the Oregon Agricultural College, which will be found on the Pep and Progress pages of this issue, referring to the help that is being given to the beekeeping industry of Oregon.

As the Statesman has said before, it would pay the fruit growers of the Salem district to subsidize the beekeepers, with a money subsidy.

But it would pay still better for every fruit grower to keep bees, and to provide late bee pasture for them—to raise more white, alsike and sweet clover, and scatter more Scotch bloom and in other ways give the bees plenty of work for their late honey flow. The early honey flow here in the Salem district is great, and the making of a long season would render this the best bee country in the world.

In that way the orchard men will subsidize themselves; they will improve the fertility of their soil, and they will get three crops for one —the clover, the honey and the fruit—and they will make sure the fruit.

This can be made a veritable land flowing with milk and honey.

Most fruit blooms must have the help of insects in pollenizing, especially in seasons when there is much rain and very little sunshine. The pollen of cherry blooms does not carry at all. It must be carried by insects, and honey bees alone are sure and reliable pollenizers of the cherry blossoms. They literally improve each shining hour; they work when there is the least show of sunshine, if only for a few minutes in a day. They are the original "working fools." These "virgin daughters of toil" work themselves to death in six weeks; but their vigorous queen lays from 2,000 to 3,000 eggs a day, and in a good hive there are 30,000 to 60,000, and even 100,000 bees, at the height of the season, so that one hive of bees in full working condition will fertilize millions of fruit blossoms in a very short time.

There is nothing more interesting in nature than the honey bee, and nothing in the work of man more fascinating than apiculture.

The authorities of the Oregon Agricultural College can scarcely stress beekeeping too much for the fruit districts of the Willamette valley, as long as there is a single fruit tree whose blossoms are unvisited by the winged workers of the hive.

Many beekeepers on our main traveled roads have for years been regularly supplying tourists from other states. We found one who had a considerable trade of this kind but had never received a mail order. This year he had some attractive labels printed including the grading requirements and to his surprise he soon began receiving mail orders from friends of the tourists he had sold to. They probably never knew his correct address before. "It pays to advertise."

WISCONSIN HORTICULTURE

Vol. XII Madison, Wisconsin, August, 1922 No. 12

The American Yellow Lotus, or Water Chinquapin

By Edwin B. Frost

This is one of the most interesting flowering plants occurring in Wisconsin, and for several reasons:

It is one of the largest wild flowers in the United States, and certainly one of the showiest. The spectacle of several acres of these splendid plants with their blooms standing from one to three feet above the level of the water, rising above the big round leaves, is a most striking one. The growth is so dense in favored places that it is difficult to push a boat through the mass, and lanes may have to be cut to permit the passage of boats used by visitors.

The plant is also, generally speaking, rare, but it nevertheless occurs in seventeen localities in the state of Wisconsin, which is a larger number than in any other one state, so far as is known. It is also historically interesting as having furnished a favorite food for the Indians, both the nut and the tubers being edible. The pods were used as rattles in the wigwams.

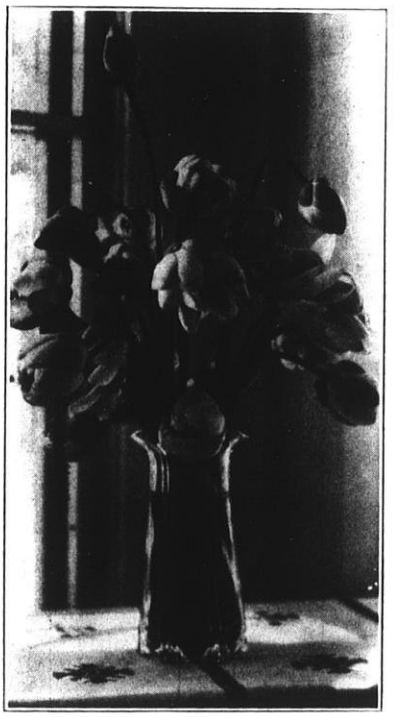
When the annual period of bloom occurs, it is a regular thing for local newspapers to assert that the bed in their vicinity is the only one occurring in the world at any point outside of Egypt. Of course, this is very far from the truth.

The Egyptian lotus really resembles more closely the water lily, but our variety (Nelumbo lutea) is of a different character and habit. The Egyptian lotus has been introduced in a pond near Bordentown, New Jersey, and is said to thrive there.

The largest beds of lotus occurring in Wisconsin, as reported by Mr. Publius V. Lawson, are the following:

Little Mud Lake, near Edgerton, Dane County,
Puckaway, Green Lake County,
Trempealeau, Trempealeau County,
Potosi, Grant County,
Charm to Desoto, Crawford County (four stations),
McGregor, middle of river,
Prairie du Chien,
Oshkosh, Winnebago County,
Tomah, Monroe County,
Kilbourn, Juneau County,
Lake Pepin, Pepin County,
Prescott, Pierce County,
La Crosse, La Crosse County.

The bed illustrated here is that of Grass Lake, not far west of Antioch, Illinois, and on the other side not far east from Richmond, Illinois, a few miles south of the Wisconsin boundary. The Little Fox River flows through Grass Lake, and the location seems very suitable for the growth of the lotus, which prefers a depth of four to six feet, with a muddy bottom. The photograph was made on July 18, 1921, by Mr. G. C. Blakslee.



A VASE OF NELUMBO LUTEA.

The fragrant blooms sometimes measure quite ten inches in diameter, and look almost white in the full sunlight. We measured leaves which were twenty-four inches in diameter.

A warning is certainly necessary for the proper conservation of this plant in our inland lakes and wa-

Fig. (1) The lotus at Grass Lake, Illinois, July 18, 1921. Some leaves were 24 inches in diameter. It was raining while the photo was made. G. C. Blakslee, photographer, Yerkes Observatory.

ters, because it has become the custom to gather the flowers, and particularly the seed pods, and to ship them to the cities where they are sold in the department stores in immense quantities. Dr. Millspaugh, of the Field Museum, states that these flowers, once abundant in the Calumet region near Chicago, have entirely disappeared, and the same thing may be feared for the beds in Grass Lake and in the lakes of Wisconsin, if we continue to be indifferent to their preservation. The bed at Grass Lake has attracted a great deal of attention from visitors, who carry the flowers away in great numbers.

The late Mr. Publius V. Lawson, of this state, made an intensive study of this plant, and Mr. Huron H. Smith, of the Milwaukee Museum, has also gathered much information about the species. The writer does not pretend to have any botanical knowledge, but merely wishes to call attention to the great impressiveness of the large beds of the species, and to the importance of their preservation.

But it may also be worth while to record our experience in attempting to plant the lotus in the very suitable waters of Lake Como, near the village of Williams Bay. We gathered the seed pods on Labor Day, September 5, 1921, at Grass Lake. Nine days later we planted the seed in Lake Como, using various methods for immersing them. One way which was suggested to us by Dr. Millspaugh was to wrap the seeds in a cube of soil from the shore of the lake. This was very carefully lowered into about four feet of water, where the bottom was quite soft with silt. Other seeds were placed in a larger amount of earth, and this put in a paper carton which was sunk to a place which seemed suitable. A few were broadcasted over the lake.

It is too early to see whether or not this experiment will be a success, but in order to test the germinating power of the seeds which we had gathered I placed a considerable number of them in water in a vase on my desk on October

YELLOW LOTUS.

8th. The water was replaced as it evaporated, but there was no evidence of life in the seeds for a month. Then about thirty per cent of them suddenly opened and began to grow. The rate of growth was certainly astonishing, and was measured as carefully as possible. On some days the stems increased two inches in length within twenty-four hours, the difference between morning and evening being very clearly perceptible. It was a case of Jack and the Beanstalk; I could not get any vases tall enough to keep the shoots under water. Finally a friend loaned me a vase twenty-two inches high, and this lasted for a short time, but presently the leaves emerged and had to be coiled up in the water to be kept from drying out in the temperature of a steam-heated room. Some earth was given to them for food, and the growth continued until the shoots were about three feet long.

Some quite perfect leaves were formed which were over an inch in diameter. But the conditions were not favorable for the proper development of the plant, and they died at about this point. The experiment was made on other seeds which had been kept in a box for about two months. Part of these were put in dilute sulphuric acid for about ten days and then in pure water. These germinated after a much longer period and in a much smaller percentage. The twenty-five seeds which did not receive treatment with sulphuric acid did not germinate at all. This shows that to get results it is important that the seeds should be put into the water very soon after they are collected from the mature pods.

Of course, the much better method of transplanting the lotus from one lake to another would probably be to remove the tubers and plant them, but we have not attempted this yet.

In his many interesting notes on the lotus, Mr. Lawson states that the tuber makes a really excellent food, resembling the sweet potato, but said to be better. It requires about the same cooking as the potato.

(Continued on page 191)

THE FLORISTS PAGE

EDITED BY
HURON H. SMITH, Curator of Botany
PUBLIC MUSEUM MILWAUKEE, WIS.

Wisconsin's Largest Florists

Like the Irishman fleeing from the bear for 21 miles, then eluding it in a mile-wide jump over a lake, because of the superior start he had, so lots of folks wonder how H. & H. grew so fast, but it is no secret with the scribe. They had a wonderful start of 25 years, the steam of Fred H. Holton and the

OUT DOOR STOCK.

imagination of Herman V. Hunkel behind them, and with these in their favor we would expect quite some leap from them.

Holton & Hunkel are organized for big business, and have thought it out to the smallest detail. They have the largest facilities in the state for growing stock, and have left certain important lines entirely out of their growing plans. This seems a paradoxical statement, but they depend entirely on other Milwaukee growers for carnations and certain other cut stock. Having partially caught the Los Angeles real estate man's point of view, we point with pride to the largest growers in Wisconsin.

Their largest establishment is 10 miles out from Milwaukee on highway 57 at the village of Brown Deer, a town that might as well be called Holton & Hunkel. To illustrate how carefully the minutiae are worked out, let us state that a mile southwest of the plant are two adjoining farms of 80 acres each, each supporting a man and his family. The only purpose of these farms is to provide the proper sort of fertilizers for greenhouse use. Plenty of manure is to be had in Milwaukee, and they do purchase paunch fertilizer from the stockyards to keep up the fertility of the farms, but every pound of the manure produced on the farms goes to the greenhouses by team and truck.

The farms are cropped on a three-year basis, one-third oats, one-third timothy and clover mixed, and one-third corn, making it a three-year period from corn crop to corn again on any given field. One hundred head of feeder cattle are bought in the fall and sold in the spring. They are kept six months and fed only on silage and feed raised on the farm. Their bedding straw is trampled and churned again and again into the manure. These cattle would surely draw the last prize for looks, but they are producing a fertilizer that money cannot buy—it has to be manufactured.

The Brown Deer plant stands on a plot of 20 acres, six and a half of which are under glass, comprising some 41 greenhouses. Here superintendent Frank Berndt directs the complex organization of 45 men, girls and young boys stretching to 60 at rush periods, in the business of growing plants. Being out in the country, the plant has all the artisans necessary for its maintenance right on the grounds. The force builds all of the greenhouses, has steam fitters, mechanics, engineers, masons, carpenters and painters, and all the varied men necessary to keep the plant running.

The Holton and Hunkel rose houses at Brown Deer.

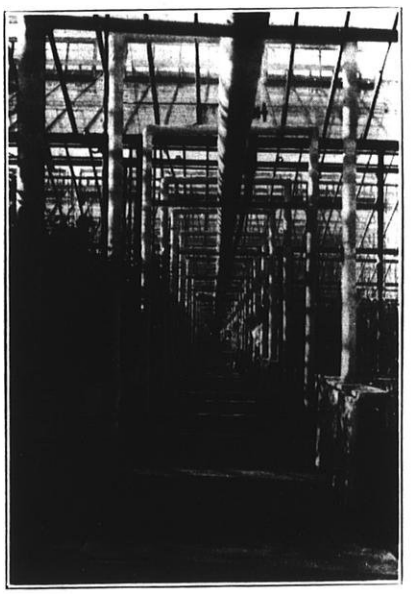
The heating system consists of a battery of 5 boilers consuming 4,500 tons of coal in a season to furnish steam for the vacuum system. They have their own car-unloading cranes that unload 100 cars of coal in the winter. They also unload about 50 carloads of material in a year. They pump their own water from their own well, and have a large precooling room where ice is used.

The largest feature of the Brown Deer plant is their rose range. Here one may see 80,000 plants in 12 houses 27 by 400 feet, all thrown together. Ordinary days 5,000 roses are cut, and on special days 10,000. The rose cut is tabulated by benches. Cuttings are made twice a day, morning and evening, sorted by girls, thoroughly precooled and shipped to Milwaukee by truck. In order of quantity they grow Columbia, then Premier, Ophelia, Butterfly, White Killarney and Ward.

As we have said, there isn't a carnation on the place; likewise very few "mums" are grown for cutting. But orchids is another matter. They have 1,500 of these which are grown the year around. Varieties grown are Cattelya trianae, C. labiata, C. Schroederi, C. mossiae, C. gigas, C. gaskelliana, and a few Oncidiums. The florist will see that this gives them a constant succession of blooms every month in the year.

Differing somewhat from other lines of business, there are very definite peaks of demand in the floral trade, when the combined efforts of all florists falls short of the demand. The Brown Deer plant is organized to meet those peaks of trade.

For the Christmas rush they bring on 20,000 cyclamen in 4 to 8-inch pots, 2,000 Begonia melior in 5 to 8-inch pots, 45,000 Primula obconica, and a host of ornamentals, such as 1,000 Dracaena terminalis, 2,000 Pandanus veitchii, 1,500 Sansevieria laurentii, 8,000 Cleveland Cherries, 1,500 Erica melanthera, 1,000 oranges and Boston ferns in all sizes without number, devoting four large houses to these the year round.



ACRES OF STEAM PIPES.

Summer work at Brown Deer is propagating season for the winter. Young stock for all seasons is started, a large item of the work being their "mum" stock.

For Thanksgiving "mums" have the call, and 18,000 are grown for cutting, while some 2,000 pompons are grown in pots. At odd seasons various specialties are grown. For instance, just now there are 1,000 Gloxinias in bloom.

The Holton & Hunkel Humboldt Avenue plant is probably the oldest set of greenhouses in the city. They purchased them 20 years ago from C. B. Whitnall, who was retiring at that time. This plant is managed by George Holton with his crew of 10, and is exclusively a pot and bulb establishment. All of their bulb stock is grown here. Their scheme of work is similar to the Brown Deer establishment in that they prepare for the peak loads.

The Holton & Hunkel wholesale establishment on Oneida and Milwaukee streets is the result of 25 years of experience. Their new place, which they have occupied for six months, was planned for years in advance to care for the retail florists in the most expeditious manner. On the main floor facing Milwaukee street one enters the salesroom, to be greeted by the veteran stock man, Al Hare, known to every florist in the city. Along with him, attending to the shipping and to specialties, is Fred McDonold.

At the rear of the salesroom is the private exchange telephone system with 10 stations, and also at this end is their main floor ice box. This box has a capacity of 100,000 carnations, with a well-ventilated brine cooling system in connection.

Follows their shipping room and well-appointed office, presided over by the assistant secretary of the company, H. J. Seel. The office and store staff number regularly 14 people, with 20 employed at rush seasons.

The basement is given over to their own staff of wireworkers, for the manufacture of designs, a general line of florists' supplies, and a large ice box with cooling done by a brine pumping system. This box was specially constructed to hold a

(Continued on page 191)

Fourth Mid-West Horticultural Exposition

A great deal of interest is, at this time, being manifested in the Fourth Mid-West Horticultural Exposition which is to be held at the Auditorium, Council Bluffs, November 13 to 18, 1922.

State chairmen in 17 of the middle-western states have been appointed, whose duty it will be to secure exhibits and to interest people in attending this exposition from these various states. Already word has been received from many of these chairmen, indicating the number of official premium lists that they will need for distribution. It is estimated that it will take around 6,000 copies of the premium list to supply this demand. It is believed that every one of these 17 states will be represented by delegates and by exhibits.

The American Pomological Society which will meet at Council Bluffs in connection with the exposition on November 15, 16 and 17, will prove a great drawing card to all those interested in fruit growing. This is the first time in years that this society has met as far west as Council Bluffs. Dr. L. H. Bailey, possibly the greatest horticulturist that America has ever produced, is president of the society. Dr. Bailey will give the opening address of the society on November 15th, at which time all societies will have a joint session.

Beside the annual meeting of the American Pomological Society, there will be meetings of the following societies: Iowa State Horticultural Society, Society of Iowa Florists, Iowa Nurserymen's Association, Iowa Fruit Growers' Association and Nebraska-Iowa Beekeepers' Meeting.

There will also be held in connection with the exposition student potato and fruit-judging contests in which student judging teams will compete from several colleges and universities of the country.

In connection with the exposition, there will be held a great number of demonstrations which will be educational features. There will be displayed the latest models of spraying and dusting machines for garden and orchard purposes. **This will be the largest horticultural exposition held in the United States this year.** Everyone who is at all interested in any phase of horticulture should plan to attend.

Oshkosh's Horticultural Society Fruit, Flower and Vegetable Show

MRS. N. A. RASMUSSEN, Secy.

The exhibit was staged in the building formerly occupied by the City National Bank, corner Main and High streets, Thursday afternoon and evening and Friday, June 8th and 9th.

It was beyond a doubt the finest exhibit ever put on in Oshkosh. Peonies predominated, although about 15 other varieties of flowers were also there in great abundance. Strawberries of the finest quality tempted the crowds, as well as vegetables, including asparagus, onions, radishes, lettuce, parsley, spinach, carrots, beets, peas, rhubarb, garlic and kohl rabi, of quality such as Oshkosh gardeners are noted for.

At least 200 receptacles ranging from vases containing a single bloom to tubs containing 100 blooms of peonies were in evidence.

W. R. Sisson, of Rosendale, by special request, displayed varieties of peonies never before seen by Oshkosh people, the choicest of which he sells at $100 per root, several varieties at $50 and a great many at $10, and even at these prices he had more orders than he would be able to fill this fall.

The building, which is not a small one, was filled to its capacity (with no crowding). Each exhibitor furnished his own receptacles, which, by the way, added class to the exhibit. Receptacles such as bowls, vases, baskets, etc., suitable to each variety of flowers, were used and the effect was beautiful.

There was a very large attendance considerable of the time, especially during the evening. By actual count 100 people passed in during a period of 17 minutes, 100 in 19 minutes and 100 in 20 minutes.

A total amount of $42.75 in cash was awarded in premiums besides numerous substantial special premiums offered by members of the society, including $5 in cash, $5 worth of bulbs and plants, 50 Darwin tulip bulbs, etc.

Our Local Societies

As nearly every member knows, our by-laws provide for local or auxiliary societies. Whenever a number of people in a community feel the need of an organization and get together, adopt a simple constitution, the society may be admitted as a "local" on payment of 50 cents for each member, which confers full membership in the state society. The membership fees for locals are due and payable to the state society in the month of January. From the standpoint of fees or other money consideration there is no particular advantage in being a member of a local, as the fee is usually one dollar, the other half

being used for local expense, but there are other advantages. It fosters local spirit and pride, brings together in the monthly or quarterly meetings all who are interested in horticultural pursuits, tends to a better community spirit.

Very often the horticultural society proves the only common meeting ground in a town or village where differences of lodge, church or business are forgotten. There is neither politics or religion in horticulture. It's a mighty fine thing for any community to have a local horticultural society. The state society now offers a bonus or premium fund of twenty-five dollars to each local which stages an exhibition of fruit or flowers or vegetables or all three. This is not intended merely as a gift to the community, but to promote amateur gardening. This provision is subject to repeal by the executive committee and its continuance will depend on the results obtained. The greater the number of societies which participate the more likely it is that the plan will be continued.

We give, by way of information and possibly encouragement, a list of the locals in good standing, where located and number of members of each. Some of them, like Oshkosh and Manitowoc, are old-timers, while others are only a few weeks old:

Adams Valley, Bangor, La Crosse county, 8 members. Bayfield, 5. Brown's Valley, Mindoro, La Crosse county, 20. Door Peninsula, Fish Creek, Door county, 17. Dunn county, Menomonie, 16. Manitowoc county, Manitowoc, 22. Madison, 19. North Ridge (postoffice Coon Valley), La Crosse county, 19. Holmen, La Crosse county, 12. Rockland, La Crosse county, 21. Lake Geneva, 28. La Crosse City, 8. Oshkosh, 49. Milwaukee Florists, 21. Sheboygan county, 21. Garden Club, West Allis, 10. Horticultural Society of West Allis, 19. Women's Auxiliary, 15. Union Mills, La Crosse county, 17. Washburn, Bayfield county, 13. Wisconsin State Florists, 166. Wisconsin State Beekeepers, 700.

Standard Grades for Onions

B. B. Jones, in Charge of Standardization
Department of Markets

Fruit and vegetable producers of the state have found out that it pays to grade their products. Putting upon the market a high quality, standardized product will result in better prices and satisfied customers.

While the production of onions in Wisconsin is not as large as that of some other vegetables, there is enough stock produced in the state to warrant the establishment of standard grades to be used in marketing this product. This bulletin is intended to present to the producer and dealer the United States Department of Agriculture standards for grading onions. The Department of Markets recommends these grades for trial and if after trial they are found to be suited to Wisconsin conditions, they will be definitely established by the department and enforced through an inspection service.

The grades for northern-grown onions[1] as recommended are as follows:

U. S. Grade No. 1

U. S. Grade No. 1 shall consist of sound onions of similar varietal characteristics which are free from doubles, scullions and sprouted onions and practically free from dirt, tops or other foreign matter, and damage caused by disease, insects or mechanical or other means. The diameter shall not be less than 1¼ inches and more than 75 per cent by weight shall not be less than 1¾ inches in diameter.

In order to allow for variations incident to commercial grading and handling, 5 per cent by weight of any lot may be under the prescribed size, and in addition, 5 per cent by weight of any such lot may be below the remaining requirements of this grade.

If any lot which meets the requirements of this grade contains more than 25 per cent by weight of onions with diameters from 1¼ to 1¾ inches, inclusive, the grade name shall be "U. S. Grade No. 1—Medium."

If any lot which meets the requirements of this grade contains more than 90 per cent by weight of onions with a diameter greater than 2¼ inches the grade name shall be "U. S. Grade No. 1, Large."

U. S. Grade Boilers

U. S. Grade Boilers shall consist of sound onions of similar varietal characteristics which are free from doubles, scullions and sprouted onions and practically free from dirt, tops or other foreign matter, and damage caused by disease, insects, or mechanical or other means. The diameter shall not be less than three-quarters of an inch nor more than 1⅜ inches.

In order to allow for variations incident to commercial grading and handling, 5 per cent by weight of any lot may vary from the prescribed size, and, in addition, 5 per cent by weight of any such lot may be below the remaining requirements of this grade.

Ungraded

Onions which are not intended to be marketed as U. S. Grade No. 1 or U. S. Grade Boilers shall be tagged, branded or labeled "Ungraded."

Definition of Grade Terms

As used in these grades:

"Double" means an onion which, by slitting into two parts, has broken the outer skin.

"Scullion" means an onion which has a thick neck and a relatively small and poorly developed bulb.

"Practically free" means that the appearance shall not be injured to an extent readily apparent upon casual examination of the lot.

"Diameter" means the greatest dimension of right angles to a straight line running from the stem to the root.

Discussion of Grades

It will be noted that there is but one standard grade as far as quality is concerned. The U. S. Grade No. 1 and the U. S. Grade Boilers both have the same quality requirements and vary only in size requirements. The U. S. Grade No. 1 has two separate size designations, namely, Medium and Large. The sizes prescribed in the onion grades range as follows:

U. S. Grade Boilers—¾ inch to 1⅜ inch diameter.

U. S. Grade No. 1—1¼ inches and up with more than 75 per cent of weight not less than 1¾ inches in diameter.

U. S. Grade No. 1 Medium—More than 25 per cent by weight with diameters from 1¼ to 1¾ inches.

U. S. Grade No. 1 Large—More than 90 per cent by weight with a diameter greater than 2¼ inches.

The procedure in grading onions

(Continued on page 191)

[1]Northern-grown onions include all varieties grown in the United States except Bermudas, Denias and Creoles.

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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.

Introducing, Briefly, the Executive Committee

These few remarks about the members of our executive committee were prepared as far back as February, 1922, but in the "make up" of Wisconsin Horticulture through the intervening months there seemed to be no fitting place for them and while the year is now more than "half-past" there is still time to get acquainted. The place and date of birth of members are facts and the only part that should be taken seriously. The comments are after the fashion of the editor, whose fancy runs into odd places at times.

H. C. Christensen

Our worthy president and ex-officio president of the committee, H. C. Christensen, announced that he was born in October, 1872, just one-half mile from where he now lives. This seemed like very little travel for a man 50 years of age, but upon further inquiry we learned from his own words: "I have been outside of my native state and have seen an automobile and a steam locomotive." Even though Mr. Christensen lives in Oshkosh we are inclined to credit his statement as true.

W. A. Toole

Passing on to Vice President W. A. Toole, ex officio member, the editor has known him so long that no question sheet was sent him about his name, age or disposition, knowing all were satisfactory. He was born near Baraboo somewhere about 38 years ago and has lived there without interference by the authorities ever since. His father is William Toole, also of Baraboo.

P. S.—W. A. grows and sells perennials, operates greenhouses and a retail flower store.

A. K. Bassett

A. K. (Ski Hi) Bassett, having an eye for good fruit land, also chose Baraboo as a birthplace in September, 1881. Subsequent events proved his good judgment. The Bassetts are Yankees, the first coming to these shores in 1621 in the good ship Forture. Sometimes Fortune smiles even as in this case.

C. I. Brigham

C. I. Brigham, who now lives in a fine old farmhouse almost on the crest of the lesser of the two Blue Mounds, never intended to be a farmer; in fact, did all he could to prevent it, as witness: "I was born in Milwaukee in 1862 and lived there until I went to the university, where I graduated in "85," expecting to make teaching my profession. In the spring of 1886 I was taken sick and came to this farm to recuperate. I have been here ever since." Well, that was a lucky circumstance! If these were character sketches we would tell you much more about Mr. Brigham and his delightful study, the walls lined with bookcases, a fireplace and easy chairs, the "scholar in agriculture."

Wm. Longland

Wm. Longland has not lived always at Lake Geneva. He was born in rural England (.....), the loveliest garden spot in all the world. He learned the gardener's art in all its branches and is skilled in its every detail. Although born abroad, the trees and shrubs of America are as familiar to him as old friends. If you want to talk native plants to William, take along all the books on botany you can find.

Paul E. Grant

Paul E. Grant, of Menomonie, was born in Manistee, Michigan. That's the only blot on his otherwise stainless record, and it's fast disappearing. What he would not have you know is that he meant to be a professor of history or English, it doesn't matter which, but poring over the classics affected his eyesight and he deserted the halls of learning for the open fields and later the orchard. We win. He will be 37 in June.

J. F. Hauser

J. F. Hauser, of Bayfield, likes northern Wisconsin. He was born in La Crosse, July 30, 1870, and as soon as he could negotiate the trip

went to Bayfield. There was no place further north in Wisconsin to go. He likes the country up there and the country likes him. What more can anybody ask?

RICHARD MARKEN

Richard Marken claims that he was born in Valders, Manitowoc county. We have been unable to uncover any facts to disprove it. It was in 1885. Graduated University of Wisconsin a few years later, had one look at the Bitter River Valley and another at Door county and then selected Gays Mills. Lots of apple trees out there, 700 acres. Dick has charge of all of them.

W. E. SPRIETER

W. E. Sprieter is a man of few words, but the few are effective. Besides being county agent for La Crosse county, a job requiring 23 hours a day, he organizes local horticultural societies, spray rings and other incidental features relating to horticulture. You wouldn't believe it if you met him, but he will be 43 next September. Minnesota, town of West Concord, claims him.

FRANK MERLE EDWARDS

Frank Merle Edwards is the youngest of the bunch, except one, a scant 32, and born just where you would expect, Fort Atkinson. He corrects faulty landscapes and makes new ones to order. He is clever at it, too, and his scant years should not be held against him, as they are coupled with good judgment. Graduate of Correll University.

JAMES LIVINGSTONE

Who ever would have guessed that James Livingstone is nearly 51? He not only admits it, but is a bit boastful about it. If you have ever met him you are in no doubt about the country of his birth. Let him tell it: "Born at Wishaw, Lanarkshire, Scotland; received early training at Coltner's Estate, Wishaw. Landed in America September 1, 1895, in Wisconsin in 1907, Milwaukee 1910." You traveled a long journey, James, but we are glad you are here.

WM. NELSON

Wm. Nelson, of Oshkosh: Mr. Nelson is 47 years of age, and during all these years, except the first four or five years, has been engaged in market gardening and fruit growing. Engaged scarcely fits the case, he is married to the job. If you ask him he will tell you he was born in Oshkosh. We will forgive him that as long as he continues the sturdy supporter of horticulture that he is.

ARNO WITTICH

Arno Wittich, of Sturgeon Bay, manages the Peninsula Fruit Farm of 240 acres, 100 acres in cherries and 100 acres in apples. Before that he lived in St. Louis, Missouri, for a time; at least 8 or 9 years. Not much longer, because he is only 29 now and has lived in Wisconsin 20 years. Mr. Wittich is the youngest member in years, but not, as you see, in experience and training. One year after graduating from the University of Wisconsin he took charge of the Peninsula Farm. That's doing pretty well. Don't you think so?

These notes are not intended as biographical sketches or life histories. Just a few words of introduction hastily written for your perusal. Come to the summer meeting or annual convention and meet these men face to face. You will like them.

A Fake Fireblight Cure

Several weeks ago the editor received some advertising literature regarding Warnock's Tree Paint, made by the International Pear Blight Cure Manufacturing Company. We thought this fake fireblight cure had been disposed of long ago, so turned over the advertising matter to Dr. Fracker, the state entomologist. It was submitted by him to the Insecticide and Fungicide Board, Washington, D. C. The following letter has been received:

"We are in receipt of your letter of the 7th instant, relative to Warnock's Tree Paint, made by the International Pear Blight Cure Manufacturing Company. We have prosecuted this company several times, as you will note by reading notices of judgment 366, 367 and 517, published in Announcements 20 and 29, enclosed. The company practically stopped business last year, but evidently has started again, as recently the advertising circulars of the company have been sent to us from different sections of the country. Our inspectors have standing instructions to keep a special lookout for the product."

This letter is being published in order to protect any member of the Wisconsin Horticultural Society who may receive this advertising literature. Apparently the manufacturing company is willing to continue to pay fines indefinitely, as long as gullible orchard owners will pay for their harmless and worthless product.

If your county fair isn't clean it's your fault. If you tolerate indecent shows, crooked games and filthy food at your fair, that's all you are entitled to have.

Diseases of Ornamental and Forest Trees

By C. J. Humphrey

(Annual Convention, Madison, December, 1921.)

In order to establish the right perspective, I think it perhaps best to present a general address covering the fundamentals of the subject and to draw on specific examples largely for purposes of illustrating my points and calling to the attention of the society some of our more important tree troubles. A discussion of forest tree diseases, except in so far as they also apply to ornamental and fruit trees, is naturally beyond our scope.

In dealing with the diseases of woody plants, we will, for the sake of convenience, recognize three major groups: (1) parasitic diseases; (2) those diseases due to the so-called wound parasites, and (3) non-parasitic diseases.

Parasitic Diseases

Fungus or bacterial parasites are familiar to all of you. These attack the living tissues directly or cause functional disturbances in the plant which cause death, or greatly reduce the vitality. Our leaf diseases are of this character, as well as certain bark and twig diseases where the cambium is attacked and killed, this attack often resulting in cankers, or complete girdling and consequent death of the portions above the girdle.

In the case of forest trees and ornamentals leaf fungi do not assume the major importance they do in diseases of fruit trees, where a reduction in actively functioning leaf surface is soon reflected in lessened fruit production. It is true that the leaves of ornamentals are disfigured, "sickly" appearing in case of heavy infections, and often fall prematurely, but the summation of injury to the tree as a whole is usually not considered sufficient to warrant expensive control measures, except perhaps in certain special cases and particularly on nursery trees, where sprays can be readily applied.

Rhytisma acerinum, producing the tar-spot of maples, is about as conspicuous a representative of leaf spots as we have. The life history of this fungus has been well worked out in Europe. The life cycle of the fungus may be of interest, as being more or less representative of leaf spots produced by the group of fungi we term ascomycetes. The spotted leaves fall to the ground in the autumn, usually somewhat prematurely. There is no further development of the fungus on the fallen leaves during the cold winter months, but in late winter and early spring the spots begin to form a new kind of spores in minute sacs (asci). These mature at the time the young maple leaves are developing. The spore sacs rupture and forcibly expel the ascospores into the air, whence they are borne by air currents to the new leaves. Alighting on the underside of a leaf they soon germinate during moist weather and the young threads (hyphae) which are produced enter the leaf through the breathing pores (stomates). Following this infection the spots develop throughout the growing period of the tree. The disease appears to be spread further by secondary spores (conidia) produced in the spots on the living leaves.

From our knowledge of the complete life cycle of this and similar fungi, then, their control is obvious, namely, the raking up and burning of the fallen leaves in the autumn, so as to eliminate the source of infection in the spring.

Twig and branch parasites are

Fig. 1. Large white elm trees "stag-headed" from the effects of the elm-canker fungus. *Sphaeropsis ulmicola.* These were removed two years later, after having died back further.

the most destructive organisms with which we have to contend. Most of our tree cankers are produced by fungi developing in the inner bark. If the tree "holds its own" or yields very slowly to the attack, well-marked cankers are usually produced. These are only manifestations of a battle going on within the plant tissues between the tree and the parasite.

If the invading organism develops very rapidly, however, we get entirely different disease symptoms, due to rapid girdling, principally of the smaller branches. The historic example of this type of disease in American pathological literature is the chestnut bark disease. This disease was introduced from northern China and first assumed epidemic importance around New York City in 1904. Since then it has spread throughout the eastern United States until it has invaded and practically destroyed the native chestnut stands and planted orchards north of North Carolina, despite the brief efforts to control it. Since the opportunities to apply control measures on a large scale were abruptly terminated, we must in this case do our best to breed a variety of chestnut highly resistant or immune to the disease. Results along this line must necessarily be slow, because we have here a slow-maturing crop. Certain native trees in the vicinity of New York City and at Martic Forge, Pa., have shown a high resistance to the disease, and perhaps from these, or similar trees, we may eventually be able to secure a resistant variety.

The chestnut bark disease, however, does not vitally concern Wisconsin horticulturists and nurserymen. We do, however, have in Wisconsin a white elm disease (Fig. 1), prevalent about Madison, and probably widely distributed in the state, which, although milder in its action, is similar in its method of attack to the chestnut disease. This disease is due to a fungus we call *Sphaeropsis ulmicola* closely related to *Sphaeropsis malorum*, producing canker and rot of the apple. Methods of infection have never been worked out, but since an abundance of spores is produced on the diseased bark it is logical to suppose that these are distributed by the usual agencies, such as wind and rains. Once infection has taken place in a given branch, however, the disease apparently continues to develop from year to year in the bark and wood.

The striking symptom of this disease is the sudden death of certain of the smaller branches scattered throughout the crown, due to girdling. Below the girdle water sprouts very often develop. Over the attacked areas the smooth bark becomes somewhat sunken and loses the healthy green appearance of the normal bark. From these girdled regions the fungus grows into adjacent healthy tissues. If it progresses downward from a lateral branch into a main limb it may eventually girdle the larger limb. By such progressive growth the whole crown may in time become involved.

Since the disease is known to occur in nurseries, and is epidemic and destructive in character, it

must necessarily come under the inspection laws of the state. Every effort should be made by nurserymen to stamp it out, as the white elm is one of our handsomest ornamentals. No man wishes to plant an infected tree, with the certainty that it will ultimately be disfigured by the disease, and very often killed outright. Every diseased tree planted will also affect neighboring healthy trees.

In the case of a disease of this sort we stand a fair chance of eradicating it by applying control measures energetically. In the case of trees already planted for ornamental purposes the cutting out and burning of infected limbs seems to be the logical procedure. Trees too badly infected throughout the crown, however, are best removed and destroyed. Ample watering and fertilization are a valuable aid in hastening recovery. Control in the nursery, in the case of abundant infection, is perhaps best handled by complete eradication. In the case of sporadic infections, careful regular inspections, followed by culling, may prove effective. While the disease cannot be controlled by spraying after infection has once taken place, it may be possible to work out methods whereby the spread may be considerably curtailed.

The white pine blister rust is another of our strictly parasitic diseases which menaces our five-leaved pines, but has produced most damage so far to our native white pine, *Pinus strobus*. This is so familiar to horticulturists and nurserymen that discussion is unnecessary. Suffice it to say that through the co-operation of nurserymen and state and federal agencies its further spread from certain prescribed areas has been largely checked. The disease was first discovered in western Canada and a conference regarding it was held at Portland, Oregon, to discuss the situation and to devise methods to prevent its further spread.

Besides these leaf, branch and stem parasites there are others which attack roots, ultimately causing the rot of these organs. Among the best known in this region is the

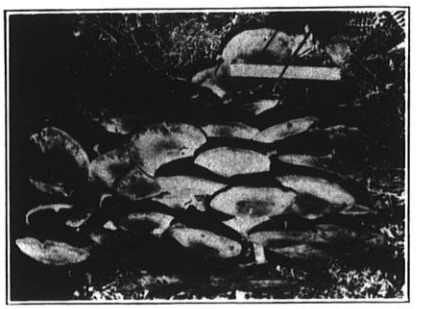

Fig. 2. The honey mushroom. *Armillaria mella*, growing from the roots of a spruce tree. In Wisconsin this is one of the principal enemies of black oaks, rotting the roots and eventually killing the trees. —Courtesy Dr. W. H. Snell.

honey mushroom, *Armillaria mellea* (Fig. 2). This is a typical mushroom which appears, usually in abundance, in the cool, moist fall months about the base of diseased trees or old stumps. It attacks a great variety of plants, conifers as well as broadleaf trees. About Madison it is most common on scarlet and black oaks, and occurs at times on white and burr oak. In the fruit-growing regions one is likely to encounter it on various stone fruits, particularly the cherry. On the Pacific coast it has been reported as a serious enemy of small fruits as well.

It is one of the common forest fungi and most forest soils harbor an abundance of the "spawn" or black shoe-string strands (rhizomorphs), which spread with great rapidity through humus soils and infect such roots as they come in contact with. The roots are soon killed and ultimately decay to a white pulpy mass. The mycelium continues its growth up the crown roots through the bark and cambium and finally into the base of the trunk. Once the cambium has been killed over a large part of the circumference the tree soon succumbs.

For thirty to forty years pathologists have been experimenting on methods of control. Since the fungus is usually harbored in forest soil the first consideration in connection with fruit growing on cut-over lands is removal of all stumps, roots and decaying wood and careful tillage, to eliminate sources of infection as far as possible.

Diseased trees cannot be treated with any certainty of success, but pruning out diseased roots, particularly on certain fruit trees, has met with some favor. The line of attack mainly relied upon, however, has been directed toward preventing the spread from diseased to healthy plants. One of the earliest recommendations was to isolate the infected areas by trenching, but this has never been widely applied, and is useful only in the case of definitely localized infections.

Wound Parasites

Time will not permit further discussion of parasitic diseases, so we will pass to the so-called wound parasites (Fig. 3). These are organisms of various sorts which, while they do not have the capacity of actively invading and destroying living tissue, can affect the life and vigor of a tree to a marked extent. The organisms here concerned can only enter a living tree through a wound in the bark. Having once

entered the host they do not attack growing tissue, but confine themselves to those parts which are, in a physiological sense, dead. Our most conspicuous representatives of this group are the higher fungi, which we term the basidiomycetes.

Fig. 3. The rot of *Collybia velutipes*, which has invaded a living basswood tree at a rather large wound near the base.

These are familiar to you as brackets, conchs, punks, mushrooms, etc., which appear on the surface of the wood after infection has developed inside the tree. Certain of them normally attack the heartwood, but the sapwood is also decayed where sufficiently exposed by the injury to permit a certain amount of drying.

These are the cavity-producing fungi which furnish either a reason or an alibi for our tree-surgeons. Their injury to the host is largely due to the reduction in mechanical strength of the trunk and larger limbs, which renders the trees particularly susceptible to windfall. In the case of forest trees, however, the actual loss in timber production is the principal item.

A few of our heart-rotting fungi are apparently capable of gradually encroaching on the normal sapwood in a living tree, but as a rule, there is usually a rather sharp line of demarcation.

Many of the fungi which appear at wounded surfaces do not decay the heartwood to any appreciable extent, and hence are often quite superficial and limited in their action.

Fruit trees are just as susceptible to infection with certain of these fungi as are forest trees and ornamentals, although the better attention they get under approved methods of orcharding tends to lessen the danger.

Young trees, as a rule, suffer little from heart-rotting organisms. This is due largely to the fact that points of entrance for the developing spores of the organisms, such as dead branch stubs, pruning wounds, etc., are usually small and heal over quickly in a young thrifty tree.

The elimination of heart-rot in a living tree is a different matter and calls for very careful work. Tree surgery methods are the only recourse. In many cases of cavity work much of the infected wood still remains, and hence the rot will continue to develop. Mr. Brown has already discussed very competently this phase of the problem. Prevention of infection is much the better line of attack, and this can be accomplished by the use of an antiseptic water-proofing mixture. For small wounds shellac is very good; for larger wounds, except on trees which are likely to be injured by the application, such as peach, cherry, plum, magnolia and tulip, a 50:50 mixture of coal-tar creosote and asphaltum has given very good results. For these trees a mixture of 25 parts of creosote to 75 of asphaltum may be used. In every case it is advisable to shellac the cut bark and adjoining wood before applying the creosote mixture.

This prevents drying out and consequent dying back of the cambium.

Non-parasitic Diseases

When the pathologist cannot find a definite causal organism in connection with a disease he usually relegates it to the non-parasitic group. These diseases, then, are usually produced by unfavorable atmospheric and soil conditions, which result in a disturbance of the normal functions of the plant.

Our shade trees are perhaps the greatest sufferers from this class of disease. Not only are they subject to injury by soot, dust, atmospheric gases, electricity, climate, etc., above ground, but the roots often suffer for lack of food and water, or become suffocated in poorly aerated soils, or even poisoned by escaping gases. Couple these unfavorable conditions with the activities of noxious insects and various animals, including "tree butchers," and it is a great wonder that the mortality in shade trees is not higher.

To emphasize the necessity of improved fertility, cultivation, etc., in order to correct many of our troubles with ornamentals, I realize is entirely unnecessary with you gentlemen because these are the fundamentals of your profession. The general public, however, is not so conversant with the requirements and each and every one of us trained in the growth and development of plants must act as ambassador.

Very few cities have an adequate system for the planting and care of shade trees and ornamentals. It must be a municipal problem and not an individual one, in order to consistently follow out a landscape plan to the best interests of the town or city. Too many of our regulations for the planting and care of shade trees are wholly ineffective for lack of enforcement. Tree planting and politics make a poor mixture—at least to the man on the outside. The officer in charge of shade tree work should know his profession from the roots up. With the necessary authority, and tact in administering it, wonders can be accomplished in the beautification of our towns.

Several years ago I visited the city of Newark, New Jersey. Their tree problems were in the hands of an efficient shade tree commission which had charge of all selection of species, planting, and necessary care of all trees on public highways and in parks. All planting and protection charges were assessed directly against the property, but general costs, such as cultivation, pruning, etc., were covered by general taxation. The system worked admirably under the able and tactful supervision of the secretary of the commission.

I am sure that human nature in New Jersey is not essentially different from that in Wisconsin, and if such a logical, forceful plan will work there it should do so here. In our own city of Madison, in the capital of this great commonwealth, what have we in the way of adequate regulations? Nothing, outside of the splendid semi-official services of our Park and Pleasure Drive Association. The owner has full authority over trees abutting his own property. He can do with them as he will, and every act of vandalism possible under any circumstances has been, and is being, repeatedly committed against our trees.

I claim, and wish to emphasize, that the municipalities, through some definitely constituted author-

ity, should exercise full control over all trees on public highways and in public parks. We are having altogether too much promiscuous planting, too much "tree butchery" by irresponsible parties, too little effective and commendable tree surgery, and far too little care and protection for the beautiful trees which have so far withstood the combined attacks of man and nature.

Laboratory of Forest Pathology, Bureau of Plant Industry, Madison, Wisconsin.

Wisconsin's Largest Florists

(Continued from page 181)

large supply of green goods in first-class condition indefinitely.

The firm of Holton & Hunkel is composed of these two men. Fred H. Holton is the man who is always on the job—if he ever takes a vacation we don't know when he does it, for he is always there whenever we visit the place.

Herman V. Hunkel, who, by the way, is the largest stockholder in the Hunkel Seed Co., presided over by his brother, Gunther S. Hunkel, is also president of the Milwaukee Florists' Advertising Association. He could qualify for a painless dentist. He extracts one per cent from all Milwaukee florists every year for advertising and makes them like it. They all agree it doesn't hurt a bit.

Mr. Hunkel is on the "still hunt" for stock the world over. He has correspondents in Central America and Brazil looking for orchids, in Japan growing lilies, in Holland growing bulbs, in Germany growing Lilies of the Valley, and in England growing Manetti wild rose stock for grafting. He has taken trips to the south for Coontie, to Alabama for wild Smilax, to North Carolina for Galax and Leucothoe leaves, and to California for heather. He has men in the north woods of Wisconsin, Minnesota and Michigan gathering ferns, Lycopodiums, Bittersweet, and other seasonable woodland greens.

Take them by and large, you will travel in a good many states before you strike an establishment as large or as carefully run as Holton & Hunkel.

If you are an exhibitor of fruit at your county fair insist on a competent judge. Exhibitors of live stock insist on skilled judges. It takes more brains and skill to judge fruit and flowers than to judge cows or swine.

The American Yellow Lotus, or Water Chinquapin

(Continued from page 179)

It is much to be hoped that the citizens of Wisconsin will become better acquainted with this notable member of our native flora, and will visit the bed nearest to their own locality. After seeing the flowers, we believe that they will be interested in trying to transplant them and thus make them more widely disseminated in suitable lakes and rivers, thus also leading to their better preservation in the future.

Standard Grades for Onions

(Continued from page 183)

will usually consist of grading the lot to meet U. S. Grade No. 1 quality requirements and then giving the lot a size designation according to the size classification into which the lot falls. This size designation, as stated, can be Boilers, Medium, Large or U. S. Grade No. 1.

The grades provide that any lot can be marketed field run or with partial grading, by marking such lots "Ungraded."

Growers, dealers and shippers are urged to give these grades a fair trial and to write the Department of Markets stating their opinion of the grades.

Fourth Mid-West Horticultural Exposition

Auditorium, Council Bluffs, Iowa, November 13-18, 1922

Fruits, Flowers, Vegetables, Honey, Food Products and Demonstrations

Under Auspices of

IOWA STATE HORTICULTURAL SOCIETY

Council Bluffs Chamber of Commerce Cooperating

Office of Executive Secretary, State House, Des Moines, Iowa

Annual Convention
American Pomological Society

Council Bluffs, Iowa, November 16-17, 1922

In Connection with

The Mid-West Horticultural Exposition

L. H. Bailey, President
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R. B. Cruickshank, Secretary
Columbus, Ohio

WISCONSIN BEEKEEPING

Official Organ of The State Beekeepers Association

Supplement to WISCONSIN HORTICULTURE, *August 1922*

System in the Apiary

By. A. Swahn, Ellsworth, Wis.

In considering this subject I find myself up against many obstacles. In the first place I find that no definite system or working plan can be suggested that will apply to all apiaries or to all beekeepers. The only thing that can be done is to generalize and make this paper merely suggestive of a system which might be worked out to advantage by some of our present day beekeepers who are a little strong on the old school methods.

There is one point, however, on which we must all agree, and that is that there must be some system or working plan in every apiary in order to make it a success. In this day and age of keen competition the methods employed by our grandfathers are passe, and must be thrown into the discard and some well organized system established instead.

We will lay the corner stone for our suggestive working plan in the month of March. It must now be taken for granted that we had all our brood chambers and hive stands numbered before placing in cellar last fall. This is very important in order to keep an accurate record of every colony, and in order to place them on the old stands in the spring. Theoretically there may be no good reason why they should be placed on the old stands every year, but practically it will be found an advantage to do so. Another thing which goes hand in hand with systematic management is spring and fall protection against cold. In order to make the results of good management profitable there must be enough capital behind the business to provide sufficient and suitable equipment to obtain these results.

In the north it is absolutely necessary to provide an outside cover of some kind sufficiently large to cover the brood chamber and one super. This will provide plenty of room for the queen to lay in as well as room for sufficient stores to carry the bees thru until they can care for themselves. These covers should be made of Insulite or some other good insulating material which will keep out the cold as well as retain the inside heat. This outside cover can be left on until about time to put on supers for the main honey flow. If we are provided with such covers the bees should be put out the latter part of March if it is possible to do so, in order to give them an early flight. We should not wait for a warm day. It is much better to put them out when it is too cold to fly because they will not make such a rush to get out when a warm day does come.

As the colonies are placed on the spring stands all those needing stores should be marked showing approximately the amount each one should be given. Every beekeeper whose yard is free from American foul brood should reserve enough honey in frames to care for his spring feeding. However, it does not matter so much how the bees are fed if they are given enough to tide them over until they can gather food from the field. My pet plan is to place the frames of honey in a super below the brood chamber and let them help themselves. If we expect bees for the honey flow we must provide food in the spring to raise them on. Our honey crop depends mainly upon spring stores and protection against cold. After both of these have been provided let them alone until some warm day when the thermometer shows at least 70 degrees. We should then go through every colony very carefully in order to record the condition of each one in our note book. All those marked O. K. at this examination should be let alone until possibly sometime in May when it might be well to look them over again to see what attention is needed.

Make every examination a very thorough one so as to eliminate any unnecessary work. Do nothing without a very good reason. If everything is normal more harm than good will be done by disturbing them. If anything is wrong make it right at the earliest possible moment. Have a plan and work that plan. Our record book will tell the story of our apiary if kept right. When we are through work at night we should copy our notes into a regular record book showing the exact condition of every colony at each examination. We should do all our planning at home and do our work in the apiary. We should lay out our day's work the evening before according to our record book and then do that work and no more. We should never get into the habit of pottering with every colony. Depend upon the record book and our good judgment.

By following this system it is surprising how much can be done in a short time. It would be entirely out of place for me to suggest any definite plan for making increase, queen rearing, etc., as every beekeeper has his favorite system. I might suggest, however, that we should never consider ourselves too wise to learn. We should read all the bee books and journals, attend as many meetings as possible and keep in close touch with modern methods. We are very apt to find some ideas which are better than our own. In addition to systematic management we should install every labor saving device possible. Our motto should be "Greatest results with least labor." If the honey producing business is our main support we should work out a system and equipment by which we can care for a greater number of colonies with the same overhead expense. This will increase the profits by cutting down the cost of production. System applies not only to the bee yard but to the honey house as well. The extracting unit should be as com-

Wisconsin Beekeeping
H. F. WILSON, Editor

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pact as possible and arranged so as to eliminate every unnecessary manipulation. Neatness should also be a feature. Everything should be kept neat, clean and orderly. All supplies should be so arranged as to be accessible with the least work. The yard should be kept free from tall grass and weeds as this will assist very materially in doing the work with dispatch. Every detail of our work should be studied very carefully and we should always try to improve our working methods.

Some men can handle 200 colonies in less time and with less effort than it takes others to care for 100, owing to better system and working efficiency. Our success depends almost entirely upon the amount of money and good management put behind the business. No business can possibly hope to succeed without sufficient capital to make efficient management possible. We cannot establish an efficient and 100% honey producing system of management without sufficient and suitable supplies to do it with. We cannot put in our time to the best advantage without such an equipment. The bees cannot put in their time to the best advantage without it. Time lost by the bees in rearing brood or in gathering nectar is money lost for the owner. Many so-called poor years are caused directly by lack of supplies or proper management. We should either finance and manage our bees properly or get out and do something else for which we are better fitted. An over developed wishbone does not work well with an under developed backbone. In other words we should not start anything which we have not the backbone to carry out to the limit of its possibilities.

The honey producing business is one consisting mostly of details, all of which go together to either make or break the owner. In order to make a poor year out of a good one simply fail to give your bees the proper attention at the proper time and you will get it. If we must stop to extract in order to get supers for the honey flow the chances are that we will lose enough honey to more than pay for the extra supers we should have had. Remember that in order to produce maximum crops of extracted honey the bees must have a lot of super room. This room is called ripening room because as we all knew the bees do not always deposit the nectar in the place where it will remain. They scatter it around in order to ripen it before placing in its permanent cells. Unless this room is given the crop is likely to suffer. System and good management shows itself again during the extracting period. If sufficient supplies have been available and used at the proper time it will be found that we will have a superior grade of thoroughly hive ripened honey which will always command the top market price. Another advantage is that all the extracting can be done at one time. My plan may not be perfect but I always let my clover and basswood run together and grade them as white. After the clover is all gone and before the fall flowers come on I remove the clover and basswood and protect it in the honey house against robbers, etc. I then leave enough supers to provide ample room for the fall flow. As this flow is likely to consist of a mixture of the darker honeys I never extract it, but save it all for spring feeding. If fall feeding must be done I use nothing but the best cane sugar.

Right at this point bear this fact in mind, that there is no such thing as a bee proof honey house. They will get in, in spite of all you can do. Every year I tell myself that now I have every possible entrance closed and not a single bee will get in. Every year I find that the bees have slipped one over on me again by finding a new entrance. There is only one way to protect the honey from the bees that can be depended upon and that is to protect it in the supers. If the floor is not smooth and tight, place an inside cover or something tight under each super so they cannot get in at the bottom. We should then pile the supers very carefully so as to leave no space between them, and then place a cover or something tight on top of each stack of supers. In this way they can be kept safely. If we are so fortunate as to have American foul brood, guard everything very carefully during extracting. Keep the bees out if possible, but as that cannot easily be done we will have to resort to the next best thing which is to close the escape and keep them in. If the bees cannot be kept away from the honey they must not be allowed to get back home with it. Better by far that a few bees die than to have them spread diseased honey among your healthy colonies. American foul brood can be eliminated if every detail is taken care of. Remember that if just one drop of diseased honey should be carried to a healthy colony it might in a short time spread disease to the whole apiary.

Plenty water should always be available in the extracting house, so that everything can be cleaned thoroughly. A good rule to follow where American foul brood exists is to consider every drop of honey and every frame and hive body and in fact every part of the equipment diseased and to conduct ourselves accordingly.

No matter from what angle we look at the honey producing business we find system and capital staring us in the face. Without either of which we cannot hope to reach the climax of success. Financial success does not depend so much upon having a great number of colonies as it does upon good

management. We will get greater returns on the money invested by having only 25 colonies properly financed and managed than by having 100 with insufficient equipment and poor management. As a rule we can blame ourselves for our poor years, and as a rule we can also blame ourselves for our poor prices.

In conclusion will say that success depends upon systematic management, capital, co-operation and organization.

For Our Beekeepers' Wives

No doubt many of the wives of our beekeepers wax their floors. Why buy floor wax when you can make a good one out of beeswax. The following two formulas were taken from Farmers' Bulletin 1219. The first one as worked out by the U. S. Bureau of Standards and the second by Dr. A. T. Kerr, of Cornell University.

Homemade Floor Wax No. 1

1 pint turpentine.
4 ounces beeswax.
3 ounces aqua ammonia (strength 10 per cent.)
1 pint water.

Mix the beeswax and the turpentine and heat them by placing the vessel in hot water until the wax dissolves. Remove the mixture from the source of heat, add the ammonia and the water, and stir vigorously until the mass becomes creamy.

On varnished or shellacked floors this wax should be applied lightly and any excess wiped off at once, because ammonia dissolves varnish and shellac. Unfinished oak flooring polished with this wax will be darkened somewhat as a result of the chemical action of the ammonia.

Homemade Floor Wax No. 2

¼ pound beeswax.
1 pound paraffin.
¼ pint raw linseed oil.
1¼ pints turpentine.

Melt the beeswax and the paraffin, add the linseed oil and turpentine, and stir the mixture vigorously. Unfinished wood will be darkened somewhat by this wax as a result of the absorption of the linseed oil.

Turpentine is highly inflammable; therefore care must be taken in making these waxes to heat the ingredients only by setting them in hot water and to have no flames in the room.

Grading Stamps

Beekeepers desiring grading stamps should send their orders direct to Mr. B. B. Jones, State Division of Markets, State Capitol, Madison. These stamps are furnished at a cost of 35 cents each and beekeepers will get their orders filled more promptly by including the cost of stamps with their order.

Isle of Wight Disease

This disease is not known to occur in America at the present time but our beekeepers should be on the watch for it and where any unusual symptoms among either adult bees or brood occur, specimens should be sent to the State Apiary Inspector or the Bee Department of the University.

This trouble is due to a tiny mite which crawls into the breathing tubes of the bee where it feeds and develops into countless numbers. They become so thick that the air supply is shut off from the parts connected with these trachae. As a result the bees lose the power of flight and finally die.

The seriousness of this disease may be indicated by the following clipping from the Bee World published at Oxon, England.

"The so-called Isle of Wight disease first became known about 1904 and gradually spread from the south of England to the north of Scotland, although some regions have escaped, and some beekeepers have been very fortunate in having had no attacks. This disease has been quite calamitous and discouraging, in many cases stopping a very fine industry. In one case near Aberdeen a small farmer lost 49 out of 50 hives, owing to Isle of Wight, and that is but a single instance of the destruction wrought by the disease. As is well known, the bee, which is usually a model of efficiency, becomes sluggish, tremulous, falls off the frame, loses the power of regular locomotion, ceases to be able to fly, crawls about in large numbers outside the hive upon the ground, dying off in hundreds when seized with Isle of Wight disease. It is quite certain that an individual bee, once attacked, never recovers. The so-called recovery of stocks or hives is simply due to the replacement by new bees being more rapid than the spread of the disease."

Stamping and Labeling Honey

By C. D. Adams,
Department of Markets.

There has been considerable complaint of the ink used on stamp pads fading when exposed to the light. In many cases we find labels have been stamped with the grading stamp but so badly faded that it requires close inspection to find it.

We took this matter up with the G. B. Volger Manufacturing Company, one of the largest manufacturers of stamp pads, and they admit that it is very hard to make a satisfactory ink that is to be exposed to strong light. They say that their Black Stamping Ink No. 211 will be satisfactory when stamping wood or paper that does not come in direct contact with the honey, but probably could not be used for stamping sections on account of its odor. For sections they recommend their Black Excelsior Stamp Pad and Black Rubber Stamp Ink.

None of the purple ink commonly used seems satisfactory. It is intended to be used in letters and books not continuously exposed to the light.

But why use the rubber stamp at all? The Marketing Department has for some time been urging the printing of the desired information in the body of the label and dozens of our beekeepers have been doing this. It is not even

necessary to have a rubber stamp. Some do not have. They simply wrote to the Department requesting they be given a "Packer's Number." There are no charges for this. They then went to their local printer and asked him to print them an attractive label, giving their name and address and some information about granulated honey. At the top of the label are the words "Wisconsin No. 1 Honey." Let the word "Honey" be the outstanding feature of the label. If any red ink is used, here is the place for it. In some other part of the label, usually at the bottom, is found color ....., net weight....., and Packer's No..... The Packer's number should be printed in. The color and weight may be left blank and filled in with ink.

Of course it is better to have the labels printed by some of the firms making a business of such work. Up to the present time there has been little space left on the lithographed labels for extra printing and when the rubber stamp was used it marred the otherwise attractive label and often was not legible.

This matter has been taken up with some of the leading firms and we hope now to have colored labels designed especially for Wisconsin honey.

As yet we have found only one comb honey producer using a printed label for each section but we believe it a good idea. We must not forget that people buying food pay too little attention to flavor. They are attrcated by that which pleases the eye and what is so unattractive as a leaky, travel-stained, propolis-covered section of honey? On the other hand, few foods are more alluring than clean, uniform, beautiful comb honey, nicely displayed under glass, with an attractive label on each section. The cartons often used are sanitary and the very fact that the producer uses them indicates that the contents are above the average, but they do not catch the eye of the housewife who is probably thinking of buying something else.

So let us use more and better honey labels and thereby help create a demand for one of nature's best foods.

The Art of Preparing Exhibit Honey

From The Bee world.

"Those veterans who do not believe that scientific knowledge should prove a solid foundation for successful practical beekeeping will be shocked to learn that the veteran exhibitor, Mr. J. Pearman, bases his art in preparing exhibit honey on an elementary knowledge of physics. Addressing a meeting of Staffordshire beekeepers at their autumn exhibition on September 24th, he said that 'after selecting and extracting his combs of honey he strained the honey into his ripener through a piece of warm and clean flannel. After standing a few days he drew off about forty or fifty jars, filling the jars completely up to the top. They were then stored in a warm place for about a week, which caused the air to rise to the top. The surface honey, about a couple of teaspoonsful, was then skimmed off, which took away all froth and thin honey. These bottles of honey were drawn upon for the different shows; and to remove granulation, it was warmed up once and once only. Honey warmed up more than once loses flavour, aroma and color.'"

Notes for Wisconsin Horticulture

According to a note copied from the Bee World, September, 1921, and taken by them from "Die Biene und Ihr Zucht" for March, 1921, bees wintered on syrup only, start breeding later in the spring than those wintered partly on honey. Amount of stores resulting from feeding sugar syrup:

By weight 1 pound water to 1 pound sugar equals 1.2 pounds of stores.

By weight 1 pound water to 1½ pounds sugar equals 1.8 pounds of stores.

By weight 1 pound water to 2 pounds sugar equals 2.4 pounds of stores.

Send In News Letters

This office will be glad to receive letters from our members telling of the condition of their bees when removed from the cellar or when unpacked. Give us the per cent of your winter loss, condition of stores, whether or not you have any honey on hand, how long you have been in the bee business, or anything else that you think might be interesting to other members of the state beekeepers' association. We shall be glad to devote a space in this paper for "notes from Beekeepers" if our members will furnish the notes. Do not wait until we write and ask you for certain information, just send us a "newsy" letter once a month or so.

We are finding beekeepers in several sections of the state who report that bees harvested a good crop of alfalfa honey this year for the first time. Let us not be deceived—this does not happen often. The unusual weather conditions made it possible.

The Ideal Honey Strainer

One that NEVER FAILS and needs no washing or changing until close of extracting It is simply made from a yard of ¼ inch mesh tinned wire cloth, the ends lapped two inches. Around this common window screen tinned and ends lapped one inch. Outside this double wire is two thickness of cheese cloth, like a bag fitting rather close, bottom of each same as sides. Set the strainer in storage tank and honey from extractor in this strainer will never clog. At close of season or anytime strainer needs washing, just lay strainer on side in running water with open end so the inside cappings will run out with the water. Often my first extracting has a lot of wintered honey in combs and much of it is candied, which will clog any other form of strainer, but in this it rests on bottom and is easily removed any time.

INDEX.

Wisconsin Horticulture

VOLUMES 1—6

1910—1916

NOTE. In reference Roman figures refer to volumes; dates are given, when paging in volume is not continuous. Names in parenthesis show authorship of articles.

A

B

C

D

Q

R

S

T

INDEX

Wisconsin Horticulture

VOLUMES 7—9

Sept. 16, 1916—Sept. 16, 1919

NOTE. In reference Roman figures refer to volumes; dates are given, when paging in volume is not continuous. Names in parenthesis show authority of articles.

A

B

C

D

E

F

G

P

R

S

T

V

W

INDEX

Wisconsin Horticulture

VOLUMES 10, 11, 12

NOTE. In reference Roman figures refer to volumes; dates are given, when paging in volume is not continuous. Names in parenthesis show authorship of articles.

C

D

E

F

G

H

I

J

K

L

INDEX

Wisconsin Horticulture

VOLUMES 13, 14, 15

NOTE. In reference Roman figures refer to volumes. Names in parenthesis show authorship of articles. Bee S. denotes the Bee Supplement which is paged separately.

S

T

U

V

W