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WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

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Volume IV

Madison, Wisconsin, September, 1913

Number 1

September in the Garden

W. A. TOOLE.

September is here—in the country the month of the royal colors of purple and gold. And a right royal month it is, too, with the purple of the wild asters and the ripening grapes and the golden gleam of the sunflowers and golden rod. And the last of the month the hills around Garry-nee-Dule are ablaze with the dying leaves of the maple and oak and all the other trees of the forests. It is a beautiful month suggestive of the fullness of life and of good things accomplished, and yet it kind of tugs at one's heart some way as he thinks of the dreams that can never come true and the good things that he can now never do. The beautiful garden we were going to have has been a comfort all through the summer with its wealth of things good to eat and look at and smell of, but some way the wind and weeds and weather and pressing cares of life have kept it from being the garden we dreamed of last winter as we looked through the entrancing pages of the seed catalogs. I read the other day that a distinguished man asked what third book he would choose besides his Bible and Shakespeare if he knew he was to be isolated on an island. His answer was, "a good seed catalog." I think that was a wise choice and I believe if I were the person cast away the seed catalog would soonest show the effects of wear.

While it is true that September may bring some regrets there are still many things to do in the garden that are full of interest. If there are old peony clumps to transplant or divide up, September is the best month to do it, and if new kinds of peonies

the center petals; Marie Lemine, ivory white blooming very late; Edulis Superba, an old variety that blossoms quite early and is of a beautiful pink color; Eugenie Verdier is a strong growing, beautiful pink; Albert Crousse is a late blooming kind



A Neat Farm House in Wisconsin

are to be bought there is no time quite so good as September, though they may be successfully planted in October or early in the spring. I give a list of a few beautiful varieties of peonies that as yet are growing only in my dream garden, but which will be in the real garden some day: Festiva Maxima, the finest of the whites, with carmine spots on the edges of

with ball shaped flowers of a beautiful sea-shell pink; Monsieur Krelage blooms late and is a deep currant red color; Grandiflora is another beautiful pink, very late to bloom. There are many more beautiful varieties but the above will do for a start.

It is interesting to save one's own seeds of flowers out of the garden

and the money saved may well be spent in trying out new varieties. Many different kinds will need to be picked during September. Those that must be picked with green pods or stems may easiest be dried out by placing a handful or two in little bags made of cheese cloth. These bags may be hung up in the sun where the seed will quickly dry without spilling out. Among the kinds from which seed may easily be saved are pansies, asters, phlox, drummondii, cosmos, zinnias, larkspur, coreopsis, and many others.

It is not a bit too early to plan for the bulb garden and order the bulbs for next spring's flowers. The earlier tulips and other bulbs are planted after they reach this country the better it will be. The early planted bulbs are able to make a strong growth of roots before winter sets in and better blooms will result next spring. The bed for the bulbs should have just as thorough preparation as any of the spring planted flowers. See that the surface is slightly raised so that water will not settle or lay over the bulbs during the winter or early spring. If the bulbs are to be forced indoors for winter flowers they should be planted in pots or boxes as soon as received. Keep in a cool, dark place until a strong root growth is started. Keep the dirt well moistened but not wet enough to rot the bulbs.

The late celery will need a good deal of attention during September, to see that it bleaches properly. Last year Mr. Sullivan of Alma Center told me how he bleaches his celery, which is so fine in quality. First the celery is "handled" in the regular way. That is, the leaves are drawn together and dirt is packed around them to hold them upright and start the bleaching. They grow lots of clover seed around Alma Center and have quantities of the clover chaff to spare, so as the celery grows and again needs attention it is banked up with clover chaff instead of dirt, and this is followed with more chaff as the celery needs it. This method certainly produces excellent quality celery with Mr. Sullivan and it seems would be easier than banking with dirt. Mr. Sullivan says that straw

will do as well as the clover, or even old weeds.

I have only touched on the many things there are to do in the garden during September. There are so many things to keep us busy there is very little time for regrets over past disappointments.

Fire Blight

Seasonable conditions in Wisconsin this year seem to have been particularly favorable to the development and spread of fire blight. At present the ends of many young twigs may be seen to be affected.

The disease gains its name from the peculiar scorched appearance which it causes in the twig. The leaves turn a reddish brown in color, while the stem withers and turns dark. Usually there is a distinct line of demarkation where the withered diseased stem joins the healthy tissue. It has long been known the the cause of the disease is a bacterial infection. These tiny organisms gain entrance to the twigs usually through some wound or tiny prick in the soft growing tip. They multiply with exceeding rapidity, and if unrestrained can soon damage a tree badly. The disease grows steadily downward and in time may reach the main branch or trunk where a canker is produced which may seriously threaten the life of the tree. As noted above, the bacteria enter the trees through wounds or tiny punctures in the twigs, and also by way of pruning wounds and other injuries. In the spring the tender cells within the blossoms may also be invaded. These places cannot be covered with a protecting layer of spray which will prevent the entrance of the disease. Also after infection a spray is useless for the colony increases and grows on within the wood, never needing to come to the surface. There is, therefore, but one remedy to prevent the spread of the disease, that of cutting out and destroying the infected parts. Pruning shears and pole pruners are the most convenient tools. The cut must be made at least six inches below the point at which the withered and green tissues join, after which the fallen parts must be gathered up and burned to prevent the bacteria being carried

about even after the separation of the twig from the tree. When removing blighted twigs the shears should be disinfected often with some strong disinfectant such as a saturated solution of corrosive sublimate or bichloride of mercury. The tool should be dipped into this material at least after every two or three cuts in order that if the shears become contaminated from touching the twigs the bacteria will be destroyed instead of being carried on to each new cut.

Prompt removal of the infected parts after this manner will prevent the formation of the body cankers in the limbs, where the disease lives over winter.

G. F. P.

A Labor Saving Machine

The gardening papers have lately been advertising a machine which will tie bunches of vegetables. Operated by foot or hand power, it will make neat, tight bundles of all kinds of vegetables as fast as they can be fed to it. In the manufacturer's terms it will "tie anything which can be held in the hands" and moreover the tension can be regulated so that the most tender sorts will not be harmed. Its only limitation apparently is that it will not tie the large dozen bunches of celery. The machine is made in Michigan and has been used for trial by the market gardeners about Toledo, Ohio. According to the testimony of those who have used it, it does the work of at least three persons, changing one of the gardeners' most irksome tasks into a pleasure.

The manufacturers claim that they are receiving orders faster than they can fill them. From all reports the machine is filling a long felt want, and gardeners who have much bunching to do either of greenhouse or outdoor vegetables will do well to investigate.

G. F. P.

Pull the late tomato vines having green tomatoes on them before the first frosts and hang in a well-ventilated cellar. They will continue to ripen until late in the fall. We also pick the green tomatoes and place them inside a cellar window where they get the sunlight. They ripen nicely.

Home and Horticulture

FLORA RICH, BARABOO, WIS.

We are again approaching the time when the culmination of the spring and summer seasons' efforts affords a realization of the value of horticulture in relation to the home. With the approach of the winter season, when the frost and snow confine our interests more closely to the home and its surroundings we realize how much of the satisfaction and comfort in it is derived directly from the garden and orchard.

The average housewife views with pride the winter supplies of fruit and vegetables, and it is needless to add they afford no less satisfaction to the "man of the house," for with the unity of endeavor comes the relative concord of results. They have planned and worked together throughout the season, and the winter's supply is no less the product of the one than the other.

The cellar, attic, root-cellar or pit in the garden are all available for storing the various products of the garden and orchard.

Fruit is about the best medicine that nature has furnished to man, and it and its juices keep the blood in a healthy condition when the supply of fresh vegetables is limited and heavy meats and desserts constitute the chief elements of diet.

The various fruits should not be considered as luxuries, but a necessary addition to the dietary that will mean better health for the members of the family.

The keeping of the early fruits, currants, strawberries and raspberries depends principally upon the cook's skill, for they have to be canned and made into preserves and jellies. This work must usually be done in small quantities, for the average home garden does not provide enough of each variety at one day's gathering to complete the winter supply. If a large amount is waited for, the fruit often becomes overripe and unfit for use, as fermentation or mold will set in. After the fruit has been preserved by the method best suited to its variety and condition, the jars should be labeled and stored in a cool, dry place.

Strawberries, raspberries, blackberries, gooseberries, huckleberries and

currants may be preserved in many ways, both alone and in combination, and will afford enough variety to satisfy every taste.

When the warm August sun ripens and mellowes the pears, peaches and plums, and fills the purple grapes with sweetness, the fruit shelves are filled to overflowing with delicacies that promise healthful and luxurious living during the ensuing months.

The early fresh vegetables are always the most enjoyed, but the sur-

selected, gathered and stored with the greatest care that not the slightest bruise or scratch starts a condition which will develop rot.

The root crops and cabbage, cauliflower and celery are all stored according to their individual requirements; the herbs are dried, made into vinegars, essences, or transplanted to window boxes which are a source of delight to both the eye and palate during the long winter that is to follow.

It has been said that the best life and the best garden are made up of a wise combination of beauty and utility, a fair share of each, and no home atmosphere is complete without the influence derived from an environment of flowers. There are few people who do not recognize some of the possibilities of a flower garden during the spring and summer months, but many apparently do not realize their value in the home during the cold winter season, when they are most truly appreciated. I am thankful to say I have never known the time when my home has been entirely without flowers or growing plants. Often crowded as we have been, a large family in a small farm house, there has always been some spot for mother's favorite plants.



Tall cone flower. Black eyed susan's sister

plus, prepared for winter consumption continue this enjoyment throughout the year.

Like fruit, vegetables should not be allowed to remain long after maturing, without storing or using them in some way, as they deteriorate and become woody and tough.

Among the earlier vegetables are asparagus, which may be canned, peas, either canned or dried, and string beans, which are prepared as for the table and canned or packed in layers with salt in a stone crock. Drying is the best process by which to keep lima beans and shell beans, and dried sweet corn will provide variety with that which is canned.

August and September are the principal months for pickling, and innumerable methods may be followed with many of the fruits and vegetables, individually and in combinations.

The winter varieties of apples are

Apples

Really fine apples have a fair trade and they rule steady. Such apples find sale for all coming.

This condition at the same time also prevails. All ordinary to common, small, gnarly, spotted, overripe or heated stock is dull and weak. It must be sold. Some forcing has to be done. That means that buyers have the market in their favor.

When apples are referred to as choice, it means choice and well put up, and not small or common or soft or poorly packed.

Bushel baskets are dull and slow unless stock is fine. The time for small packages is about over.

Barrel apples should be ventilated. It insures better condition. Ventilating can be done by cutting openings in top, bottom and sides of barrels. It can be more neatly done by using a two-inch auger. — *Chicago Daily Trade Bulletin*, Aug. 25, 1913.

Cut Flowers for the Home

ANNA A. IHRIG, OSHKOSH, WIS.

Perhaps not all will agree that cut flowers are a necessity in the home, but there are few who will refuse to concede that an abundance of cut flowers is a valuable adjunct to the home. The farm home has advantages for the production of cut-flowers that are unexcelled. The town or village lot offers many possibilities and even the window box is not to be dispised for the production of cut-flowers.

The amount of real pleasure and satisfaction to be obtained by having an abundance of flowers, flowers for



Wild calla. Common along Lake Superior especially at Port Wing

the sick and the well, the weak and the strong, the discouraged and the hopeful, the sad and the joyous, the babies, the sturdy lads and lassies, the young men and women, the fathers and mothers, the grandparents, the uncles and aunts and city friends or country neighbors. The amount of satisfaction in having these flowers is all out of proportion to the cost of producing them. Flowers for the living-room, the dining room and guest chamber, the birthdays, the family reunions and anniversaries, the cemetery, the church and Sunday school, the school and the Grange, for weddings and funerals and christening parties, and I expect when women vote there will be flowers at town meeting.

Many think the spring time is the only time you should bestir yourself to provide flowers for cutting. This is not so; for while much must be

done in the spring there is no season of the year that does not present opportunities for work along this line.

Now is the time to consider and act if you wish to cut such flowers as snowdrops, hyacinths, tulips, daffodils and crocus in the spring. Many of our choicest plants prefer to be set in the fall and respond more readily if your convenience corresponds to their preference. Among these are the varieties of iris, lilies, peonies, bleeding-heart and other herbaceous plants. A cold frame properly managed through the fall and winter is an advantage. While the coldest, stormiest days of January and February should be devoted to the study of the best seed catalogs. These contain much valuable information which should be diluted with a little common sense and some knowledge of plant life and soils. In March the hot-bed claims attention and April and May are the busy times when tree and shrub and plant are set and seed sown in the open ground. Plant freely, consulting your own likes and dislikes. Some of the finest flowers for cutting are easily grown from seed, so do not neglect the annuals. And when your flowers bloom, cut them, or see that some one cuts them. You will no doubt find volunteers for this part of the work.

Make it your especial duty to cut the newest and best blooms for the family table, as some member of your family may not have leisure to seek them out, but will appreciate their appearance at meal time.

Propagating Nut Trees

In getting a good stand of seedlings from nuts of the Walnut, Butternut, Oak, Chestnut and Hazelnut, two important factors have to be considered.

First, the nuts should not be allowed to become dry, but should be placed in moist soil as soon as gathered from the tree.

Walnuts and Butternuts will under ordinary conditions give you a good stand of trees if the nuts are sown in a trench in the garden, covering with about three or four inches of soil as soon as gathered.

For the Chestnut and Acorns, we stratify them in boxes of leaf mould

or sand, which should be covered to protect them from severe weather. We prefer to stack the boxes up on the north side of a building and cover with boards. Here they are allowed to stay throughout the early winter or until we have had severe freezing weather; then the more tender sorts of Chestnuts and Hazelnuts are removed to the cellar.

Here they should be allowed to remain until real warm weather, for if set out before the ground is warm the hickory nut, acorns and chestnut will rot instead of germinate.

Too much moisture and cold weather in the spring is the cause of most failures in getting nuts to grow. Keep the soil in boxes moist, but not wet, examine your boxes occasionally to be sure that the mice and rats are not carrying off your nuts and in April when you find the nuts are beginning to burst from germination, plant and cover with a couple of inches of soil and mulch with sawdust or rotten manure and success should repay your efforts. W. J. MOYLE.

Harvesting Carrots

A Vermont grower writing in the *American Agriculturist* describes his method of harvesting carrots as follows:

"Late in October I mow the tops off close with the scythe, rake off, then with the hoe clip close and rake off again. Then take a one-horse plow and plow two furrows to the row. The last time run very close to the carrots. I then take a garden rake and push them into the furrow. They are then ready to pick up and bag. This is the fastest way to harvest I know of. I have several times, with a man to help me, harvested and put into the cellar or storehouse over 100 bushels in eight hours."—*The Market Growers' Journal*.

Geranium plants that are bedded out should be potted up before frost comes if they are wanted for fall and winter blooming in the house.

To protect the delicate heads of cauliflower from the sun and keep them tender and white, gather the outer leaves over the heads and fasten securely.

The Summer Meet

Sturgeon Bay is all to the good, always was and always will be. The attendance was very good, almost exactly one hundred from outside points in addition to those from Door County points.

The program, the discussions and interest in all the "doings" were far ahead of any previous summer meeting. The exhibits in all departments were very good, especially the fruits. The number of exhibitors, thirty-six, was exceptionally large.

THE PROGRAM.

Mayor Wolters' address was ideal, brief, quite brief but pointed and sincere. We were welcome to Sturgeon Bay, we knew that to a certainty when he had finished.

M. S. Kellogg says the everbearing strawberries are here to stay, a novelty at first, but now firmly established. May not ever be extensively planted commercially, but a valuable addition to any home garden.

Superb, Meteor, Francis and Progressive are the best kinds.

N. A. Rasmussen still insists that he made one thousand dollars from an acre of strawberries this year by a liberal use of water. Says strawberries need water every day during fruiting season; growers give extra care in winter protection, cultivation, weeding, etc., and then lose the whole season's work in a few hot, dry days at fruiting season; uses a gasoline engine, 2½-horse power, a 40-barrel tank, small pipe across end of rows, hose and common lawn sprinklers. Says cold water is just as good as warm water. Cost of pump, pipe and all accessories \$300, and waters two acres. Two gallons gasoline runs pump two hours. Strawberries are about 97 per cent water.

F. Kern apologized for his paper, but it was time wasted. The paper was most excellent in all particulars, showing a deep insight into the business of marketing fruit. It was too big a subject and paper for the summer meeting.

Dr. Staehle of Manitowoc was in our midst and made his bow before the Society. Beginning with an interesting story of the Delicious apple, the Doctor gave also a talk on

bacteria, fungi, immunity and susceptibility to disease and ended with a very lucid discussion of fire blight. Now that, we submit, is doing pretty well for the first time. Quite a number of people have decided to get better acquainted with this interesting amateur horticulturist.

Prof. Elsom, of Madison, is physical director at the University, a popular lecturer on topics in his field and besides is an amateur photographer of high rank. His talk on cameras and the selection of the camera while intended for beginners was of interest to many who have been kodak fiends for years.

The plate camera is best either for pastime or serious work; the smaller film cameras are fairly good, but none give as good results as plates. The camera trust received an upper-cut and several below the belt.

Just here is a good time to say that Dr. Elsom's evening lecture on trees set almost everybody guessing. First at the beautiful slides and second at his tremendous fund of information about trees. Made some of us who pretend to know about trees think twice before venturing an answer to his questions.

Mrs. Fratt of Burlington pleaded for better homes and then, best of all, told clearly how to have them. Planted shade trees and shrubs in the front yard, then fruit bushes and trees in the back yard. 'Kept a book account and made it pay, really and honestly sold enough fruit to pay for the whole improvement. This was in a village, but there is no reason why a farmer's wife or daughter cannot do the same thing, just charge Dad with the garden truck. Mrs. Fratt didn't do all the digging, etc., but hired a man and team.

Prof. Sanders couldn't come, but Mr. Burrill was on hand with slides and good information about controlling grubs. Plowing will do the trick, but not simply one plowing. The land must be frequently plowed, at least four times spring and fall. This seems to disturb the grubs and is said to be way ahead of the grasshopper theory advanced in the August issue.

Mr. Vaughn knows about pea blight, is on the most intimate terms with this pest and knows its tricks.

Pea straw is dangerous and should not be spread on land intended for peas. There is danger even if the crop producing the straw was *apparently* free from the disease.

Disinfecting the seed is not a dependable method of control.

THURSDAY.

The Sturgeon Bay people are royal entertainers. We were all tired but exceedingly happy Thursday night. Forty-five miles by automobile around the county convinced even the doubters that there are cherry trees at Sturgeon Bay.

The afternoon trip through the canal on the steamer Ben Ami to the life saving station and back to Sherwood Point was delightful.

We all knew it was make-believe, but more than one of us admitted to a creepy feeling when Capt. Reynolds of the Life Saving Station crew shot the life-line and sent out the "raft" to the ship in distress. We could see just as plain as-day that the breakwater was no sinking ship, but it might have been, you know.

Down at the Cove we had supper and some speech making, and that ended the second day.

Reasons for High Cost of Living

We throw away ashes and buy soap. We raise dogs and buy hogs. We grow weeds and buy vegetables, and catch ten cent fish with a four dollar rod.

We build school houses and send our children away to school to be educated, so that the boys will be able to hunt ten cent rabbits with a forty dollar gun and a twenty dollar dog; and that the girls may be sufficiently accomplished to do "fancy work" and play the piano, while mother washes the dishes.

Yes, these are hard times.

MRS. L. H. PALMER.

Baraboo, Wis.

Small green tomatoes that are not likely to mature before frost can often be used for pickling.

This is the month to plant tulips and other Holland bulbs for spring planting. Look for article by Potter which tells how.

Flowering Bulbs for Amateurs

GEO. F. POTTER.

The culture of winter flowering bulbs is not beyond the skill of any amateur who is willing to exercise conscientious care and some attention to detail. Narcissi and daffodils, Dutch and Roman hyacinths, jonquils and crocus can be grown at home, furnishing bloom from Christmas until March, not so well of course as in the florist's establishment, but well enough to repay amply the trouble of taking care of them. Perhaps even an Easter lily could be added to the list, although no novice could hope to do that which taxes the florist's skill,—to have it in full bloom on Easter day. All of these bulbs may be purchased from the local florist, or selected more deliberately from the lists of varieties in a catalog which a postal will bring from any of the large seed firms. Prices suit all pocketbooks, for the rare sorts can be bought at almost any figure, while deservedly popular varieties can be had for moderate sums. Yet let no beginner spend his money in the belief that the bulbs will blossom year after year. In this method of culture they flower once for all.

Of the whole list the narcissi and daffodils are most beautiful according to my humble tastes. The *Paper White* narcissus, a sort which bears a cluster of small white flowers on each stem, is earliest. Following it comes *Golden Spur*, a single large yellow trumpet sort, with *Emperor*, a later flowering variety of the same type, truly the one of which to order most of all. For double daffodils, *Von Seion* is a tried and trusty sort, but most buyers think double flowers hardly as beautiful as the single ones. *Narcissus Poeticus ornatus* for late season flowering adds variety and completes a succession.

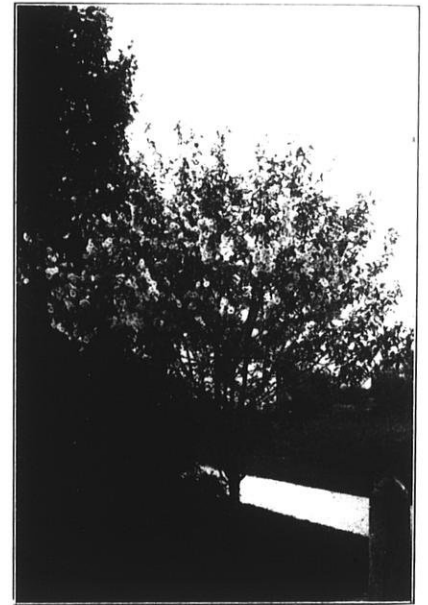
In buying hyacinths any of the large named sorts are good. Mixed bulbs are undesirable, for in growing specimen pots as parlor plants every bulb in each pot should be of the same variety. If not they may flower at different times. The little French Roman sorts afford early flowers, while the Dutch hyacinths give more compact spikes later in the season. Add to these more sparing purchases

of early tulips and jonquils, with perhaps a lily of the *Lilium Harissi* type, not forgetting comparatively larger numbers of little crocus and *Freesia refracta alba*, the most delicately perfumed flower of all, and we have a collection which will furnish color, perfume and interest for the winter. When buying it should be remembered that practically all these bulbs are imported, and must be ordered early. August is best and when September comes there is need of haste.

The plants may be grown in pans of four to six inches in depth generously provided with holes in the bottom for drainage, or in pots of a size at least five inches in diameter at the top. For the soil a light, fibrous loam is best. This can be made by constructing a "compost pile" in which layers of thick inverted sod are alternated with three inches of rotted stable manure, with an occasional layer of leaf mold if available. This must rot for several months. The resulting compost is very light and rich, and in potting can be mixed with perhaps equal parts of good garden loam, after which a coarse gritty sand is added to the proportion of one-fourth of the total volume. If there is no time to complete this tedious process, such a compost can sometimes be purchased from a florist, or if this too is impractical, a rooty soil scraped from the underside of a thick turf is good when generous amounts of sand are added. Heavy soils must be avoided.

Before planting the bulbs, old pots should be cleaned and new pots soaked in water. Several bits of broken pottery, a little coarse cinders or pebbles, and the coarse bits of sod and soil are thrown in the bottom to make good drainage. Then fine potting soil is added up to the level at which the bottom of each bulb should rest. Next the bulbs are placed in position, the remaining soil added and pressed about each one with the thumb and fingers. Care must be exercised not to push the bulbs down, or to pack the soil beneath them, for if this occurs they will be pushed upward out of the soil when the roots start. The surface of the soil when all is completed should be about an inch below the top of the pot, the remain-

ing space being left for watering. All the bulbs named with the exception of the crocus and freesia, and the lily if included, are planted so that the top or neck just peeps through the soil. They can be set quite closely, three or five in a pot giving fine effects. If the narcissi are small, a five inches pot will accommodate three, but if large a six inch size is needed, and for hyacinths the larger receptacle is always necessary. The crocus bulbs and freesias



Bechtels double flower crab

may be planted thickly at a depth of two or three inches either in pans or pots. If a lily is grown the bulb should be just about covered in a pot half full of soil. The remainder of the soil is added later after the stem has grown up. When the bulbs are potted they are given a thorough watering, and are ready for the rooting process.

The most essential point in producing winter flowers is to make the bulbs grow roots before top growth begins. If this is not done the flowers will fail in the midst of their growth, resulting in nothing but disappointment. For this purpose the pots are placed in a cool dark place for a period of six weeks or more. A trench in a sheltered part of the garden may be dug to a depth of about one foot, a layer of three inches of ashes dropped in the bottom, and the pots placed on this, filling in about

them with soil. A little litter is placed on the tops, and the earth heaped up above so that the trench is more than full, rather than being a hollow into which water will settle. When the ground begins to freeze, a covering of litter is added to prevent fluctuations in temperature. Another way is to place the pots on the floor of a cold, dark cellar or pit. Here they must be watched and watered with judicious and painstaking care. The first method is the best excepting for the freesias, which will flower with very little rooting previous to bringing into light and warmth, and the lily which is best tended in a cold cellar. The two methods may be combined by using an outdoor trench and finishing off in a cellar where the bulbs can be watched for signs of growth. In placing in the trench they should be arranged so that the different kinds can be dug up at different times. The Paper White narcissus are rooted in about six weeks, Roman hyacinths in about eight weeks, while the Dutch hyacinths and narcissus poeticus can be left until along into January. The others are intermediate. The final test of the readiness of the plants for forcing is examination. Holding the pot in the right hand, the left is placed over the top of the soil, the whole inverted, and the edge of the pot tapped on some solid object. The soil will come out as a solid ball which should be well covered with white roots if the bulbs are ready for forcing. If only a few roots are showing, the pot should best be left in the cellar to root for a time. After examination the pot must be slipped over the soil before it is again turned right side up, and when the soil is in place again it must be pressed down firmly.

With the bulbs well rotted and top growth just beginning, success is almost assured. The only precaution is not to place the bulbs in a very warm place immediately after bringing them from the cold pit. They must be put in as light a place as possible, however, to avoid spindling growth. Most of the bulbs flower in from six to eight weeks time after being brought to light. Thus by bringing them up at different times, together with choosing both early and

late season sorts, a perfect succession can be obtained.

As mentioned before, the bulbs are practically worthless after flowering. However, some authorities say that if allowed to grow on in a cool place for six or eight weeks, then dried off gradually by tipping the pot on its side for another month, they may be gathered and stored in a cool dry place until the following July. They are then planted in the field for a couple of seasons to recuperate. They can never blossom one winter after another and are usually thrown away unless very rare and expensive.

Breeding Better Garden Seeds

GEO. F. POTTER.

Too many market gardeners and growers of vegetables do not appreciate the fact that it takes more than high germinating power to make good seed. Too often the slogan is "Seeds that grow." We ought to want seeds which grow *into best plants* or in other words seeds which have been scientifically bred for quality and high yielding power. Such seeds are valuable for they may increase yields and profits as much as many dollars worth of cultivation or fertilization. In some cases intelligent trial of strains of seed now on the market may reveal a source of really good seed which may be purchased at prices probably higher than those ordinarily paid. In other cases the increased price may be paid in time used at this season of the year in selecting the best parent plants from which seed can be grown at home.

In an article upon this subject in the *Market Growers' Journal*, Mr. J. V. Sheah tells of having successfully grown strains of Grand Rapids lettuce and Davis Perfect cucumber which for his conditions and market were superior to any produced from commercial seed.

The secret of success or failure lies in the method of selection. The best plants must be picked out and seed from each saved separately. Each batch of seed coming from one plant must be planted in a separate row or plot, and if necessary some means made use of to prevent cross pollination. Again, the seed must be saved

separately from each desirable plant and sown again in the same manner. This is the process of line breeding. It must be continued until it is found that *all* of the plants from one parent plant are of the desired type. The reason for proceeding in this way is that some plants will transmit their good qualities to *all* of their progeny, while other plants which outwardly appear just as good or better have progeny part of which are like the parent and part are not. Thus it is only by planting the seed from each plant separately that we can eliminate those which appear good but do not breed true. The seed for the improved strain must be saved *only* from those lines in which *all* the offspring resemble the parent in the desired character.

Too often the grower selects seed from a number of his best plants and mixes it all together. By this method it is only possible at best to gradually eliminate those strains which appear good, but do not breed true, and it is not certain even to do this.

In improving any variety a definite ideal must be kept in mind and certain definite characters for, if we desire to change the shape of the vegetable we must select each season for the same shape. It would be useless of course to select one season for one shape and the next season for a different one. Hence it is a good plan to write down the points desired in order that the standard may not change from year to year. Where two or more different characters are sought it may not always be possible to get them both. Sometimes there is a "correlation," as the plant breeder expresses it, and two apparently distinct characters will be found always to be inherited together, or universally where one character is found a certain other character never will be present. Scientists are only beginning the study of this field and comparatively little is known about it. This much is certain, however, that success will in a large measure depend on the ability of the grower to pick out desirable characters and adhere to the standard he has set one season after another.

Please mention WISCONSIN HORTICULTURE to your neighbor.

Wisconsin Horticulture

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

Meet me at the State Fair.

Pick the apples as soon as ripe and
store in a cool place.

Baraboo will furnish fifteen thousand
barrels of apples this year.

Handsome souvenir badges will be
distributed to members at the State
Fair. Call for one at the Society
booth, Horticultural Building.

Wisconsin Lubsk Queen apples selling
for \$8.00 per barrel, wholesale, in
Chicago, makes the Pacific Coast
boomers go some.

Good apples always sell well. Please
notice clipping from *Daily Trade Bulletin*
in another column.

Subscribers may or may not get this
paper before the middle of September.
The delay is due to the superabundance
of law made by the last legislature.

How many times has your wife
stopped her work to run to town on
some errand for you this summer?
Show your appreciation and sense of
justice by helping her clean house
now.

Last January at the winter meeting
of the Wisconsin State Horticultural
Society, some of the early maturing
radishes were exhibited that had been
kept perfectly since fall packed in sand.

Sow some radish seed right away
if you have not done so. They will
probably be ready when the frosty
weather comes and they will be as
much appreciated as early in the
spring.

Keeping Tomatoes Till Christmas

In Wisconsin we always find more
or less of green fruit on our tomato
vines when the first fall frosts arrive.
In an article in a recent number of
the *Market Growers' Journal*, Prof.
Massey tells how those fruits which
are of good size may be picked and
preserved for a considerable length
of time with little or no difficulty.
Each tomato is wrapped in paper and
they are then packed in strawberry
crates, which are placed in a cool,
dark room where the temperature is
never below freezing. As they are
wanted a few at a time are brought
out into a light, warm room to color
up. Thus slicing tomatoes in good
condition may be had for family use
until December.

The fruits would not keep well in
a cold damp cellar. In the cellar
which Prof. Massey uses there is a
hot water boiler which keeps the air
comparatively warm and dry. Failure
will result also if very immature
green fruits are used.

While this plan cannot be used
commercially, amateur and home gar-

deners may find it a means of extending
the benefits of the home garden into
the winter. G. F. P.

The Germ Covered Bucket

From the *New York Evening Sun*.

Most farmhouses are unsanitary.
In them the farmers and their families
experience frequent illness and
early death. * * * If I am ever
compelled to drink from a farm well
I do it with nose and eyes closed in
fear and trembling.—Dr. J. N. Hurty,
Indiana Health Commissioner at
Hygienic Congress.

How they sadden this heart, the scenes of
my childhood,

When dread recollection presents them
to view—

Malarious meadows and dangerous wild-
wood,

The place where the mushrooms, so poi-
sonous, grew;

The pond was a cesspool; the stable stood
by it,

Draining into the stream where the
cataract fell;

The poultry yard sat with the dairy house
nigh it;

And that terrible bucket that hung in
the well!

The fungus grown bucket, the germ laden
bucket,

The moss covered bucket that hung in
the well.

That desperate bucket I thought was a
treasure;

I hadn't the intellect then to feel fear,
I drank of its microbes with exquisite
pleasure,

I enjoyed it as much as I now enjoy
beer;

How ardent I seized it, with hands that
were glowing,

And quick to the frog haunted bottom it
fell,

And soon with the seeds of disease over-
flowing,

And dripping with typhoid, it rose from
the well—

That death laden bucket, disease breeding
bucket,

The germ covered bucket, arose from
the well!

Poor dad was addicted to quinine and
bitters,

Poor mother was shaken with fever and
chill—

And we buried 'em both, the innocent
critters,

In the populous graveyard that bloomed
on the hill—

The graveyard that gobbled the whole
generation,

That drained toward the house when the
summer rain fell—

Sometimes I dream of my father's planta-
tion

And awake with a scream when I think
of that well!

And that terrible bucket, that death deal-
ing bucket,

That germ covered bucket that hung in
the well.

Use of a Cover Crop

JAMES H. MURPHY.

In Wisconsin fruit growing has now come to that stage of development where horticulturists endeavor to follow the most progressive and productive methods. Especially is this true of the apple and cherry producers, who at the present time almost without exception follow the "tillage system" in caring for their orchards. They carefully preserve the moisture in the soil, and incidentally kill all weeds by frequent cultivation during the spring and a large part of the summer. However, on a recent trip through the state, I noticed that in many orchards of men new in the business, after this period of cultivation the land was left to take care of itself, and consequently late in the fall was covered with a more or less dense growth of long, coarse, straggly weeds, of no value and serving only as a menace to next year's cultivation.

For the present time and for some time past this practice has been frequently condemned and instead of it, it has been recommended by the best fruit growers in the state, that a cover crop should be sown as soon as cultivation for the season ceases. Men opposed to this idea have contended that it is an expensive waste to buy good seed, sow it on good land, allow it to make a fairly dense growth, and then the frost coming on, allow it to die, and rot in the orchard. Men, who have tried it, however, recognize that the benefit of a good cover crop far exceeds its cost, and unhesitatingly recommend it. There are several substantial reasons for using a cover crop after the period of tillage. As the fruit crop nears the ripening stage, it takes less fertility from the soil, but due to weathering action, the various elements continue to become available for plant growth, and unless otherwise utilized they will be used for the growth of new wood. This growth may continue late in the season, and the tree will enter the winter with considerable immature wood which is easily affected by a cold winter and leads to winter killing. A cover crop would take up the fertilizing elements as fast as they became available, and thus retard the

growth of new wood and promote early maturity in the fall.

The proper kind of cover crop will have a long dense growth sufficient to hold a considerable amount of snow from blowing off of the ground and thus also prevent winter killing. By its growth the crop will be of great advantage, especially during a wet fall, because it will take up and preserve for use the next year, plant food which would otherwise leach away and be lost. Further than this, the cover crop would physically improve the texture of the soil. After being left on the ground all winter, and being subjected to the spring rains, it would rot sufficiently, so that it could easily be plowed under, and would thus add vegetable matter to the soil, improve its texture, make it of a more friable nature and increase the amount of available plant food for the trees the next year.

A judicious selection of cover crops will result not only in increasing the supply of available plant food in the soil, but will actually increase the plant food supply by increasing the nitrogen content. This can be done by the use of legumes as cover crops.

Some of our orchardists may raise the contention that a weed cover crop will fulfill all these specifications. If we could determine the weeds which would grow in our orchards and their abundance, this might be true. But this we cannot do and consequently we have harsh, woody, straggly growths, scant in some places, dense in others, hard to plow under, slow to rot and a menace to cultivation the following year, besides increasing the number of weeds both we and our neighbors have to combat with in the future. Some one says that the weeds do not develop enough during the fall to go to seed, and so will not increase. If this be true, in a few years we should have no weeds to form a cover crop.

With these considerations before our minds let us sow some good cover crop, such as oats, peas, clover, rye, wheat, rutabagas or some other equally efficient, valuable and comparatively cheap cereal, grass or root. I have not the time to go into the merits of these various plants as cover crops, nor of the time and

method of planting the two or more crops to use in combination as a cover, or the rotation to use, but anybody interested in this may get far better and more complete information than I can give from Bulletin No. 207 of the Wisconsin Experiment Station issued some time ago by Prof. J. G. Moore. It is a thoroughly practical, concise, and ready reference for the orchardist, especially the beginner, on the management of a bearing orchard.

Jelly Making

It is irritating to have prominent and well known publications like the *Delinicator* and *Ladies Home Journal* reiterate year after year the old fashioned methods of jelly making when new and better ones are published under the authority of such well respected institutions as the University of Illinois. For several years beginning in 1908, Dr. N. E. Goldthwaite, a woman, conducted a series of experiments in jelly making, publishing her results in a bulletin issued by the University of Illinois on "The Principles of Jelly Making," and in the *Journal of Industrial and Engineering Chemistry*, Vol. 1, pp. 333-344, and Vol. 2, pp. 457-462, she published all the scientific data of the work. These last are not necessary for the housekeeper and are really beyond the understanding of all but chemists. But the bulletin is written simply and understandingly for any housekeeper and assures a certain success.

BLANCHARD HARPER.

Madison, Wis.

Owing to the delay caused by the new laws, etc., the editor has found it necessary to omit many valuable and timely articles this month, among them extracts from the bulletin referred to above. EDITOR.



Beautiful lawn is chief charm of this country home

Premiums

The following premiums were awarded at the Summer Meeting:

FRUIT.

Best plate Alexander: first, Jno. Hanson; second, W. E. Marshall.

Best plate Astrachan: first, Henry Martin; second, H. W. Ullsperger.

Best plate Duchess: first, E. S. Hildemann; second, J. J. Eskil.

Best plate Dudley: first, D. E. Bingham; second, W. I. Lawrence.

Best plate Fameuse: first, Wm. Toole; second, W. I. Lawrence.

Best plate Lowland Raspberry: first, Wm. Toole.

Best plate Longfield: first, D. E. Bingham; second, E. W. Sullivan.

Best plate McMahan: first, Wm. Toole; second, H. C. Melcher.

Best plate McIntosh: first, D. E. Bingham; second, W. I. Lawrence.

Best plate Lusk Queen: first, W. I. Lawrence; second, W. E. Marshall.

Best Plate Patten Greening: first, Wm. Toole; second, E. W. Sullivan.

Best plate Plumb Cider: first, W. I. Lawrence; second, Wm. Toole.

Best plate Switzer: first, F. W. Cheeseman; second, N. A. Rasmussen.

Best plate Tetofski: first, F. W. Cheeseman; second, Dr. H. F. Eames.

Best plate Utter: first, H. C. Melcher; second, D. E. Bingham.

Best plate Wealthy: first, F. W. Cheeseman; second, J. J. Eskil.

Best plate Seek-No-Further: first, Wm. Toole; second, H. C. Melcher.

Best plate Wolf River: first, Wm. Toole; second, E. W. Sullivan.

Best plate Yellow Transparent: first, J. S. Reeve; second, Henry Martin.

Best display crabs: first, E. W. Sullivan; second, A. W. Lawrence.

Best display pears: first, Wm. Turnbull; second, A. W. Lawrence.

Best display Japanese plums: first, Jno. Hanson; second, W. I. Lawrence.

Best display European plums: first, W. E. Marshall; second, N. A. Rasmussen.

Best display Native plums: first, E. W. Sullivan; second, Ed. S. Jones.

Best display cherries: first, C. T. Andreas; second, N. C. Jacobs.

Best quart red currants: first, W. E. Marshall; second, W. I. Lawrence.

Best quart gooseberries: first, Ed. S. Jones; second, H. W. Ullsperger.

Best pint red raspberries: first, Wm. Barningham; second, Henry Martin.

Best pint black raspberries: first, Wm. Barningham.

Best pint blackberries: first, F. W. Cheeseman; second, R. W. Gilbert.

Sweepstakes for largest number of first premiums for fruit: first, Wm. Toole; second, F. W. Cheeseman; third, D. E. Bingham.

VEGETABLES.

Best quart snap beans: first, Christensen & Davis; second, Henry Martin.

Best quart bush Lima beans: first, N. A. Rasmussen; second, Christensen & Davis.

Best quart pole Lima beans: first, W. I. Lawrence; second, Jno. Hanson.

Best six turnip beets: first, Henry Martin; second, Christensen & Davis.

Best three heads Drumhead cabbage: first, Christensen & Davis.

Best three heads cabbage any other variety: first, Christensen & Davis; second, Henry Martin.

Best three heads cauliflower: first, E. W. Sullivan; second, Henry Martin.

Best six heads celery: first, Christensen & Davis; second, E. W. Sullivan.

Best twelve ears sweet corn: first, N. A. Rasmussen.

Best six cucumbers: first, Jno. Hanson; second, Christensen & Davis.

Best three heads head lettuce: first, Christensen & Davis; second, Jno. Hanson.

Best three muskmelons: first, N. A. Rasmussen.

Best twelve tomatoes: first, E. W. Sullivan; second, Christensen & Davis.

Best turnips, one-half peck: first, J. F. Hauser.

Best white onions, one-half peck: first, E. W. Sullivan; second, Christensen & Davis.

Best yellow onions, one-half peck: first, Christensen & Davis; second, E. W. Sullivan.

JEWELL MINNESOTA GROWN Nursery Stock

Complete assortment of Fruit and Ornamental stock in all varieties suited to northern culture. A specialty of Hardy Shade Trees, Windbreak Stock, Evergreens (Coniferous), Deciduous Shrubs, Apples and Native Plums.

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Ornamental and Flowering Shrubs, Vines and Perennials. Roses, Evergreens, etc.

If you would like to see a *really good Catalogue* we would be glad to send you ours. It has more than fifty pages and describes everything in the plainest language without any extravagant or overdrawn descriptions.

The Coe, Converse & Edwards Co.

FORT ATKINSON,

WISCONSIN

Wisconsin's Largest Nursery

Best twelve carrots: first, Henry Martin; second, E. W. Sullivan.

Best three egg plant: first, N. A. Rasmussen; second, Christensen & Davis.

Best six peppers: first, N. A. Rasmussen; second, Christensen & Davis.

Best three summer squash: first, N. A. Rasmussen; second, Christensen & Davis.

Best three winter squash: first, E. W. Sullivan.

Best display radishes: first, J. F. Hauser; second, Henry Martin.

Best display novelties: first, N. A. Rasmussen.

Sweepstakes for largest number of first premiums on vegetables: first, N. A. Rasmussen; second, Christensen & Davis.

Best exhibit vegetables by local society: first, Oshkosh Horticultural Society.

FLOWERS.

Best display asters: first, Mrs. H. Fritschler; second, L. Aspinwall.

Best display cosmos: first, J. F. Hauser; second, H. W. Ullsperger.

Best display coxcomb: first, Christensen & Davis; second, N. A. Rasmussen.

Best display single dahlias: first, Mrs. D. D. Howlett.

Best display double dahlias: first, Jno. Hanson; second, J. F. Hauser.

Best display cactus dahlias: first, J. F. Hauser.

Best display delphiniums: first, W. A. Toole; second, J. F. Hauser.

Best display gailardia: first, J. F. Hauser; second, W. A. Toole.

Best display gladioli: first, L. Aspinwall; second, J. F. Hauser.

Best display nasturtiums: first, H. W. Ullsperger; second, Jno. Hanson.

Best display pansies: first, H. W. Ullsperger; second, Avery Birmingham.

Best display petunias: first, Christensen & Davis; second, H. W. Ullsperger.

Best display phlox (annual): first, Mrs. F. S. Hanson; second, J. F. Hauser.

Best display phlox (perennial): first, W. A. Toole; second, J. F. Hauser.

Best display roses: first, H. W. Ullsperger; second, L. Aspinwall.

Best display snapdragon: first, J. F. Hauser.

Best display sunflowers: first, Mrs. D. D. Howlett; second, W. A. Toole.

Best display sweetpeas: first, H. W. Ullsperger; second, J. F. Hauser.

Best display stocks: first, J. F. Hauser; second, Christensen & Davis.

Best display verbenas: first, Mrs. F. S. Hanson; second, J. F. Hauser.

Best display herbaceous perennials: first, Avery Birmingham; second, J. F. Hauser.

Display Annual Garden Flowers not enumerated in above list (collection): first, J. F. Hauser.

Best bouquet garden flowers: first, Christensen & Davis; second, Mrs. D. D. Howlett.

Best rex begonia: first, Mrs. D. D. Howlett.

Best begonia other than above: first, Mrs. D. D. Howlett.

Best display coleus: first, Mrs. D. D. Howlett.

Best display golden rod: first, Mrs. D. D. Howlett; second, Henry Martin.

WILD FLOWERS.

Display asters (native): first, Mrs. D. D. Howlett.

Display lobelias (native): first, Mrs. D. D. Howlett.

Display native ferns: first, Mrs. D. D. Howlett.

Best, most artistically arranged bouquet wild flowers: first, Mrs. D. D. Howlett.

Display ornamental wild fruits: first, Mrs. D. D. Howlett.

Display native fungi: first, Mrs. D. D. Howlett.

Collection wild flowers: first, Mrs. D. D. Howlett.

Sweepstakes awarded exhibitor receiving largest number of first premiums on flowers and potted plants, amateurs only: first, J. F. Hauser; second, Mrs. D. D. Howlett; third, H. W. Ullsperger.

Best exhibit flowers and foliage plants by local society: first, Oshkosh Horticultural Society.

They tell me that apple worms make specially fine flavored ham and bacon. While it will hardly pay to grow codling moths for hog feed, it is much better to feed wormy apples to the hogs than to allow them to stay under the trees or place them on the market to compete with good fruit.

FRUIT TREES

TRUE TO NAME

WISCONSIN GROWN

Fifty-ninth Year

Specialties, apple and plum trees and small fruit plants.
Drop us a card for our special

INTRODUCTORY OFFER

It will surprise you. Descriptive price list free, and it will save you money.

Address

KELLOGG'S NURSERY

Box 77

JANESVILLE,

WIS.

Orchard Land in Dunn County, Wis.

Surface rolling; soil, rich clay loam underlaid with limestone. The orchards of adjoining farms show the adaptability of this part of Wisconsin to apple growing. Near railroads and markets. Prices reasonable. Write for particulars.

William J. Starr

Eau Claire, - - - - Wis.

THE HAWKS NURSERY CO.

are in a position to furnish high grade Nursery Stock of all kinds and varieties suitable to Wisconsin and other northern districts.

Will be glad to figure on your wants either in large or small quantities.

WAUWATOSA, WISCONSIN

Currants and Gooseberries

Concluded from August Issue

PLANTING.

In large plantations the best plan is the check system. Use a single plant to establish a hill and plant 6 by 6 feet for best results. Where continuous rows are used the plants should stand 3½ or 4 by 6 feet.

CULTIVATION AND MULCHING.

The currant must not be cultivated deeply, for it is a shallow rooted plant. The necessary moisture must be maintained by continual surface cultivation or by mulching.

Ashes, sawdust, straw and manure are used for mulching. Hardwood sawdust, if not worked into the soil, is probably the best. Apply to a depth of several inches. Manure is good and tends to keep a supply of plant food always at hand. The best method of mulching is to confine the application to the hills and within the row, where the continuous row is used. The space between the rows is cultivated.

PRUNING AND THINNING.

The plants probably produce the best fruit and the larger portion of it on the two and three year old wood.

In practical field culture four to eight main stems are allowed to develop, and a system of renewing by cutting out the wood over three years old is followed. The greater part of the fruit is borne near the base of the shoots. For this reason it is advantageous to nip back the growing shoots in the summer season when they have reached about eight inches.

HARVESTING AND MARKETING.

The currants, if to be sold, should never be stripped when one is picking. The stems of the bunches should be cleanly severed from the branches. The fruit is said to make better jelly when picked just as the currants are ripening and when the fruits on the tips of the bunches are green.

WINTER PROTECTION.

Currants will usually be sufficiently protected in the Northwest if the branches are simply gathered up and tied in a bundle.

PESTS AND DISEASES.

The greatest pests of the currant are the currant worm, currant borer, leaf spot and mildew. Directions for controlling them may be obtained from any agricultural experiment station.

GOOSEBERRIES.

The gooseberry is closely related to the currant. It is largely used green for sauce, for pies and for canning. For jam and preserves it is usually preferred ripe.

The cultivated sorts are derived from European sources, the native wild species and hybrids of these species. Those of European and hybrid species are larger and heavier bearers, but are more susceptible to mildew. However, this once insuperable foe is now readily controlled by proper methods of planting, cultivating and spraying.

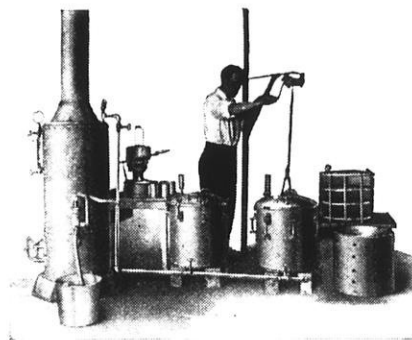
The gooseberry is generally quite hardy in the Northwest and will succeed alongside the currant. The propagation and planting are the same as for that fruit. In fact, identical treatment may be given it, with the following variations:

The production will be larger and the size and appearance of the fruit will be better if one-third to one-half of the new growth is cut off each year. The berries must be picked with gloved hands, a stick being used in the left hand by some pickers to spread or hold the bushes apart. They are marketed in the ordinary quart boxes, although in some localities the large English sorts are packed in ten pound trays. When so packed they are faced in the receptacle, just as are the large Western sweet cherries when opened up on the city market.

Now is the time to save seeds for next year. After gathering they should be placed where they will dry readily and thoroughly. As soon as dry they may be put in packets, labeled properly and put away in a safe place. Fruit jars, lard cans, or any tin receptacle with close fitting covers are best for storing seeds as they keep the contents free from pests. Seeds should not be placed in such receptacles until they are perfectly dry or they will not keep well.

CANNING AT HOME

The Steam Pressure Way



The tremendous waste and big loss from low market prices and the quick ripening of fruits and vegetables is entirely saved by canning at home in a NATIONAL Steam Pressure Canning Outfit. The "Steam Pressure Way" carries Government endorsement, and thousands of satisfied users will back up our statements.

Bigger Prices for Fruits and Vegetables

A NATIONAL Canning Outfit enables you to put up what you raise yourself, or start a small canning factory, or establish a community canning outfit among your neighbors for mutual protection. Canned fruits and vegetables are easily sold in the fall and winter at good prices.

NATIONAL Canning Outfits are the same as used in modern canning factories only made in smaller sizes. They preserve anything you grow, either in glass jars or cans. Complete Home Outfits \$15 and up. Hotel sizes \$25 and up. Factory sizes \$110 and up.

Write at once for descriptive circular and state in what size you are interested.

Northwestern Steel & Iron Works
810 Spring St. Eau Claire, Wis.

The Great Northern Nursery Co.

Sells First-Class Wisconsin Grown Trees

Our Trees Live. We had an opportunity to compare 500 of our Wisconsin grown trees with a similar lot of an Eastern Nursery. At the end of the season only 52 per cent of the eastern grown stock was alive, while 95 per cent of ours lived and grew. Moral: buy home grown stock and avoid loss. Our trees are **HARDY**, and our stock is **HEALTHY**. A comparison will prove that our stock has not the willowy and watery soft growth of southern or eastern grown stock.

Every tree and shrub is packed entirely under cover, free from exposure to sun and wind.

Great Northern Nursery Company, Baraboo, Wis.

Write for Catalogue and Price - List.

Practical Pruning

A. W. LAWRENCE AT MANITOWOC FRUIT GROWERS' INSTITUTE.

After having my paper partially prepared, I took cognizance of the fact that no written addresses were permitted, everything was to be "off-hand" and direct from the school of practical experience. I found myself in the same boat many a man has, who, after signing his name, found out to his sorrow that what he signed was very different from what he supposed he had signed. There are exceptions to all rules, so please bear with me a few minutes while I read you my say.

"Practical Pruning." Of whom would you expect to get a labor problem like this, from one who has spent more or less time on orating and who has been running around telling the other fellow how to do it, or from one who has to study and think and go out and back up his study with his work?

I am glad our worthy secretary gave me the topic "Practical Pruning" instead of "Scientific Pruning," for if in this paper I differ in any way with science, I will call upon him to come up to our Door county home and I will produce the goods.

Before discussing the subject I wish to impress upon your minds the fact that *all* trees grow very differently in different sections, and that these sections at times are not very far apart; and that a tree of a certain variety has often a very different habit from that of its neighbor, of the same variety.

All varieties have their characteristics—one may be prone to wood growth at the expense of fruit production; another may be shy in the growth of wood and inclined to overbear. One may be prone to unite properly its limbs to the body, while another may have the habit of poorly uniting its dollar branches to the trunk. One may have a head naturally open and conducive to thorough spraying, and sufficiently opened up for sunshine and air, which is one of the essentials for properly matured and properly colored fruit. Another tree, having the upright habit, all branches running upward,

would make with the same number of branches a very dense head. It is easy to see that if one knows the predominating characteristics of the tree, when he steps up to it, the pruning is greatly simplified.

Before starting to prune let us get an ideal tree pictured in our mind, then we will do all of the cutting to assist nature to grow the one before us into our ideal if possible. If the tree be either a cherry or apple, it ought to be a well balanced tree, not having more fruiting surface on the one side than on the other; it must be low headed, so that we can pick its fruit easily and cheaply. A few of the other reasons for having it low-headed are these: it is more easily and cheaply pruned and sprayed, its shade of the ground immediately under the branches will be of great assistance in preserving the moisture; and in the case of the apple, the wind will not have such a sweep at the tree and it would not have to give up to mother earth such a large percentage of its fruit. The fruit of the cherry tree will not be so apt to become bruised by the wind if a storm should come just about picking time. Therefore, not only as a matter of convenience, but also from a monetary standpoint, it is a much better tree than one with its branches so high up in the air that hardly any fruit can be picked without the use of a ladder or a club. You may say, "I do not want these low trees, for I can not work under them with the team." No, you can not, and if I had a tree giving me from twelve to fifteen dollars worth of fruit, I would not want a team under it.

Now, with our ideal before our mind, and with us all the good judgment we possess, and a good sharp pruning knife, it is a very simple matter to prune off all limbs below our ideal head of 18 or 20 inches from the ground. It may be this first cut is not properly made, for we dare not leave any stubs sticking out a half inch to die and decay back into the body, but must make a nice clean cut on all limbs, close enough to the body to cut into bulge at base of limb, this will then heal over in the very shortest space of time. Next look above the lower limbs and prune with

the idea of having from 4 to 6 limbs left on the tree when we get through, providing they are there, and nature put them on where we think they should be.

If they are there, and enough are usually on, with the future prospects in the form of buds to form the head, we will cut so as not to leave any sharp crotches, nor one limb directly over another, unless there be considerable distance between the two. Have all limbs evenly distributed around

W. A. TOOLE
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APPLE TREES

We have growing in our nurseries at Waterloo, Wisconsin, the finest blocks of Apple Trees in the Northwest. We offer for late fall and early spring shipment, 75,000 two year, strictly first class; the kind of trees Commercial Planters want. We also have 40,000 three year, none better grown. In addition we have a general assortment of other stock to offer. Parties contemplating planting large quantities of Apple Trees should get our prices.

McKAY NURSERY CO.
 General Offices
 PARDEEVILLE, WIS.

the body, so as to retard as little as possible the flow of food sap to the central leader, which we usually leave 10 or 12 inches above the last limb. Often times we find on trees that have grown two years in the nursery, two, three and sometimes even four limbs starting out at about the same distance from the top of the tree. One of these, the most upright one, we train for a leader, the others will nearly always have to be removed, for they are usually of an even size and will either stunt the leader or form a fork with it.

Now we have gotten down to the proper number of limbs on the tree, but as this tree has been taken from the nursery and has had its roots severely pruned in the digging process, we decide we have not removed enough of the top. When it shall have come into leaf, there will be too much surface for evaporation and the small bundle of roots left will not be sufficient to supply the needed moisture, if it be a dry-time, and our tree would probably die. This makes it necessary to prune back the rest of the limbs, and these we usually cut to two or three buds or an average length of from 6 to 8 inches, always cutting close to a bud. I do not like and would not buy three year old trees to set out, but occasionally you find them. Trees of this age are often a different proposition, and it is quite common to find on stock of this age, a perplexing problem, for invariably they will have one, two or three large limbs, the lower ones at that, which will be nearly equal in size to the body itself.

These, I have found from experience, should in nearly all cases be removed. Then you will say, "this will make too high a head;" but you will often find, in a year or two, a few limbs starting out upon this trunk, which if properly preserved, will in time lower the base of your head.

If they never start, you will find in nine cases out of ten, in a few years, a tree as low headed as if they had been left; for these large limbs, so strong and vigorous and so near the base, will get more than their share of sustenance and will grow out of proportion and will be broken

off, splitting and severely injuring the body.

After the first years' pruning, it means practically keeping these limbs in shape with your ideal tree always in your mind. Prune every spring, for you will always find a few limbs growing in the wrong direction. Cut them off to a bud, pointing the way you desire the new limb to grow. Keep the tree well opened up for air and sunshine, not by cutting out the center, nor by pruning the limbs to mere whips, thereby diminishing the fruiting surface; but by taking off a few of the branches at the trunk. After the second year, and for the above work you will need in addition to your heavy pruning knife, a saw. The one we have been using is crescent shaped, about fifteen inches in length, with a handle about three or four feet long, and cuts only on the pull. Now that we are pruning older trees, let us take greater pains with all our cuts, for it is necessary to prune in such a manner that no portion of the branch shall be left on the trunk. The cut, always close to and perfectly even with the outline of the trunk, will the more readily heal over and will thus to a certain extent eliminate the ugly decayed portions oftentimes found on trees. Farther back I spoke of some trees or varieties being prone to make a bad union of limb and body, what I mean by this is too acute an angle, or the limb coming out too nearly perpendicular, right at the junction. A variety that has this characteristic to a marked degree, is the Northwestern Greening. Take particular care to cut off all such branches at sight, leaving more room for the others to develop.

In summing up this short talk on pruning, let us get a few ideas uppermost in our minds. Prune the tree when set to equalize top and roots, have limbs very sparing and evenly distributed. Later keep out cross limbs and such as will interfere with their neighbors later on, and in this manner keep the tree well balanced and the top well opened up by yearly pruning. Some varieties are prone to overbear and become undersized. Remember that winter or dormant pruning, such as we give in the spring, tends to produce wood

Door County Fruit Lands FOR SALE

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C. R. Seaquist & Son, Sister Bay, Wis.

**"We have a Fine Lot of
Plants for the Garden."**

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Sheboygan,

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FREE AN 84-PAGE BOOK ON "How to Plant and Improve the Home and Orchard"

will be mailed free on request to all contemplating planting fruit trees and ornamentals in the spring of 1914, together with our complete catalogue of

CHASE'S

HARDY TREES and SHRUBS

backed by fifty-six years of horticultural experience. *Be sure and get this valuable book. A request brings it.*

CHASE BROTHERS COMPANY

The Rochester Nurseries, Rochester, N. Y.

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Vincennes, Indiana

**W. C. REED,
PROPRIETOR**

**Cherry Trees by the
100 or 10000**

The Growing of Cherry Trees has been our Specialty for Years. Our soil and method of growing produces a Tree that is not excelled by any one. Splendid blocks of two-year 5 to 7 foot trees and one-year 4 to 5 foot trees. Early Richmond, Montmorency and other leading varieties by the 100 or car load. We also grow a general line of other Nursery stock. Personal inspection invited. Correspondence solicited

growth, so we can regulate to some extent, in connection with our cultivation, the over production, by pruning a little heavier.

Summer pruning has a tendency to fruit production, so this added to a stimulus in the way of fertility and cultivation would tend to heavier production, something seldom needed with the varieties I would advocate for this section.

Better Methods for Asparagus

A contributor in *Country Gentleman* calls attention to the opportunity open to some enterprising seedsman or plant grower to furnish a really good stock of asparagus. He calls attention to the fact that when plants are offered for sale the price is increased with age: "in other words, the price is increased as the real value diminishes." He cites experiments showing that the Palmetto outyields all other varieties in both early and total cuttings, that at the end of the third year after transplanting one-year-old plants had nearly doubled the yield of two year old plants, and nearly trebled the yield of three year old plants, and that male plants give fifty per cent heavier cuttings than female plants. He adds that female plants make slender stalks, male plants heavy ones. The problem then seems to be the growing of strong one year old male plants of the Palmetto variety. Methods of getting this result are given as follows:

"If the seed is planted at home, growth can be forced by the use of liquid manure and nitrate of soda, and it is often possible to have a fair proportion of the stalks in flower in time to identify the males—which are staminate—for transplanting at the end of the one-year period. Two year old male plants are better than one year old females. Where plants of unknown sex are planted out at the end of the one-year period, the original bed can be retained and female plants replaced by two year old males. There will be a marked increase in the productivity of the bed and in the resulting income. In selecting plants the tendency is to use those with a large number of buds. This is a mistake. Crowns that have

a few well formed buds will make larger stalks and a greater total yield in weight than those that have many buds."—*Market Growers' Journal*.

Some Nice Peonies

September is the best month of the year in which to plant peonies. And in looking over a long list of varieties we have been more than pleased and feel confident that any person planting any of the following sorts will have no reason to regret having them in their collection: Felix Croasse, the best light red up to date; Thurlow's Red, rich, fiery dark red, a beauty; Rubra Triumphans, one of the best early reds, very brilliant with yellow stamens. Grandiflora Rubra, immense globes of rich red. In pink varieties, our choice out of many is LeEsperance for early, sweet scented, a profuse bloomer, a charming flower. Brawnwell is our standard for cut flowers in pink, with Flora Treasury a close third. Other good pinks are Modesta Humelii and Bollet.

When it comes to white varieties Victoria and Festiva Maxima stand out as the best in their class.

Golden Harvest and Pompania, which contain a certain amount of cream and yellow in their make-up are very popular and desirable, while Couronne d'Or is one of the most beautiful creations ever produced in the peony world. Great balls of ivory white enclosing a golden crown of yellow oversplashed with crimson markings.

We could enumerate many other charming sorts, but the above will give one a feast of pleasure in watching them come into bloom during the month of June.

We give all our peonies open field culture and set the roots in soil that has been highly fertilized with barnyard manure. They want the sun and should be cultivated and hoed to get the best results. We would advise everyone to set a row in the kitchen garden and give them the highest cultivation, as by this means you will get the finest cut flowers.

W. J. MOYLE.

"A Little Dope Here"

The printer couldn't make Moyle's peonies reach to Lake's ad and wrote, "a little dope here." It's half-past eleven and I'm off for the State Fair in the morning. I shall simply put the cat out and go to bed and he can write his own dope and be hanged. He should worry, I won't.

EDITOR.

WINTER APPLES

OF QUALITY

Gem City, Tuttle's Winter and McIntosh Red. Choice line of native plums. Prof. Hansen's Hybrids and Burbank's Epoch Plum.

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BLACK RIVER FALLS, WIS.

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the membership by telling your neighbor about the Magazine, Report and the other good things all for

FIFTY CENTS

“WHITE BIRCH” FRUIT PACKAGES, CLIMAX GRAPE AND PEACH BASKETS, REPACKING BASKETS, BEEKEEPERS' SUPPLIES, TREE PROTECTORS, POULTRY CRATES AND WOOD SPECIALTIES. WRITE FOR PRICES.

SHEBOYGAN FRUIT BOX CO. SHEBOYGAN WISCONSIN

PAEONIES

Your garden is not complete without a collection of our best

PAEONIES

Send us a \$1.00 bill and we will express you ten good roots of our selection. Get our catalog.

W. J. MOYLE, Prop.

Wisconsin Nurseries

Union Grove, Wis.

Cut Out the Weeds Now

Clean out the weeds from among the blackberries and raspberries. Cut out the old canes. Don't leave them till cold weather, but get them out now and burn. Look over the currants, cut out any broken or dead branches and you will get rid of the borers.

Keep the soil mellow and free from weeds among the late celery plants.

Watch for the large gray bugs on the pie-pumpkins and squashes. They will be found cool mornings in heaps on some leaf and can easily be gathered and destroyed.

Mrs. L. H. PALMER.

Baraboo, Wis.

WANTED

Members to write for Wisconsin Horticulture, short articles, not over five hundred words, something from your own experience. Five hundred words or even one hundred may be worth a dollar a word to some one.

We want to know what you know.

Wisconsin Horticulture, Two Years for \$1.00

MYERS PATENTED
DOUBLE STEEL TRACK

TAKE OFF YOUR HAT TO THE MYERS

Large Track Wheels
3/8 Turned Steel Axles
Extra Long Truck
MYERS O. K. UNLOADER
Reversible and Swivel
Positive Double Lock
Wide Open Mouth
Steel Roller Bearings
Seven Inch Rope Sheaves
Swinging Fork Pulley

Hay unloading methods have changed during recent years. Instead of handling a load of hay or grain in six or eight drafts, the farmer now does it in three or four, thus saving time and labor—two very important items to him during the harvest season. This necessarily requires uniformly heavier and better equipment. Light flimsy outfits will not stand the strain.

Myers Hay Unloading Tools have been made to meet the present day requirements for unloading hay and grain from the wagon to the mow or stack. They are the hay unloading tools of today.

The Myers O. K. Unloader illustrated above with its many superior and advantageous points of construction shows clearly why Myers Unloaders are especially adapted to meet up-to-date methods. You will find the same extra heavy material and improved construction in our complete line of Hay Slings, Forks, Pulleys and Hay Rack Clamps—all being made for large capacity and for the purpose of giving long and satisfactory service.

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WISCONSIN HORTICULTURE

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Volume IV

Madison, Wisconsin, October, 1913

Number 2

For the Benefit of Those Who Stayed at Home

The 1913 State Fair was a grand success. The fair is one of the big educational institutions of the state and should be so considered by the state legislature and the people of the state.

The state spends millions on the university and normal schools of which a very substantial part goes to the agricultural college.

The college is indispensable and invaluable to the farming interests of the state but it is not the whole thing by any means.

There are other factors essential to the education and well being of the farming population and a properly conducted State Fair is one.

THE HORTICULTURAL EXHIBIT.

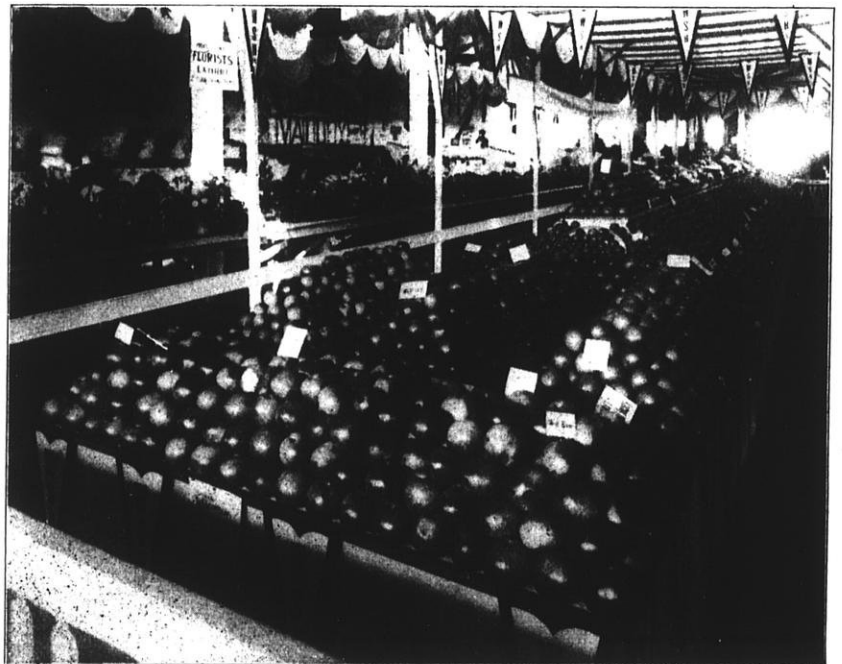
This part of the fair was well described in a recent number of the Wisconsin Agriculturist and those who read it will learn but little from this account.

At last, after persistent effort on part of the Horticultural Society grains and pumpkins are now in a new home and the entire Horticultural building such as it is, devoted to fruit and amateur flowers.

At an expense of a few dollars the walls of the old barn were covered with muslin and prettily decorated with bunting; the exhibitors' tables run lengthwise of

elsewhere will show principal exhibitors.

This Society "hogged" the best part of the building being a space 10 x 75 ft. through the center.



Through the center of Horticultural Building. State Fair, Sept. 1913. This table 10x75 ft.

the building and a walk opened along the wall making the exhibits easily accessible to visitors.

These tables were crowded to their fullest capacity with clean high class fruit, the best shown in 20 years. A list of awards given

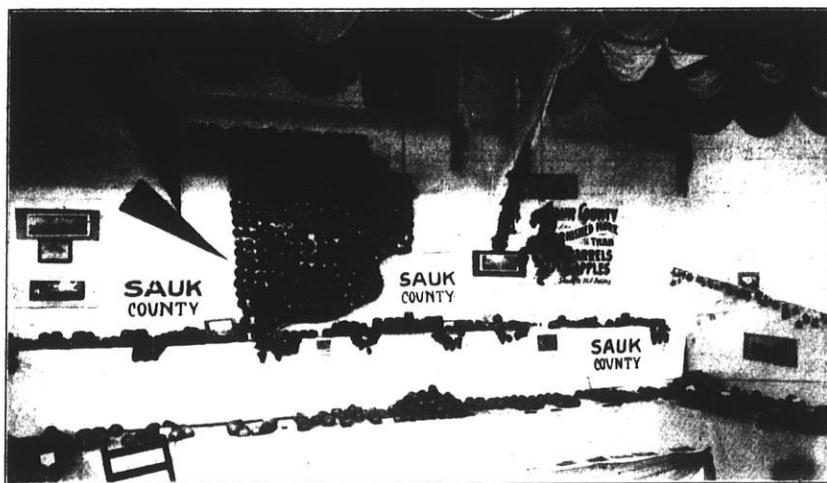
On this space was disposed one hundred and thirty-five bushels of apples of various kinds and in various ways, the idea being to show that apples of high quality are really grown in quantity in Wisconsin.

The illustrations in this issue show in slight measure the nature and extent of the exhibit. It was the largest fruit exhibit ever staged at a Wisconsin Fair and was worth several times its cost.

The premiums for barrel exhibits brought out 40 entries while only 6 boxes were shown. The barrel feature has come to stay, with modifications. Next year exhibitors will not be permitted to remove heads from barrels until the judge has passed on them.

concentration in favored localities.

Illustrations of these exhibits will appear as space permits. The cranberry booth was another new feature, and a very attractive one. After the Cranberry Growers Assn. had failed to act Mr. C. M. Seeker an extensive grower at Mather, Wisconsin, assumed the responsibility of the exhibit both financially and otherwise. Berries in abundance and vines loaded with fruit formed a center of



The Sauk Co. booth, Horticultural Hall, State Fair. The "apple county" on the wall proved the most striking feature of the county fruit exhibits. Each of the 22 townships was represented by a separate variety, the Baraboo river by Hyslop crabs. Blame Mrs. L. H. Palmer for this.

The west side of the building presented a feature new at this or any other state fair, viz.—special county fruit exhibits. This experiment proposed by officers of this society was a grand success. Bayfield, Door, "the Kickapoo country," Sauk and Richland each occupied 20 ft. booths each 8 feet deep. Any one of these showed more fruit and better fruit than shown ten years ago in the entire building.

These special exhibits were in one sense the most striking and valuable feature of the entire exhibit, showing graphically the rapid development of commercial horticulture in the state and its

attraction every minute of the fair.

Flowers and plants were much in evidence the display being fully equal to that of past fairs.

The amateurs only showed in the horticultural building the professionals being located in the new grand-stand exhibit rooms.

Horticultural hall at the 1913 state fair was as usual the most attractive building on the grounds, clean, free from fakirs of all kinds and showed a fruit and flower exhibit of which any state east or west might be proud.

A Dollar Bill pays for two years.

State Fair Premiums

APPLES.

Display not to exceed 20 varieties.

- 1st—\$15.00 J. S. Palmer, Baraboo, Wis.
2nd— 12.00 Great Northern Nursery Co., Baraboo, Wis.
3rd— 8.00 Balgheim Bros., Twin Bluff, Wis.
4th— 6.00 J. E. Baer, Baraboo, Wis.
5th— 4.00 Fremont Lounsbury, R. F. D. No. 3, Watertown, Wis.

Display of 10 varieties.

- 1st— 10.00 Great Northern Nursery Co.
2nd— 8.00 J. S. Palmer.
3rd— 6.00 Balgheim Bros.
4th— 4.00 A. N. Kelly, Mineral Point, Wis.
5th— 2.00 A. D. Brown, Baraboo, Wis.

Display of 5 winter varieties.

- 1st— 8.00 A. N. Kelly.
2nd— 6.00 H. R. Platt, Route No. 3, Baraboo, Wis.
3rd— 4.00 Balgheim Bros.
4th— 2.00 J. E. Baer.

Display of seedlings, not less than 5.

- 1st— 8.00 Balgheim Bros.
2nd— 6.00 E. S. Hildemann, Bell Plaine, Wis.
3rd— 4.00 A. N. Kelly.
4th— 2.00 Fremont Lounsbury.

Largest apple.

- 1st— 3.00 J. S. Palmer.
2nd— 2.00 S. L. Brown, Gays Mills, Wis.
3rd— 1.50 Great Northern Nursery Co.
4th— 1.00 Balgheim Bros.

SINGLE PLATES: In this class Baraboo apples swept the board winning practically all firsts and seconds. The prizes went to A. K. Bassett, J. S. Palmer, Great Northern Nursery, A. D. Brown, J. E. Baer, E. H. Toole, and Henry Platt, all of Baraboo.

Peck of apples.

Dudley.

- 1st— 4.00 L. Bamford.
2nd— 3.00 E. T. Bamford.

Femeuse.

- 1st— 4.00 A. K. Bassett.
2nd— 3.00 G. H. Townsend.
3rd— 2.00 A. D. Brown.
4th— 1.00 J. S. Palmer.

Golden Russett.

- 1st— 4.00 A. K. Bassett.
2nd— 3.00 A. N. Kelly.
3rd— 2.00 Great Northern Nursery Co.
4th— 1.00 J. S. Palmer.

Longfield.

- 1st— 4.00 Balgheim Bros.
2nd— 3.00 Fremont Lounsbury.
3rd— 2.00 J. E. Baer.
4th— 1.00 H. R. Platt.

Lubsk Queen.	
1st—	4.00 A. D. Brown.
2nd—	3.00 Balgheim Bros.
McMahan.	
1st—	4.00 E. H. Toole.
2nd—	3.00 A. D. Brown.
3rd—	2.00 Balgheim Bros.
4th—	1.00 J. S. Palmer.
Newell.	
1st—	4.00 J. E. Baer.
2nd—	3.00 J. S. Palmer.
3rd—	2.00 A. D. Brown.
4th—	1.00 E. H. Toole.
Northwestern.	
1st—	4.00 Great Northern Nursery Co.
2nd—	3.00 A. N. Kelly.
3rd—	2.00 A. D. Brown.
4th—	1.00 E. S. Hildemann.
Patten.	
1st—	4.00 E. H. Toole.
2nd—	3.00 J. S. Palmer.
3rd—	2.00 Great Northern Nursery Co.
4th—	1.00 A. N. Kelly.
Pewaukee.	
1st—	4.00 A. D. Brown.
2nd—	3.00 A. K. Bassett.
3rd—	2.00 J. S. Palmer.
4th—	1.00 Fremont Lounsbury.
Plumb Cider.	
1st—	4.00 A. K. Bassett.
2nd—	3.00 J. S. Palmer.
3rd—	2.00 Great Northern Nursery Co.
4th—	1.00 Fremont Lounsbury.
Westfield Seek-no further.	
1st—	4.00 J. S. Palmer.
2nd—	3.00 A. K. Bassett.
3rd—	2.00 E. H. Toole.
4th—	1.00 L. Bamford.
Talman.	
1st—	4.00 J. S. Palmer.
2nd—	3.00 G. H. Townsend.
3rd—	2.00 J. E. Baer.
4th—	1.00 A. N. Kelly.
Utter.	
1st—	4.00 A. K. Bassett.
2nd—	3.00 J. S. Palmer.
3rd—	2.00 A. N. Kelly.
4th—	1.00 H. R. Platt.
Wealthy.	
1st—	4.00 A. K. Bassett.
2nd—	3.00 Great Northern Nursery Co.
3rd—	2.00 Fremont Lounsbury.
4th—	1.00 A. N. Kelly.
Windsor.	
1st—	\$4.00 G. H. Townsend.
2nd—	3.00 Great Northern Nursery Co.
3rd—	2.00 J. S. Palmer.
4th—	1.00 A. N. Kelly.
Wolf River.	
1st—	4.00 Great Northern Nursery Co.
2nd—	3.00 J. E. Baer.
3rd—	2.00 E. G. Toole.
4th—	1.00 J. S. Palmer.

Barrels.	
Best barrel Dudley.	
1st—	8.00 Balgheim Bros.
Best barrel Fameuse.	
1st—	8.00 A. K. Bassett.
2nd—	6.00 J. E. Baer.
3rd—	4.00 Balgheim Bros.
4th—	2.00 J. S. Palmer.
Best barrel McIntosh.	
1st—	8.00 Balgheim Bros.
2nd—	6.00 J. S. Palmer.
3rd—	4.00 Great Northern Nursery Co.
Best barrel McMahan.	
1st—	8.00 Balgheim Bros.
2nd—	6.00 J. S. Palmer.
3rd—	4.00 E. H. Toole.
4th—	2.00 A. D. Brown.

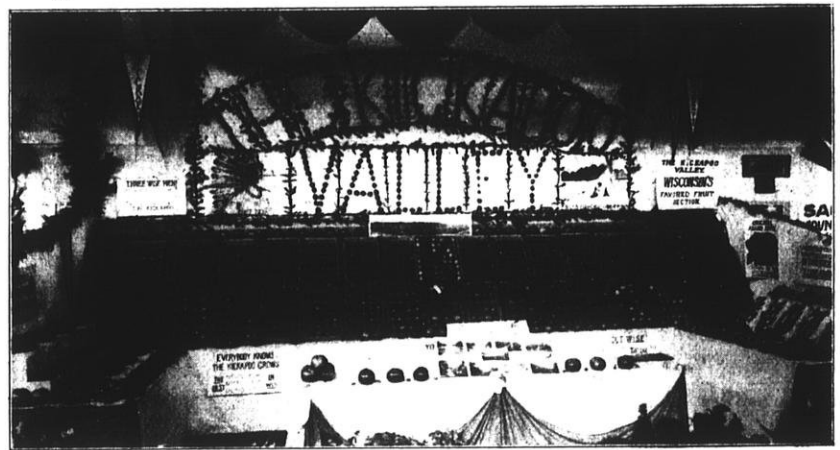
2nd—	6.00 J. S. Palmer.
3rd—	4.00 J. E. Baer.
4th—	2.00 Great Northern Nursery Co.

Sweepstakes.

Best and largest show of apples.	
1st—	15.00 J. S. Palmer.
2nd—	12.00 Balgheim Bros.
3rd—	10.00 A. K. Bassett.
4th—	8.00 Great Northern Nursery.
5th—	6.00 Fremont Lounsbury.
6th—	4.00 A. D. Brown.

PLUMS.

Largest and best collection, ten specimens of each, to include all species and varieties.	
1st—	8.00 H. W. Ullsperger.
2nd—	6.00 J. E. Baer.



Tastefully arranged, artistic. John A. Hays of Gays Mills and J. A. Harley the guilty parties.

Best barrel Northwestern Greening.	
1st—	8.00 J. E. Baer.
2nd—	6.00 J. S. Palmer.
3rd—	4.00 Great Northern Nursery Co.

3rd—	4.00 J. S. Palmer.
4th—	2.00 George Jeffrey.

GRAPES.

Best barrel Oldenburg (Duchess).	
1st—	8.00 A. K. Bassett.
2nd—	6.00 Balgheim Bros.
3rd—	4.00 H. W. Ullsperger, Sturgeon Bay, Wis.
4th—	2.00 A. D. Brown.

Display, not less than 15 varieties.	
1st—	15.00 Balgheim Bros.
2nd—	12.00 J. S. Palmer.
Display of 10 varieties, adapted to Wisconsin.	
1st—	8.00 Balgheim Bros.
2nd—	6.00 J. S. Palmer.
Display of 5 varieties, adapted to Wisconsin.	
1st—	5.00 Balgheim Bros.
2nd—	4.00 J. S. Palmer.
3rd—	3.00 H. R. Platt.

Best barrel Patten Greening.	
1st—	8.00 J. S. Palmer.
2nd—	6.00 Great Northern Nursery Co.
3rd—	4.00 Balgheim Bros.
Best barrel Utter.	
1st—	8.00 A. K. Bassett.
2nd—	6.00 J. S. Palmer.
3rd—	4.00 Balgheim Bros.
4th—	2.00 Great Northern Nursery Co.

Best barrel Wealthy.	
1st—	8.00 J. E. Baer.
2nd—	6.00 J. S. Palmer.
3rd—	4.00 Balgheim Bros.
4th—	2.00 A. D. Brown.

Best barrel Wolf River.	
1st—	8.00 Balgheim Bros.

Best and largest show of grapes.	
1st—	10.00 Balgheim Bros.
2nd—	8.00 J. S. Palmer.
3rd—	6.00 H. R. Platt.
Best and largest exhibit of named fruits,—to be awarded pro rata, in six premiums.	
1st—	32.05 J. S. Palmer.
2nd—	26.43 Balgheim Bros.
3rd—	15.09 A. K. Bassett.
4th—	11.33 Great Northern Nursery Co.
5th—	8.58 Fremont Lounsbury.
6th—	6.50 A. D. Brown.

Sparrows vs. Weed Seed Destruction

By Alfred C. Burrill, State Entomologist's Office, Madison, Wis.

Part 1. English Sparrows vs. Native Sparrows.

Years ago, Mr. F. E. L. Beal of the Biological Survey, set a pace for the country in the computation of weed seeds eaten by given birds when he stated for the tree sparrow, that "in a single state, Iowa, they consumed 1,750,000 pounds or 875 tons of weed seeds in a single season. Dr. W. F. Blackman, President of Rollins College, Florida, comments on this, "how many field hands working with the hoe, at \$1.50 per day, would be required to exterminate the miserable harvest of 875 tons of weed seeds?" The collection of data still goes on and the country has not yet arrived at a point where it can value exactly the work of each species.

Although unable to give any such sweeping statements with regard to the goldfinch, the following original note may be of interest, especially since all mention of the goldfinch seems to be omitted from the Biological Survey Bulletin No. 15, "The Relation of Sparrows to Agriculture", by Doctor S. D. Judd, 1901. The following notes are of further interest since Doctor Judd makes the plea that English sparrows eat many dandelion seeds (*Taraxacum officinale* Weber) and are aided by several native birds "chiefly the song sparrow, the chipping sparrow and the white-throated sparrow. So far as observed, the native birds usually do not cut open dandelions but simply feed on those left by the English sparrow. After the yellow bloom has disappeared, the head closes and a downy tuft appears at the upper end; in this stage it is most fre-

quently attacked by the English sparrow. In many cases especially when hungry, it does not take the trouble to remove the plumes. Generally it drops a score of seeds in tearing open a head and usually leaves a few clinging to the edge of the receptacle. 293 stalks were gathered from a circle two feet in diameter on the other side of the lawn, and 275, or 93%, proved to be mutilated. These and similar observations made with varying results, covering several years, showed that at least $\frac{3}{4}$ of the dandelions that bloom in April and May on the Department lawns are mutilated by birds" (Page 26). He adds that the work goes on to less extent from the middle of March to the middle of August.

Part 2. Goldfinches and the Dandelion Problem.

In June, 1910, at Whitefish Bay, Wisconsin a suburb at the northern limit of the chief dandelion belt of the city of Milwaukee, a flock of goldfinches happened near the porch and began to feed on the seeding dandelions. One male goldfinch, at the distance of eight feet from me was seen to take 48 pecks on the first full-blown dandelion head from which he secured at least two-thirds of the seeds. A second male goldfinch at the distance of 14 feet was seen to take 50 pecks consecutively of which at least two-thirds of the seeds also must have been secured. In each series of pecks, the time consumed was under five minutes and the second bird would have continued if he had not been frightened away. These two times the birds attacked full-blown heads and one time I noticed them attack a closed head, where the seed was still setting before the receptacle everted. Each time the parachute was bitten or muddled off

with the bill, several plumes sticking to the bird's head in the operation. It is my recollection that but two or three seeds were left in the heads counted, before the birds left and no exact count could be made of the number of seeds fallen to the ground, though investigated afterwards, since blowing seeds were all about. It is the writer's opinion that the bird secured a seed at each peck and nearly finished one head before looking for another.

The arrival of persons frightened the birds away and no such observation has been repeated, nor have English sparrows been seen to give dandelions special attention in the dandelion-ridden Lake Park region of Milwaukee. It is doubtful whether the arguments naturally following some of the combined dated above should favor the protection of English sparrows in the circumscribed region of Milwaukee or whether their destruction would the more encourage our native sparrows to clean up the weed seeds, since it is certain our native sparrows are less clumsy in loosening seeds from loose heads.

If the observations of the Biological Survey prove of general application, it is certainly worth the corroboration of many observers in many parts of the country, since the cleaning up by birds without cost to man of 75 or 80% of any weed pest is a factor not to be overlooked.

Prof. Hugh Fullerton's recipe for making the "Ben Davis" edible: "Cut into quarters, the same as if it were an apple, cover it with four times the ordinary amount of water, cook it four times as long as you would an apple, and add about four times the usual quantity of sweetening and spices. Eat sparingly,"

New Strawberries—The Ever-bearing Kind

M. S. KELLOGG

At Summer Meeting, Sturgeon Bay

These strawberries have come to stay. No one expects they will ever displace the June bearing varieties as a commercial fruit, but that they have come to fill a vacant place in the home garden all who have worked with them for the past two or three years are ready to bear witness; and all lovers of the strawberry, the queen of fruits, will speed them on their way to a grand success with good care and culture.

The first plants of the Ever-bearing, or Fall bearing strawberries which we planted were set the spring of 1908, the Pan American and Autumn. These produced fruit in the fall but owing to the lack of size in the fruit and the failure of the Pan American to make any plants we did not look on them as of much account. We planted them again in 1909 and in 1910 but we looked on them as a novelty that would do to advertise and get orders for plants, but not varieties we cared to recommend for general trial. During April 1911 we planted a number of the new varieties of Everbearers in one of our propagating beds and they received the same care as the old standard varieties, and they gave us returns varying from nothing up to about 50% of what the Dunlap did in the same field. A portion of this bed was left for fruit and the Ever-bearing varieties were allowed to bear in June to compare them with the Dunlap and others. This bed was fruited again in 1913 and from our observations we selected the following varieties; Superb, Francis, Meteor, Progressive and Americus, as being

worthy of a place in the trial beds. The plants set the spring of 1912 produced much better results than we had secured before and we added to the list Iowa, Productive, Stand Pat, Ideal.

During June of this year a test was made of single plants set in April and May and records were made of the yield of fruit from each plant and the layers it had made up to June 1st. Following are the results from this garden test in which the plants had received the best of care.

Superb, 14 $\frac{3}{4}$ ounces of fruit.

Americus, 12 $\frac{3}{8}$ ounces.

Productive, 2 $\frac{1}{2}$ ounces.

Francis, 3 $\frac{1}{4}$ ounces.

Meteor, 4 ounces.

Iowa, 4 $\frac{1}{4}$ ounces.

Progressive, 4 ounces.

Stand Pat, 3 $\frac{1}{2}$ ounces.

Autumn, 7 ounces.

Pan American, 12 $\frac{1}{2}$ ounces.

Five of the Superb plants used in this test in June gave ripe fruit again July 24th after being disbudded at the end of the test. Of the other varieties all showed bloom and green fruit except Meteor, Autumn, Iowa, and Pan American.

Tests made this summer with plants in matted rows in field culture produced results about as follows, judging as compared with the Dunlap. Superb 50% to 60% Americus 35%, Meteor 45%, Iowa 20%, Francis 30%, Progressive 25%, Productive 20%. Stand Pat, Autumn and Pan American were not included in this field test.

In addition to the above kinds my father is testing some ten or twelve kinds he received from Minnesota, which are seedlings of the Dunlap and some of the Everbearing kinds, which are making a very good showing. Plants of these kinds set in the Spring showing July 25th from

25 to 61 berries to the plant and from 1 to 12 layers. We look for some winners from these seedlings when they are more fully tested.

Thus far we have only considered the productiveness, but in choosing a variety one should consider strength and vigor of plant, persistency in fruiting, plant making qualities. The Superb easily takes the lead in nearly if not all of the above qualities. Meteor comes next as vigorous plant maker but is not as persistent in fruiting as Superb. We consider Superb as heading the list, Francis next, Progressive, Americus and Meteor.

To secure the best results for fruit in the fall all bloom should be kept off until July 15 or Aug. 1st, then let them bear; berries will be larger and more of them than if plants are allowed to fruit in June and then again in the fall.

To secure more plants from the varieties that are not strong plant makers keep all bloom off the entire summer, plants cannot produce fruit and new plants at the same time. Superb is the best plant maker of all, Meteor next, Americus next. The rest are all rather poor plant makers.

As a novelty for the home garden the Everbearing strawberries are a grand success, but for commercial venture we have not tested them far enough to advise this. Still one grower in New York stated he grew 400 quarts from 500 plants set in the spring and the fruit was picked in September and October. This is going some, but it is possible, although we have not been able to equal it so far.

Tell your neighbor about WISCONSIN HORTICULTURE.

Protecting Plants for Winter

W. A. TOOLE.

Now that the killing frosts have come it is not hard to turn our thoughts towards approaching winter. Many of the hardy plants need more or less protection during the winter to carry them through in the best of shape. The covering need not be done for another month yet, after a crust has frozen on the ground, but it is well to be planning and preparing for the work. Last winter I treated all my hardy plants alike, and learned some things. First I covered everything with leaves and straw and then laid brush over the leaves to keep them from blowing away. This spring I found that most of my foxgloves and Canterbury bells were dead. Here and there one had lived through and I found that from these plants the wind had blown all or nearly all the covering away. Where the covering had remained at all heavy the leaves and bud had rotted entirely away. Plants that have a main bud or buds which are underground, such as the peony, will stand much heavier covering. The foxglove and Canterbury bells seem to be the most injured by heavy covering so this winter I will try protecting them from too much alternate freezing and thawing by turning over them a V shaped trough open at the ends to permit circulation of air.

Some plants such as the Shasta Daisy I considered hardy enough not to need a covering but I scattered a few leaves over part of them and found this slight protection was really a benefit to them, although the unprotected ones lived through all right.

Hollyhocks are also easily smothered by too much covering or ice over the crown of the plant

and good drainage should be provided around the plants so ice will not gather during the winter or spring.

Of course there is a lot more to be said about winter protection for plants, but the above hints may be of value to someone.

Questions and Answers

MICE

This recipe was given me by a western man as a remedy against mice:

Slack 6 lbs. of lime, add 4 lbs. sulphur, one tablespoon of carbolic acid, one handful of fish glue.

Boil one hour and apply as a paste to trees. Will this wash off if applied now? Do you think it will keep the mice from gnawing the trees. Had wood veneer on my young trees, the mice gnawed through the wood and did considerable damage.

G. E. T.

Ans. No tree wash or paint so far discovered has proven fully satisfactory in killing mice or rabbits. This one sounds rather formidable and should at least leave a nasty taste in the mouth of any mouse sampling it.

It is very doubtful, however, if it would kill quick enough to prevent damage.

Prof. Sanders suggests that this is an excellent field for investigation on the part of horticulturists and that honor and profit awaits the discoverer of a protective and repellent coating rather than a poison, one that will keep out borers as well as prevent attacks of rodents.

Referring again to the formula, it is likely that commercial lime sulphur would serve the same purpose.

The standard remedy for protection against mice is to bank the trees with earth, a cone 6 or 8 in-

ches high around the trunk, just before the ground freezes.

SELLING APPLES BY MEASURE

Q. Would be pleased to have you give me a little information regarding peddling of apples. Is one required to sell by weight when peddling apples or can you sell when using a standard measure?

I have always disposed of a lot of our apples in selling direct to the consumer and have a fine established trade but would dislike to sell by weight to them.

Ans. Apples may be sold by standard bushel measure but the bushel must contain fifty pounds.

This is a ridiculous standard and entirely impossible for most or all Wisconsin apples. The writer in company with Mr. Thompson inspector of weights and measures for Madison weighed twelve varieties of apples and found none to weigh more than 47½ lbs. to the bushel. Fameuse 39½, Talman Sweet 45, Wealthy 42, 20 oz. 40, Jonathan 47½ etc.

In brief the standard bushel will not contain fifty pounds of apples and the only way to sell except in barrels or standard boxes is by weight. There may have been some doubt as to what constituted a "heap" bushel under the old system but the new plan has most certainly increased the price to the consumer from ten to twenty-five per cent.

H. D. Denison of Milwaukee raised vegetables and fruit sufficient to supply family needs on a back lot 35x50 feet. Time spent averaged 20 minutes a day; estimated value of products used \$60, no estimate made of large quantities given to neighbors.

A Chestnut Farm

ALFRED E. JOHNSON, IOLA, WIS.

Having become a member of your State Horticultural Society and having received and read a copy of *WISCONSIN HORTICULTURE*, also your pamphlet, "The Truth About Fruit Growing in Wisconsin," I feel like telling you about fruit growing in Virginia, but as I am particularly interested in chestnut growing and seeing so little interest; and so much misunderstanding if not ignorance about nut growing, I wish to tell the readers of *WISCONSIN HORTICULTURE* about a visit to the largest chestnut grove in the United States if not the world.

This grove is owned by C. K. Sober and his son, who live in Lewisburg, Pennsylvania, but the farm is 25 miles from Lewisburg and 4 miles from Paxenos, the nearest station. It is a rather mountainous country and the mountain sides were originally covered mostly with native chestnut timber and were considered of little value as farming land. But Mr. Sober conceived the idea that these otherwise waste lands could be made profitable. Accordingly he put in a big crew of men to clear off the native timber. The next spring these stumps of course threw out sprouts and especially the chestnut which sprouts very rapidly. All the other sprouts and brush were kept cut, leaving only the chestnut sprouts. The second year two or three of these were grafted around each stump, leaving the rest for protection, or as a windbreak that year. The next year these were also cut out, leaving one, or possibly two on some stumps and where space permitted he planted grafted trees from his nursery. In this way he now has about 400 acres of bearing trees or over 44,400 bearing

trees by government count. But his trees are more than twice as close as they should be and he is cutting out where they are beginning to crowd. He is also using these trees for producing his scions for his nursery, cutting them back severely each year. No cultivation is given these trees, except the annual work of cutting brush, which is quite an item of expense. Therefore Mr. Sober advises the planting on open land, as it will prove less expensive. He has run cattle and sheep in his grove but is now running hogs in among his trees and thinks he has found the best combination.

The harvesting is done by knocking the burrs off with a pronged fork on a long handle. These are then hauled into big piles and threshed out by running through a separator invented by himself. The separator is not unlike a grain separator, the cylinder being of wood and ribbed lengthways instead of having teeth. It will thresh on the average one bushel of nuts every four minutes.

Few trees are over 12 years old, and the crop in 1910 sold for over \$48,000, shipping mostly in car lots to Seattle, Washington, most of them at \$6.00 per bushel, while the least ever sold for was \$5.25 per bushel. This nut he is growing is an improvement on the old Paragon, having its size and hardness, but equal in sweetness to any of the natives. It belongs to the European family, is very productive and comes into bearing young, generally the second year after grafting. He has named it the "Sober Paragon."

Mr. Sober has also quite a block of nursery stock for sale and has now 300 bushels of seed nuts stratified to be planted next spring. The seedlings are grafted as two year olds or when they are over 30

inches high, as they must not be grafted below that. Mr. Sober has wonderful success with his grafting, and uses only the splice or whip graft, never leaving more than one bud on the scion. The graft is driven well together with the knife, no tying is done, but the cut surfaces are well waxed.

His sale stock is two years old and every tree shipped out is a bearing tree, properly inspected. As chestnuts do not thrive in wet, poorly drained land, he has planted cherries in his low places, and wherever a cherry sprout comes up, he grafts it, and has a choice lot growing, and every roadside through or along his farm is lined with chestnut and cherry trees. He also has some 150 English walnut trees growing, grafted on black walnut stock, but not yet bearing: he claims good success grafting these like his chestnuts.

Mr. Sober has no fear of the chestnut bark disease, nor has one of his trees been affected by it, and claims it much easier to control than San Jose scale.

Hundreds of visitors come there during the harvest season and both Mr. Sober and his son are very nice, social men, and enjoy taking anyone around and showing them what they are doing. They are now preparing stereopticon slides of the farm and its complete operation and I understand will put them on the screen in another year.

Why not plant a few nut trees in Wisconsin? We can grow them. Plant them along your roads, along your fences, on your lawns. They are prettier than a lot of our trees good for nothing but shade, besides the timber is valuable. And maybe some day you will live to enjoy the fruits of your labor and be blessed by your descendants for your forethought in providing nuts as well as fruit. Who will join me?

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 Madison, Wis.

The Commission men call farm orchard apples, "barnyard stock." Well named.

October is the month of the fringed gentian, pick the flowers but leave the plants.

Give the children a little money to invest in bulbs, a few for the home and a few for the school.

The next thing will be something else,—the Annual Convention, Madison, Jan. 7th and 8th, 1914.

Save apples for the fruit exhibit next January. We have the fruit, let's save some of it just to show to the unbelievers.

"Apples rotting on the ground"; "Apples fed to hogs," etc. etc., headlines in Wisconsin and Minnesota papers last month. This is the best possible use for that kind of apples, feed them to the hogs; then dig out the trees and plant corn, it's more fattening.

Fruit Shipping Associations

A La Crosse member who is a lawyer offers the following as a possible solution of the problem discussed in the August number.

"I note with interest in the August number of Wisconsin Horticulture an article from the Fruit Grower and Farmer, on the question "Are Fruit Shipping Associations Unlawful?" and also note your editorial on the same subject.

The Iowa case which you cite turned on the proposition of the society imposing a penalty on a member for selling to other parties. How would this work: Require each member at the beginning of each year to make application to the society for the right to use it as his selling agent for the coming year; and that in consideration of the society becoming his selling agent, he would agree to pay to the society so much a quart or bushel, or whatever it may be, as a commission, whether the sale is made by the society or by the party himself. If such an arrangement would hold the members in line I think it would be entirely within the law.

X. Y.

The Man From Missouri

There is a Man From Missouri in Madison. That of itself is not remarkable but,—and mark this but and fix what follows in your mind. Before you do that just

contemplate for a moment these figures: In 1910 Missouri produced 14,359,673 bushels of apples.

Missouri is known as one of the great apple producing sections of the country, mostly Ben Davis.

Now here is the point that you are to stow away in your memory,—the Man from Missouri is in Wisconsin for the purpose of buying apples by the car load,—good apples of course that being the point of this item.

Getting on the Map

Once a year the big apple buyers of the United States, organized as the International Apple Shippers Association hold a meeting in August. At this meeting growers are invited to stage an exhibit of apples, little green apples of course at that time of the year but to the practiced eye of Mr. Cash Buyer an instructive exhibit.

At the 1912 meeting this society staged a small exhibit as an experiment, received favorable mention and one premium ribbon.

This year in Cleveland we staged a larger exhibit having collections of commercial varieties from Richland, Sauk, Door and Bayfield and won three premium ribbons and a bronze medal.

The medal is third sweepstakes prize and won in competition with the provinces of Ontario and Nova Scotia, Canada, Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Michigan and Minnesota. The exhibit also received flattering notices in all the trade papers.

Growers, please hurry along the trees or we will be unable to fill the orders.

Better Homes

MRS. GEO. FRATT, BURLINGTON, AT
SUMMER MEETING.

The article in the June number of *Wisconsin Horticulture* entitled "No Gardens" and mentioning Farms with out gardens, filled me with compassion for people so unappreciative of their opportunities as to rob themselves of so much of the joy of living; and I long to beckon them out onto a vineclad porch over-looking a bed of bright flowers, and offer them fresh fruit from the berry patch, in an effort to inspire them with enthusiasm for that which is the best part of the home, its garden.

By garden I do not mean the vegetable patch only, but it includes also flowers and berries, and a shady place under a fruit tree. Necessarily in these days of scarcity of help, the care of the garden falls mostly to the lot of the woman of the family, and can and ought by her to be made a recreation from her labors indoors, and a source of pleasure and of health, for there is no better tonic than pure air, and no better way to keep vigorous than the exercise attending the care of a garden.

A friend of mine, a lady much older than myself, who has recently established a new home and an ideal garden in connection with it said to me. "People tell me they think I have enough to do in the house without working the garden, but I tell them the garden is my vacation, and if I did not do a little work in it every day I should not have the health and strength to do my work in the house." I wish I could persuade some who think they are not strong enough to work a garden of the truth of her words, I will give you my own experience in an endeavor to induce some indifferent ones to come out and work for health, pleasure and

profit, and help solve that much mooted question of the day, the cost of living, by supplying the table with fresh vegetables and fruit.

When eight years ago we moved from our farm, with all that implies in the way of broad fields, and woods, and orchard and garden into a new house, on a new lot in a new subdivision of the town I was confronted with the problem of converting this bare place into something that would seem like real home.

I also felt the necessity of working with judgment, for there was work indoors that required strength, and I had none too much, but much may be accomplished by a few hours work every day preferably in the morning, if the day is hot, before the sun is up; and any one who has not greeted the awakening day in the garden has missed much of the true joy of living.

Being accustomed to plenty of space and light, my first effort was to purchase the lot adjoining ours on the south, so as to guard against the intrusion of too near neighbors, then, of course I would have a garden on it and some flowers. The investment was not great, and the value has more than trebled since.

We moved into the house in hot July and fully realized that the first essential was to procure shade. Trees grow but slowly, and though we brought some young elm trees from the farm and planted them that fall, a few years later when our street was graded it was cut down several feet, so that our trees had to be reset, putting them back a great-deal and have not afforded us much protection.

Not much could be done the remainder of the year except plan and prepare for spring. These plans included the planting of pear trees in the back yard, thus trying

to combine fruit and shade, setting the Kiefer which grows rapidly and tall so as to shade the back porch.

Cherry trees which we brought from the farm were also added, and planted on the south side. I planted seeds of Trumpet vine and Catalpa in boxes in the house during the winter, and when time came for setting them out had vines and trees ready, which grew very rapidly this saved expenses, besides affording an interesting experiment.

I also threw the pits of peaches onto the vacant lot which had been plowed, and the next year some fine trees grew up from them which I with difficulty saved from the plow, the plowman contending that "them's no good; better plow them under and save bother," and was by others laughed at for my pains. However I rescued some, and to protect them planted currants and grapes in row with them and made the plowman plow around them. Then there came a severe winter and killed the trees before they were old enough to bear, so all the good I had of them was the shade they gave while alive. But I had others growing up and a few years later was rewarded by such an abundant crop of such luscious peaches, as to silence all critics, and have kept on growing peach trees ever since.

But I am hurrying ahead of time, for I wanted to tell you of my troubles; we generally like to do so.

The land here was infested with quack or couch grass. I had made the acquaintance of this grass on the farm, and realized the futility of planting anything permanent until it was exterminated, and that in order to do so I must get at the roots; such roots as I pulled out, a yard long, and thick like asparagus, gave proof of the fertility

of the soil. This work required several years, for I wanted to raise vegetables and strawberries each year, while doing this, so took it piecemeal, clearing a patch of what I could in the spring, before planting, and again in the fall after vegetables were grown.

The front of the lot was to be devoted to lawn and flowers. My friends, knowing of my love for flowers offered me many, which I set where I could until I had the ground cleared of quack, so had often to reset plants, and have not finished yet, for every year I see something that can be changed to make the effect more pleasing, or am getting a few more plants, and keeping up a constant interest in them. My general plan is to have a row of shrubs at the side of the lot farthest from the house, and against this background plant perennials, trying to have something always in bloom, and as most perennials blossom in the spring am studying to get some that will bloom later, and am grateful for any suggestions along this line.

A row of tall Iris borders the path between the flowers and the vegetable garden forming a background also for smaller plants and this bed is bordered by a dwarf phlox which is a mass of bloom very early in the season, and is a delight to the passers by.

Then the tulip bed occupies the space that is in full view of both house and street. This I cover for winter protection with the litter from the flower garden, allowing them to seed themselves, and, when the tulips have finished blooming the bed will be gay with self sown poppies, candytuft, and later on with the later bloomers, the California Poppies and Cosmos blooming until frost.

A woman likes to make things pay, and not be told that she has no business capabilities, so, when

I had some of the ground cleared of quack, I planted a good sized patch of raspberries, and by selling the surplus fruit, soon was reimbursed on all my outlays, and determined to have just one apple tree, thinking that the time to wait for apple trees to begin to bear seemed too long. I will say in this connection that my expenses were not great, for by beginning with a few plants (and these were given me by a neighbor from the prunings from his patch) one can soon increase the number by propagation.

Following hints given in Wis. Horticulture I bought a Wealthy Apple, and felt encouraged by its bearing a few years later, to add another, a Yellow Transparent.

Later on reading an offer of a collection of plum trees *cheap* I yielded to temptation and added those.

By this time I had so many trees and bushes planted that plowing was difficult, and the ground being cleaned of Quack, concluded to plant more trees and stop plowing. So my garden grew from a vegetable garden into an orchard.

I planted more cherry trees, some dwarf pear, and one row of apple trees ranging from early to late, the money from the berries covering all expenses.

The apple trees I planted the regulation distance apart, but between two apple trees I planted some of my beloved peach trees, reasoning that they may bear and *will* die before the apple trees will require the space. I do not know whether this would be approved by Horticulturists, but I like to do a little experimenting on my own account in the home garden.

Failing to excite any enthusiasm in regard to the work of the garden among the members of my family, but finding that they appreciate the results, will give you a list of

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The Coe, Converse & Edwards Co.
FORT ATKINSON, WIS.
Wisconsin's Largest Nursery

the good things in succession that we have had from my fruit garden this year, though the season has been unfavorable, and the harvest has not made good the promise of the early spring, my first garden being now about 16 years old.

First rhubarb, strawberries following then raspberries, black and red. Currants red and white, cherries, gooseberries, apples, plums 2 kinds, pears 2 kinds, peaches 3 kinds, some grapes, melons and tomatoes, besides the vegetables, with a goodly supply of jelly, spice and canned fruit for winter, and money enough to buy more plants or trees if I find anything more that I want, which I most likely shall before spring. Then we must not forget the gain in health, and the pleasure of it all, nor the pleasure given to others with the flowers which were sent to many a sick chamber, and supplied the decoration on many occasions. But the picking of berries to sell requires much labor and time, and since I have my garden planted, and am out of debt on the venture, I am planning to reduce the labor, so that I can devote more time to my flowers, and to the study of the care of the trees in regard to pruning, spraying, etc.

To this end I have set out more currant bushes, starting them from cuttings from the old bushes. These do not require much care, the fruit is easily picked and sells readily, and will supply the money necessary for running expenses, then shall cut down the berry patch to family requirements.

Eventually, when my trees as well as myself have grown older, expect to allow the grass to grow under them, forming a shady place in which to pass leisure time, thus completing the ideal of a garden, and while my friends and myself are enjoying the shade and the fruit and flowers, shall by ex-

ample as well as by precept be an advocate of the home garden.

Selecting Seed Potatoes

GEO. F. POTTER.

"In digging the crop in autumn, it is an excellent plan to save the potatoes from the very best hills for planting the following season." This suggestion by Prof. C. A. Zavitz of the Ontario Agricultural College is worthy of attention.

The investigations of inheritance which have been carried on in recent years indicate that in selection of better seed we must study the individual parent plant. Thus all of the tubers of a good high yielding potato plant are good stock and by planting them more good plants like the parent ought to be obtained. On the other hand a large potato from a hill which contained only one or two is comparatively poor stock and of little value. I should rather plant small tubers which were grown in productive hills than a large tuber from a plant comparatively unproductive.

Selecting big potatoes from the bin therefore is not a certain method of getting good seed. It is probably true that the potatoes from unproductive hills will average smaller than these from good plants. In that case (by selecting from the bin), we would get seed much or most of which was of good parentage. But the only certain method is to select in the field, laying aside the entire yield of the best individual hills. In digging potatoes by hand this is a simple matter, as the seed tubers can be thrown to one side or into a different row from the bulk of the crop, and later gathered separately. If a machine is used for digging it would be necessary to go over the field be-

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Fifty-ninth Year

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Surface rolling; soil, rich clay loam underlaid with limestone. The orchards of adjoining farms show the adaptability of this part of Wisconsin to apple growing. Near railroads and markets. Prices reasonable. Write for particulars.

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are in a position to furnish high grade Nursery Stock of all kinds and varieties suitable to Wisconsin and other northern districts.

Will be glad to figure on your wants either in large or small quantities.

WAUWATOSA, WISCONSIN

forehand with a fork gathering some of the best hills selected as well as possible from the appearance of the vines.

The writer has in mind a trial of this method observed in Michigan. The farmer selected the best plants from his early potatoes and planted this seed in a couple of rows alongside of a field from unselected tubers grown in the same crop. I am told by the hired man that the yield from the selected seed was noticeably larger than from any of the other rows. At the time that I saw the patch the selected plot was distinctly different in the appearance of the vines from the bulk of the field. This in itself is an indication that if we desire to improve or change a variety that it is a very good method to select by individual hills.

The operation of this plan requires extra labor, but as with all work done to improve seed it is likely to prove profitable. If with the same fertility, moisture, and cultivation selected seed produces larger crops than unselected seed its value becomes greater in proportion to the increase it is responsible for. While we have not enough data to unhesitatingly recommend hill selection of potato seed, it is worthy of trial on a small scale at least.

A recipe for Tomato Mince Meat, which has been tried and found good, is as follows. Four quarts green tomatoes chopped fine, cover with cold water and let come to a boil. Turn off the water, repeat three times, then drain. Add two pounds brown sugar, one pound seeded raisins, one-half pound citron, one large cup of suet chopped fine, one spoon salt, one teaspoon cinnamon, one teaspoon cloves, one teaspoon nutmeg. Boil one hour, can and make into pies

F. R.

Corrosive Sublimate Solution

In the article on *Fire Blight* page 2 of *Wisconsin Horticulture* for Sept. an error was made in that a saturated solution of corrosive sublimate was recommended for disinfecting tools. The usual recommendation is to use one part of the sublimate to 1000 parts of water, and while a slightly stronger solution does no harm a saturated solution is much stronger than is necessary. This is also a good opportunity to add that this chemical is a poison and must be carefully handled as such. This point was not emphasized as it should have been either in the article mentioned above or in the discussions at the summer meeting of the Horticultural society.

G. F. P.

Blanching Celery

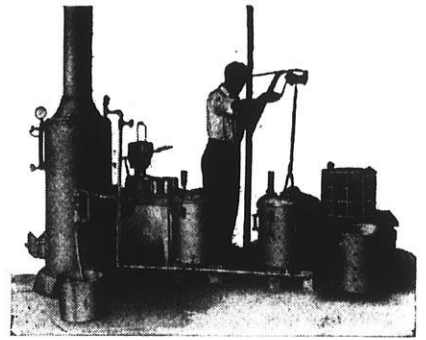
The best method for blanching celery on a small scale is by the use of ordinary unglazed drain tile of about four inches diameter. The stalks are first loosely tied together with light twine and a few of the outside leaves removed. The tile is then slipped over the plant. The leaves spread out over the top of the tile and exclude the light. When not in use the tile can be stored away, and thus be used from year to year.

For the blanching of late varieties the soil method is usually conceded to give the best flavor. Good late varieties will not rust when banked with soil. Care should be taken to prevent soil from getting into the heart of the plant as it causes decay.

When celery is to be stored over winter it will keep better if not blanched too much. It can be safely stored in a cool cellar if some of the roots are left on the plants and covered with moist sand.—*The Canadian Horticulturist*.

CANNING AT HOME

The Steam Pressure Way



The tremendous waste and big loss from low market prices and the quick ripening of fruits and vegetables is entirely saved by canning at home in a NATIONAL Steam Pressure Canning Outfit. The "Steam Pressure Way" carries Government endorsement, and thousands of satisfied users will back up our statements.

Bigger Prices for Fruits and Vegetables.

A NATIONAL Canning Outfit enables you to put up what you raise yourself, or start a small canning factory, or establish a community canning outfit among your neighbors for mutual protection. Canned fruits and vegetables are easily sold in the fall and winter at good prices.

NATIONAL Canning Outfits are the same as used in modern canning factories only made in smaller sizes. They preserve anything you grow, either in glass jars or cans. Complete Home Outfits \$15 and up. Hotel sizes \$25 and up. Factory sizes \$110 and up.

Write at once for descriptive circular and state in what size you are interested.

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Our Trees Live. We had an opportunity to compare 500 of our Wisconsin grown trees with a similar lot of an Eastern Nursery. At the end of the season only 52 per cent of the eastern grown stock was alive, while 95 per cent of ours lived and grew. Moral: buy home grown stock and avoid loss. Our trees are **HARDY**, and our stock is **HEALTHY**. A comparison will prove that our stock has not the willowy and watery soft growth of southern or eastern grown stock.

Every tree and shrub is packed entirely under cover, free from exposure to sun and wind.

Great Northern Nursery Company
Baraboo, Wis. Write for Catalogue and Price List

Gardens**CANNED PEPPERS.**

Cut the cores from sweet red peppers, removing every seed. Pour boiling water over the peppers and let stand five minutes. Do this three times then place in sterilized cans. Heat a solution consisting of 1 cup strong cider vinegar, 3 cups water, 2 level table-spoonsful of salt to the boiling point, pour over the peppers and seal.

F. R.

Set out peonies and perennial phlox this month and cover lightly with coarse litter.

Baraboo, Sept. 22.—We have had our first frost and it was light. That tells the story of the climate in this part of the state.

Try plowing the garden this fall and see how it goes to be able to work the soil in the early spring which has had the fall plowing.

Cut out the old blackberry canes and cut back the new growth to the desired height, taking care to remove all weak or diseased shoots.

Plant parsley plants in flower pots or small boxes and keep in the sunny kitchen window for winter garnishing or flavoring.

Have the surplus apples made into cider and if there are grapes to spare, try unfermented grape-juice.

Take up and repot all plants intended for winter blooming, using wood soil if available. Add a well grown tomato plant to the collection. It is interesting to watch the fruit develop, and quite a treat to have home grown tomatoes for dinner when the ground is covered with snow. It helps to cut the high cost of living.

We note by the report in The Wisconsin Agriculturist that our

Secretary was disappointed with the Fruit Exhibit at the State Fair. It did not measure up in a commercial way as he desired. We can only counsel patience. Increased years will bring greater wisdom and anyhow the Wisconsin fruit received the greatest boost in the history of the State.

Mrs. L. H. P.

Preparation of Compost

Mr. J. J. M. Farrell writing in *Horticulture* makes the statement that "plenty of sod is the foundation for success in all horticultural operations under glass." Those who raise early flowers and vegetables will do well at this season to provide a sod compost for next years wants. It is simply necessary to build a heap of sods, cutting the turf thickly and placing it in layers grass side down. Between each two layers of sod is placed a layer of manure, cow manure being preferred. Mr. Farrell states that the pile should be built up to a height of about five feet and after standing during the fall should be cut down with a spade before freezing weather and worked over to hasten decomposition. This operation also exposes the entire pile to the action of frost and snow so that by spring it is in fine mechanical condition. In the experience of the writer this cutting down of the pile before frost has been omitted, and the pile not considered ready for use until the middle of the following summer. This requires a little less labor and a little more time. I doubt if a compost prepared in the fall would be ready for use in hotbeds in the following spring. Therefore, it is best to be forehanded and keep a supply of this prepared soil on hand. Mixed with a little sand and loam it makes an excellent potting mixture.

—G. F. P.

W. A. TOOLE

"Carry nee Dule" Baraboo, Wis.
WHOLESALE GROWER
 Of Plants, Seeds and Flowers of
HARDY PERENNIALS
 Prices on Application

"Made in Wisconsin"

Berry Boxes, crates, climax baskets, bushel boxes, and baskets.

A full line of fruit
 Packages

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APPLE TREES**

Winter varieties of quality and hardiness, Gem City, Tuttle's Winter and McIntosh Red. Native Plums, Prof. Hansen's Hybrid Plums, Burbank's Epoch Plum. We also make a specialty of northern grown native and standard shrubs.

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APPLE TREES

We have growing in our nurseries at Waterloo, Wisconsin, the finest blocks of Apple Trees in the Northwest. We offer for late fall and early spring shipment, 75,000 two year, strictly first class; the kind of trees Commercial Planters want. We also have 40,000 three year, none better grown. In addition we have a general assortment of other stock to offer. Parties contemplating planting large quantities of Apple Trees should get our prices.

McKAY NURSERY CO.

General Offices
PARDEEVILLE, WIS.

Growing Peaches From Pits

Mrs. George Fratt.

We have enjoyed our crop of homegrown peaches so much that I should like to tell the Home-Gardeners about it, and perhaps may help some of them or some boy or girl on the farm to a like enjoyment, for I find people expressing surprise that peach trees grown from pits will under favorable weather conditions bear good fruit in three or four years. Of course the trees are not hardy, and it would not be advisable to spend money in purchasing them, but when one can grow ones own trees, if they do not bear before they die, there is nothing lost except perhaps a bright hope. But do not lose hope altogether but keep on planting pits, for the seasons are not always unfavorable, and one crop pays for a good deal of time and labor.

Two years ago the season was exceptionally favorable for fruit growing, and we had on 5 trees about 8 bushels of fine peaches; last year we had none, but this year about 3 bu. on three trees. Two of them were trees that bore 2 years ago, one was very thrifty, the other had only one live limb which needed three props to hold up its load.

I have said plant the pits, but perhaps I do not mean just that and will explain, for people repeatedly ask how I make them

grow, saying that they have planted again and again but could not grow a tree; then I remember the few times when I took special pains to plant some where I wanted the trees to grow, but could not make *one* grow there and have concluded that they should not be planted *in the ground* but should lie on top to be toyed with by the elements during the winter, so I simply throw them out into the garden patch or into the edge of the wood pile on the farm in the fall and don't worry over them until the garden has been spaded or plowed and planted in the spring, then when I spy one coming up among the vegetables I set up a stick beside it to save it from being destroyed in hoeing, or at the wood pile the children would make a fence of sticks around it to protect it until it could be transplanted in the fall or spring.

Of the six trees which we have had in bearing these two years no two were alike but all were good. Two were white fleshed, only one was a cling-stone and that was a large yellow, juicy peach, ripening after the middle of September. The earliest ones were ripe the last week of August.

The trees will do well if grown quite close together, and will do best if sheltered partly against the coldest winds but also against the hot sun, and I am inclined to the opinion that it is not so much the cold winter as the warm weather in the fall that is to blame for the trees dying, as it keeps them growing too late to properly prepare for winter.

A few tried and true remedies, some bandages, peroxide, etc., should always be at hand, and to each adult member of the household their place and use should be familiar. Much pain and suffering may be prevented by a little foresight. F. R.

Door County Fruit Lands For Sale

Also Cottages and Bay Shore Lots

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Sister Bay, Wis.**"We have a Fine Lot of
Plants for the Garden."****SEND FOR LIST****J. E. MATHEWSON****SHEBOYGAN, WISCONSIN****FREE** An 84-Page Book on
**"How to Plant and
Improve the Home and Orchard"**

will be mailed free on request to all contemplating planting fruit trees and ornamentals in the spring of 1914, together with our complete catalogue of

CHASE'S**HARDY TREES and SHRUBS**

backed by fifty-six years of horticultural experience. Be sure to get this valuable book. A request brings it.

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The Rochester Nurseries, Rochester, N. Y.

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Nurseries****Vincennes, Indiana****W. C. REED****PROPRIETOR****Cherry Trees by the
100 or 100,000**

The Growing of Cherry Trees has been our Specialty for Years. Our soil and method of growing produces a Tree that is not excelled by any one. Splendid blocks of two-year 5 to 7 foot trees and one-year 4 to 5 foot trees. Early Richmond, Montmorency and other leading varieties by the 100 or car load. We also grow a general line of other Nursery stock. Personal inspection invited. Correspondence solicited.

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PAEONIES

Send us a \$1.00 bill and we will express you ten good roots of our selection. Get our catalog.

W. J. MOYLE, Prop.**Wisconsin Nurseries**

Union Grove,

Wis.

Storing Cannas

Some of the improved varieties of Cannas are not always easy to carry through the winter, but the following method has worked well where the plants have been grown on clay soil. After the frosts have stopped the blossoming they are dug up with plenty of dirt left around the roots. The tops are cut off five or six inches above ground and the roots with the dirt placed in a furnace cellar as far from the fire as possible. They are here left to dry out and the clayey soil drying around the roots makes a casing about them which preserves them in good condition until time to start them into growth.

W. A. T.

A recipe for Hot Sauce, which has been used in our family for years, is as follows: 1 gallon of vinegar, 1 large box ground mustard or 16 tablespoons, 3 tablespoons curry powder, 1 pound salt, 4 quarts ripe tomatoes peeled and cut up, 3 quarts green ones, 1 quart large green peppers, 1 quart large red peppers, 1 quart slim red peppers, sliced, 2 quarts onions, 1 quart sliced cucumbers, 2 quarts small cucumbers, 2 quarts cauliflower, 1 pint grated horseradish. When the green tomatoes, peppers, onions, cucumbers and cauliflower have been prepared by cleaning and cutting or slicing into medium small pieces, put in separate dishes, sprinkle salt over and pour on boiling water. Let them stand over night. Pour off the water, put in a colander, pour boiling water over, put in your vinegar, which has been previously prepared. Stir often with a wooden spoon. It will be fit for use in a few days.

F. R.

Let us spray, early and often.

Sweets**PEANUT BUTTER FUDGE.**

1 cup milk, 2 cups granulated sugar, 1 tablespoon (rounding) peanut butter. Stir all together and make like fudge.

MAPLEINE FUDGE.

1 cup milk, 2 cups light brown sugar, 1 tablespoon butter (rounding). Make like fudge, flavor with 1 teaspoon mapleine and add nuts if desired.

B. H.

CHOCOLATE CARAMELS.

3 cups light brown sugar, 4 squares unsweetened chocolate grated, 1 tablespoon butter (level), $\frac{1}{2}$ pint cream or condensed milk, (I use ordinary milk) boil gently and stir only to prevent burning over a slow fire, until it makes a hard ball dropped in cold water. Add 1 teaspoon vanilla extract and pour in buttered tins. Cut in squares before it hardens.

B. H.

Grapes should be pruned in October or November. Remove about 98 per cent of the 1913 growth and sometimes that amount of older wood.

WANTED

Members to write for Wisconsin Horticulture, short articles, not over five hundred words, something from your own experience. Five hundred words or even one hundred may be worth a dollar a word to some one.

We want to know what you know.

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Hardy, thrifty tree—fruit large, brilliant, waxy red—a wonderful keeper. Free Year Book tells all about Stark Delicious.

Write for the FREE Stark Orchard and Spray Book

—best orchard guide, from buying trees to marketing crops. Most modern practical spray book. If you grow fruit don't miss it. Send name today on postal. Ask for tree prices for Fall planting.

Stark Bros. Nurseries and Orchards Co., Box 80, Louisiana, Mo.

“White birch” fruit packages, climax grape and peach baskets, repacking baskets, beekeepers' supplies, tree protectors, poultry crates and wood specialties. Write for prices.

SHEBOYGAN FRUIT BOX CO. Sheboygan, Wis.

An Improved Pole Pruner!

The *Fruit-Grower and Farmer* calls attention to a new invention for the apple grower which may very well save much time and patience. This is a jointed pole pruner, put up in sections of four feet each, each piece to be removed or added to the pruner at the will of the operator. Those of us who have tried to cut low branches with a long pole pruner, or stretched after high ones with a pole a little too short realize that this device will make the pruners much more convenient provided that the change can be quickly made and that the operation of the shears is not interfered with. The cutting bar is provided with a compound lever to make the operation of the knife easy.

G. F. P.

Little Ones

Bear in mind that the least abrasion or cut in the skin of fruit gives the mold a foothold; and, once started, the most careful packing will not prevent the decay.

Do not forget that autumn is the time to plant the tulip bulbs. They withstand the most severe cold of winter and greet us with their bright and cheery display during early spring.

If the refrigerator is dingy, give it two coats of white enamel paint. Paint it this fall so it will dry thoroughly and the scent of the fresh paint will have entirely disappeared before it is needed for use again.

With a little study of the arrangement of cut flowers one soon discovers the effect does not depend on the quantity. A few, well arranged, prove more satisfactory than many carelessly placed.

F. R.

Wisconsin Horticulture, Two Years for \$1.00

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Large Track Wheels
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Positive Double Lock

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WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

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Volume IV

Madison, Wisconsin, November, 1913

Number 3

"Farm" Orchards vs. "Home" Orchards

For several years the writer has advocated the elimination of the "farm" orchard, the orchards of 50 to 100 trees that may be found on many large farms and conducted, or rather permitted to exist, as a side line to general farming; that the average farmer has no business dabbling in fruit growing for market; that it will require the best application of all his brains to attend to his farming operations if he expects to succeed; that fruit growing is a highly specialized business, requiring special training and above all strict attention to details; that every farmer should have an orchard of 10 to 20 apple trees and other fruits in proportion and no more; that fruit growing should be done by fruit growers, men who will go into it to a sufficient extent to make it their principal business with such general farming as they may care to conduct as a side line; that when we get on this basis and the "farm" orchards are all dug out and the land planted to corn or potatoes it will be vastly better for all concerned.

It's true that when I first mentioned these things several well meaning and leading members of our society considered me crazy,—and said so.

Quite likely, we are all more or less crazy and just now I find lots of company. It's a "buggy" subject anyway.

prayer for the speedy enactment of the lost market commission Bill that will at once cure all our ills.

It is true that apples, a few thousand bushels, were wasted this fall but always farm orchard apples and mostly Duchess, Tetofsky and other early kinds. Even



A well kept farm orchard near Fox Lake. No apples on the ground here.

This is a big apple year in Wisconsin, every apple tree in the state wherever found is stuck full of fruit and like in 1909 the country newspapers begin yapping, "Apples rotting on the ground," "Apples fed to hogs," "Apples bringing 25 cents a bushel in the orchard and 50 cents a peek in the stores," generally accompanied by a roast of the greedy middleman and ending with a fervent

the small orchards furnished a surplus beyond family needs, from five to fifty bushels according to the size of the orchard.

Some fine day in August Mr. Farmer happens to walk through his little scrubby, unpruned, and unsprayed orchard, the first time since last August and sees some apples. It requires lots of time to pick apples properly so Mr. Farmer, or his wife, takes the easier

way, it's so *much* quicker, and shakes them down. Dumped in a sack or anything handy this bruised and probably scabbed and wormy stuff is brought to market. It's a good market day and "everybody is doing it," because everybody has some to spare, and the price is 25 cents a bushel. One trip is usually enough and "apples rot on the ground." Most of them ought to rot on the ground, not good enough for any other purpose. Sometimes the storekeeper in self defense buys all that comes, pays 75 cents for the apples, 40 cents for a barrel, 15 to 25 cents for labor in packing, 10 cents dray, 25 cents freight, 10 to 15 cents commission and gets \$1.50 a barrel; good business, for everybody but the storekeeper.

Here is the other side: A clean well kept 20 year old orchard of ten acres, 700 to 800 trees of not more than ten varieties and the bulk of it four, Duchess, McMaham, Wealthy and McIntosh.

Trees carefully pruned each year, sprayed four to six times or as often as needed, ground cultivated and planted to cover crop and loaded with clean, sound fruit.

In the shed in addition to the spray rig and orchard tools will be found ladders, crates, barrels and a barrel press. When the Duchess begin to ripen the first picking is made, packed in barrels and shipped to Milwaukee, Chicago or Winnipeg bringing \$2.00 to \$2.50 *net*.

This year the later sorts will bring a dollar better than that. No apples rotting on the ground, —except windfalls and the ones knocked off by accident. Mr. Fruit Man knows better than to pack windfalls and bruised fruit.

This orchard will yield from two to six or eight barrels per tree salable stock. Barring storms or unusual weather conditions it

will be the same next year and each succeeding year. This is fruit growing conducted as a business.

Some readers may doubt the existence of such orchards in Wisconsin. Except as to the varieties and a little leeway for clean culture I can show you dozens of such orchards from ten to twenty-five years old from five to sixty acres in extent.

Now this is the way to make a little money raising apples,—the farmer with his neglected orchard makes no money and never will. If by any possible means all the fruit from these little orchards could be brought to a central point, sorted and packed by an experienced man something might be realized from it although it would not bring the best price on the big markets.

This has been done in some sections this year the farmer getting 25 to 40 cents per bushel. This plan although it helps the farmer is a decided injury to fruit growing in the long run. The apples are not properly handled by the farmer and rarely sorted at all by the buyer and go on the market as "Grown in Wisconsin" alongside Bassett's Snows and Wealthy. Poor business and nobody benefits by it except possibly the buyer may make a little by working mighty hard for it. The consumer certainly doesn't get anything out of it as the retailer charges the price of good fruit whether in Chicago, Madison or Fond du Lac.

What's the answer? Mr. Economist may say that we should eliminate all those frightful middlemen and bring the producer and consumer together. Ask the busy farmer these days with the shortage of help how it would work. About like 99 per cent of similar producer-consumer fairy stories emanating from the high

crowned domes of our deep (?) thinkers.

Next year there will be no surplus from the farm orchards and the howl will cease until 1915. In the meantime many young men who had a leaning toward legitimate fruit growing will be scared out by the "rotten apple" cry.

By all means let's dig out the farm orchard down to the limit of home needs, encourage the planting of five, ten and twenty acre orchards and we will then have only "home" and commercial orchards. None of this is intended as ridicule or criticism of the farmer but this is the day of specializing in everything. Times have changed, the "shoemaker" no longer makes shoes, these are made in the shoe *factory* where hundreds of people work and not one of them could make a pair of shoes if his or her life depended on it. And so in everything else even in farming. The term "general farming" no longer applies for the very best farmers are either dairy farmers or fat stock farmers or sheep farmers or fruit farmers, but not doing all of these things.

Likewise the day of the small orchard is past and the man with the power sprayer and the barrel press is the only one who will win. For him there is abundant room.

F. Cranefield.

A moderate baking of earth in the oven will kill all insect life and will not lessen its value for potting of plants.

When repotting geraniums, do not use a pot that is too large, or excessively rich soil. Either of these tend to induce excessive growth of foliage and less flowers. Be sure that the soil is pressed in firmly when repotting.

We accept advertisements only from reliable persons and firms.

Bulbs for House Culture

JAMES LIVINGSTONE, Milwaukee.

There are numerous varieties of bulbs that can be forced during the winter, and spring months, but many of them have to be grown in a greenhouse to get the best results, so these remarks will be confined to varieties that are suitable for ordinary house culture.

The varieties mentioned in this article will be found easy to manage, will give ample returns and afford great pleasure for the amount of money and labor expended on them.

This number may be considered a little belated, well perhaps it is, but there is still time to plant, although it should not be delayed much after the fifteenth of November, as the longer the bulbs have to root, the better they will force.

In bulb culture, ordinary good, rich garden soil, with a fair amount of sand mixed with it, will give good results.

In planting bulbs such as hyacinths, Tulips or Narcissus in pots or pans, don't press the soil very firm under the bulb, as, if the soil is too firm the roots don't get freedom to work, and the bulbs are apt to get raised clear out of the soil. The roots are then exposed, and suffer greatly, making the results unsatisfactory.

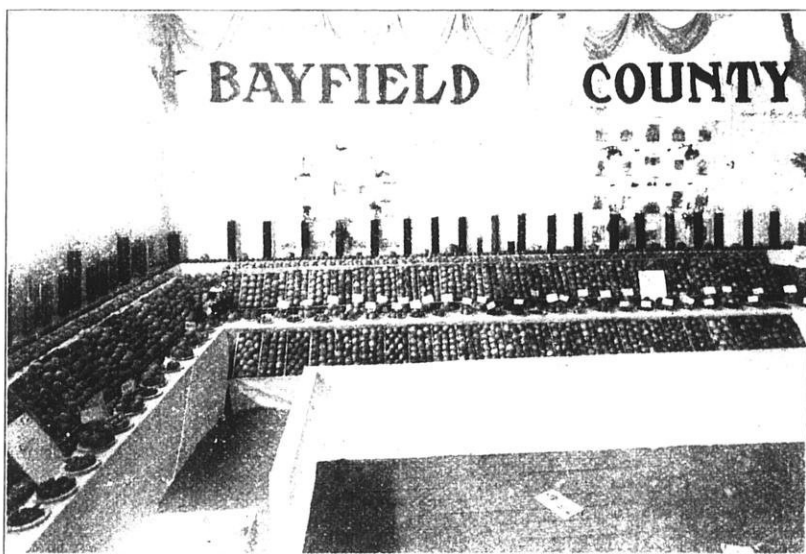
Some people are very fond of Hyacinths, while others object very much to the strong odor in a living room. They should never be placed in a bed room, or in a room where a sick person is, as the odor is very objectionable in a close room. The French Roman Hyacinths are very pretty, and are easily forced. They should be grown in pots or pans, planted quite closely, almost touching each other, and are very

effective when grown in pans containing six or more bulbs.

This variety is not hardy, and should not be subjected to frost. After planting they should be given a good watering, and placed in a cool part of the cellar with four or five inches of sand or coal ashes put over them. Leave them there for six or eight weeks or until they are well rooted, then they will be ready to bring into the heat, and light.

The large flowering single and double Dutch Hyacinths can be

grown in various sizes, the number of bulbs according to the size of the pan. They should be given more room than the Romans as they are much stronger growers. The bulbs should be placed in the pan so that the top of the bulb is but barely covered with soil, and when covered the soil should be about an inch below the rim of the pan to give room for watering. After planting, give them a good watering, put them in a cool place, and cover with sand, as already advised. Don't be in too



Bayfield County special fruit exhibit in horticultural building, State Fair, 1913. More and better fruit here than in entire fruit exhibits in this building in any year previous to 1912. This exhibit awarded first prize by Prof. J. G. Sanders.

grown in much the same way as the Romans, but they do not force so readily, and require to be kept longer in the dark, as to get good results it is absolutely necessary that they should be well rooted. Much of the failure in forcing Hyacinths, Tulips and Narcissus is caused by bringing them into the heat and light too soon, that is, before they are well rooted.

In growing the Dutch Hyacinths use a good rich loamy soil. The large bulbs can be grown singly in five inch pots, and will give beautiful large spikes. They can also be grown in pans of var-

big a hurry bringing them into the light, as the longer you leave them in the dark, the more satisfaction you will have. From ten to twelve weeks is not any too long.

Dutch Hyacinths can also be grown in Hyacinth glasses which are made for that purpose. Fill the glasses with clear, soft water, so as to almost touch the base of the bulb, then put a piece of charcoal in each glass to keep the water sweet and pure. They should then be placed in a cool place, and left until the roots almost touch the bottom of the glass. If the water in the glass gets foul

or decreases refill with fresh water.

The single varieties are best suited for growing in glasses. Among the best named varieties for this purpose, are Gigantea, light pink, La Grandesse, pure white and Enchantress blue.

Tulips are perhaps the most satisfactory bulbs, we have for forcing. Their beautiful form, and brilliant colors are greatly admired by all. Their culture is very simple. They can be planted in either pots, pans or boxes, and if placed in a cool, dark place, giving them the same treatment as advised for Hyacinths, they give splendid results.

The method used by the florists in general is to plant them closely together in the boxes, pots or pans, then put them outdoors on a spot where the water will drain away from them. Give them a thorough watering, then cover them with sand or coal ashes. Leave them this way until danger of severe freezing. They should then be covered over with enough long stable manure to keep the frost out. Freezing won't hurt them after they are well rooted, but it is better to add enough long manure to keep the frost out, as the weather gets more severe. When protected in this way it makes it a much easier task to get them out, in cold weather.

The single and double early Tulips are both suitable for forcing, and if planted early in November should be ready to bring in to the heat and light about the latter part of January. If they have been cared for properly, they will be well rooted by that time, and will be sure to give thorough satisfaction. The following single varieties will be found to give good results. Cettaice Maid, rosy pink, white striped, Fraserpine glossy pink,

one of the earliest to force, Rose Luisante, very beautiful deep pink, Chrysolora, yellow, Yellow Prince, these two yellows are very sweet scented. La Reine, white, Keizerkroon, red and yellow, Thomas Moore, apricot orange. There are many other varieties that are as good as the ones named. Among the double varieties the following are good: Ceuronne D'Or (Crown of gold) rich golden yellow. Imperator Rubrosum, bright scarlet, Murillo, white suffused with pink, and many others.



A corner in a Sauk County "farm" orchard.

Narcissus are also valuable for forcing and should be given the same treatment as advised for Tulips, except the Polyanthus varieties which will not stand freezing. The paper white grandiflora, and Chinese Sacred Lily belong to this class, and give good results grown in bowls of water, with gravel or pebbles around them to hold them in place.

The ordinary Narcissus or Daffodils should be grown in soil and treated like Tulips. The following varieties will be found to give excellent results. Emperor, Empress, Golden Spur, and Voa Sen. There are other varieties of bulbs such as Jonquils, Crocus, Snowdrops, Grape Hyacinths, Scillas and others that are very pretty and can be forced easily if

the same method is followed as with Hyacinths, and Tulips. The whole secret is to give them time to get well rooted before trying to force them.

Covering Roses for Winter

We have found plain dirt to be a most satisfactory winter covering for roses and other tender shrubs. It is always available and has the further advantage that it will not harbor mice. First loosen the dirt a trifle on the side towards which the top is to be bent. Then throw a little mound up against the bush to act as a support when it is bent over and prevent so sharp a bend as to break the stalk. A convenient way to handle roses is to gather together a number of the stalks with a manure fork or other fork, bend them over and pin them down with the fork. Then throw dirt over the tips and follow down to the base. Be sure the part that is bent is well covered with dirt. If not well covered at this point the tips may come out perfectly green in the spring but with a dead section towards the bottom of the cane.

W. A. Toole.

Dig up a few hills of rhubarb for forcing during the winter. Let the roots freeze under cover or where they will not be frozen tight to the ground. When wanted for forcing place in the cellar with straw, sand or other matter which will hold water around the roots. Keep thoroughly moistened and in the dark. If placed in the light the growth will go to the leaves instead of the stalks. A warm cellar or furnace room insures a more rapid growth.

We accept advertisements only from reliable persons and firms.

The Biggest Cherry Orchard in World

Door county boosters have put forth this claim for two years to the world at large and so far nobody has come forward to dispute it.

Seven hundred acres is some cherry patch but some of us at least know now for certain that it is a reality for we rode through it last August.

The following from the Door Co. Democrat of Oct. 17th shows that the manager of the Co-operative is getting ready.

"The Co-Operative Orchard Co.'s seven hundred acre tract of land, two miles north of this city, is a scene of activity at the present time. A crew of forty men is employed, a dozen or more mule teams, a big stone crusher, a concrete mixer, graders, etc., making it a busy place. New roads are being built, old ones macadamized, 400 acres of buckwheat being cut, and a concrete floor and piping being put in the new big hotel building which will be completed next spring.

HOTEL AND COUNTRY CLUB.

The building that is being erected for hotel purposes will also be used as a country club. The surroundings are ideal for such purposes. The building stands on the west end of a five-acre tract, which will be the club grounds. On these grounds tennis courts will be erected, and a fine macadam driveway will extend around the building and there will be suitable places for automobiles. From the large porches of the building a view of the thousands of cherry trees that extend over the 700 acres can be seen.

The main building is 160 feet long and 20 feet wide, which will be used as the dining room, its seating capacity being over 500. This will be one story high, and

lighted by windows in the roof. At each end there is to be a three-story structure 32x42 feet, which will contain sleeping quarters, wash rooms, toilets, etc. The floor throughout the building is to be solid concrete. It is now being laid by Lester Nebel.

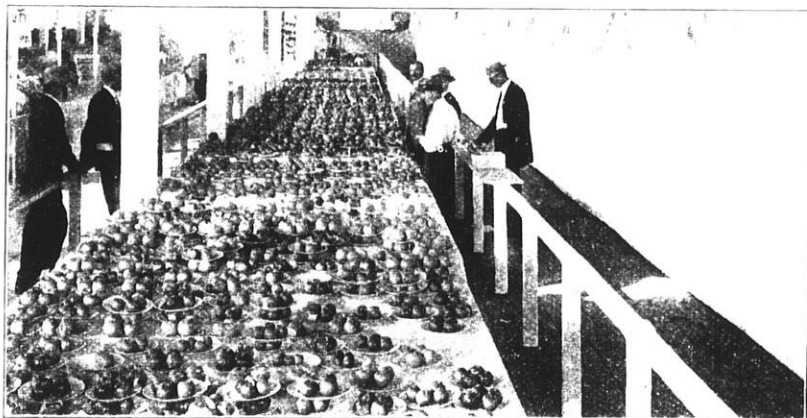
The building will be used not only as a hotel for the hundreds of cherry pickers, employed, the company having planned to give first class service to all who desire to stop there.

The location being an ideal one, in the largest cherry orchard in the world, on a high plateau where there is a magnificent view

road will be completed this fall and will give the traveling public an opportunity to pass thru the big orchard on their way to Egg Harbor, Fish Creek, Ephraim or any of the northern towns.

THE CHERRY ORCHARD.

The 70,000 cherry trees in the orchard are in perfect condition. Large healthy trees, uniform in size, with heavy foliage for this time of the year makes it a beautiful sight. The buckwheat planted between the older trees, which cover 400 acres, is being cut. Work of hilling up around the trees is also in progress.



Portion of plate display, 1913 State Fair.

of the surrounding country, and cool breezes blowing, scented with the fragrance of cherry blossoms, there is no doubt but what it will become the most popular place in this section of the state for automobile parties from miles around to come and spend their Sundays.

BUILDING MACADAM ROADS.

At the present time six miles of macadam roads are being built within the orchard. There will be four entrances to the orchard, macadam roads leading into it from the south, west, north and east. The road to the east is now being opened up and will connect with the Egg Harbor road. This

While the orchard is still young, the oldest trees being but three years, they began to bear this season, and quite a crop is looked for next summer, probably requiring two hundred pickers to handle it.

ORCHARD NAMED "ALTA VISTA."

The Co-Operative Orchard Co.'s big cherry orchard has been named "Alta Vista," derived from a Latin phrase, meaning high plateau. The name is very appropriate as the orchard is located on the highest elevation of land in its immediate vicinity, overlooking the entire surrounding country, as well as the waters of Green Bay and Sturgeon Bay."

Storing Winter Cabbage

The requisites for storing winter cabbage, according to the Rural New Yorker, are low temperature which stops decay, moisture which keeps the heads fresh and crisp, ventilation which removes the excess moisture, and the prevention of hard freezing. Prof. R. L. Watts of the Pennsylvania State College, who is perhaps our best authority on the culture of vegetables, suggests three ways of providing these conditions. For the handling of large crops and for greatest convenience, specially constructed store houses are used. These are sheds, built with two walls of matched lumber and building paper, between which there is a six inch dead air space. Every twelve feet a six inch tile is inserted through the foundations, which are of concrete or masonry. These openings are to provide ventilation. They are left open except in very cold weather when it is safest to stuff them with sacking. The bins are constructed of slats and are in small units one above the other in order to provide for free circulation of air. For the same reason the floor, which is built only between the bins, is of six inch boards with an inch space between each two.

The houses are necessarily expensive to construct, hence pits are often used. These should be located in a well drained spot. They are usually about two feet in depth, eight to fourteen feet wide and of any desired length. The sides can be constructed of brick, cement or boards and banked with earth. The roof may be of boards or if desired of reinforced concrete. In cold weather it should be given additional protection with strawy horse manure or other litter. Cupolas or ven-

tilating shafts must be provided in the roof.

Burying the cabbage is practicable, but objectionable because of the difficulty of removal. One way is to simply plow a furrow, place the heads wrong side up in this, and throw the dirt over by plowing another furrow on either side. Another plan is to lay the heads in windrows three heads in width with some of the outer leaves beneath. The windrows should run up and down rather than across the slope. The covering is accomplished* by plowing on either side and finishing with the shovel. Six inches of soil should be over the heads. Either method of burying will need further protection with horse manure and litter during the cold weather.

G. F. P.

October Flowers

W. A. TOOLE.

We had a killing frost the latter part of September which left the garden looking rather forlorn although there are a few kinds hardy enough to continue flowering after the frosts. Of course the pansies are as bright as can be,—in fact it is only during the cool days and nights of spring and fall that pansies are at their best. When the cooler fall weather comes some of the pansies turn some funny tricks. Sometimes a plant that has given white flowers during the summer will have blooms that are striped with purple, or perhaps the whole flower will change color. In other plants one branch may vary greatly while the rest of the plant holds true. The pansies will keep blooming until a crust is frozen on the ground several nights in succession. Sometimes when there have been early snows to cover the plants before contin-

ued freezings have injured the buds we have been able to pick fairly good flowers during a mild spell in the middle of winter.

Last May I sowed seeds of Iceland poppy for next spring's flowers. We have had an abundance of rain this year and the plants did well and many of them are flowering during October. The bright colors and delicate textures of the flowers seem a little out of place amidst the dead and falling leaves of the last of October but they are a very welcome and cheerful addition to the flower garden. Some of the seeds sown were new hybrids from an old English firm and these have given some new and peculiar shades of buff, lemon, pink and so forth that make more variety than the older white, red and yellow forms.

Some of the two year old Shasta Daisy plants have a last crop of fine flowers. A near relation of the Shasta Daisy, known as the Arctic Daisy has been reintroduced lately by a prominent American seed firm. This blossoms during October and seems to be desirable because of its lateness. The flowers on the plants have been badly bruised and beaten by storms but a bowlful of sprays of buds and flowers cut two weeks ago still decorate our table. As the old blossoms wither and are picked off, new ones develop from the buds. Once started the plants can soon be increased many times by divisions.

The last of the Delphinium belladonna are being cut now. They have kept up a continuous supply of flowers since the last of June or first of July. As fast as a crop of flowers are cut off, new flower shoots quickly appear and blossom. The lovely sky blue color makes them very attractive as cut flowers.

Winter Protection

In order that the orchards of the state be safely protected from winter killing and the inroads of mice and rabbits, it is necessary that a few simple precautions be taken at once to insure the protection of the trees during the coming winter.

Sprays of lime sulphur, while they may repel the rabbits and mice for a short time, are not recommended by horticulturists or the College of Agriculture of the University of Wisconsin because they are not lasting and require too frequent applications during the season. Simple guards against rabbits, such as wrapping well the trunks of the trees with gunny sacking, rags, etc., and tying securely with cord, or the placing of lath around the smaller trees, are common and cheap methods.

Wire netting and veneer are also used extensively for this purpose, the former being better because it can be left on throughout the summer. Inroads of mice may be forestalled after a snow storm by tramping down the snow for several feet around the tree and packing it close to the ground, which prevents the mice from creeping to the roots of the trees underneath the snow banks. If tar paper is used to wrap trees it is advisable to remove it early in the spring, for when left on too long it adheres to the bark, causing injury.

(Wrapping trunks with light weight building paper is about the cheapest and best protection against rabbits. Cut in strips about four inches wide and wrap spirally around trunk tying at top and bottom. Ed.)

We accept advertisements only from reliable persons and firms.

A Word About the Strawberry Field

After caring for a field of strawberries the entire season let us now consider ending the task with the winter covering.

We find nothing better than coarse marsh hay but if this is not available straw may be substituted although there is some danger of getting seeds in this.

We haul the material as near the field as possible now and when the ground is frozen sufficiently to permit driving on the patch we cover the vines being careful to do this on a damp day, as then it will settle down and cling to the vines and there is little danger of its being blown off. We use about 2 tons of hay per acre.

N. A. Rasmussen.

That Raspberry Patch

As winter draws near we will once more direct our attention to the berry fields. In the raspberry patch where little or no cultivating has been done since picking season, unless the ground is very free from weeds, there are likely to be some of the seed bearing varieties such as pigeon grass and numerous others. These weeds should be removed at once as they attract mice and soon these little fellows will have established their winter quarters and it does not take as many mice as we would think to ruin a field of good canes, therefore let us free the ground from all these weeds.

One thing I have often seen done and which we consider risky is fall mulching with manure or coarse litter of any kind. These are nearly as dangerous as weeds and while I thoroughly believe in mulching I prefer the lazy man's way, that is, to neglect hoeing in spring, until the weeds are from 6 to 10 inches high then mulch and kill weeds at the same

time. By that time the bushes will shade the ground so much that the cultivator together with the mulch and shade will easily hold the weeds in check until after picking season is over.

N. A. Rasmussen.

When tired of plain mashed potatoes try putting them through a vegetable press or coarse sieve, dot with butter and see how the men folks appreciate the change. A sprinkling of minced parsley or peppers added just before serving will give even more variety to this dish which so often is allowed to become monotonous.

F. T.

The buffalo berry is a very attractive hardy shrub that is not yet grown much in Wisconsin. Nearly every year the fruiting plants are covered with the bright red berries which remain on the branches clear into the winter till the birds clean them up. The berries make a fine quality tart jelly. A drawback to their general culture is that both a male and female flowering shrub must be grown to have fruit on the pistillate plant.

W. A. T.

Meehan's Mallow Marvels have been much advertised as a desirable hardy perennial. The flowers are certainly large and showy but they lack the stateliness of the hollyhock or the grace of some of the smaller flowered hardy plants.

W. A. T.

It is a mistake to use leaf mold or woods earth exclusively when potting flowering plants. They will not do as well as though good garden soil is used with a little well rotted barnyard manure and a little sand if the soil is very clayey.

Wisconsin Horticulture

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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, and pays for two years. Personal checks accepted. Postage stamps accepted for amounts under one dollar.

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 Madison, Wis.

Let's holler some more. "Biggest apple in the world, Baraboo Wolf River, 32 ounces, you can't beat it."

Three hundred earloads, forty-five thousand barrels of apples will be shipped from two points this year, Baraboo and Richland Center.

Iowa had a big apple at the Omaha exposition, 24 ounces, and claimed championship; a little later Missouri came in with one weighing 28 ounces. Next day, Iowa came forward again for the honors with one tagged 28 ozs. Same old apple.

The New York State Fruit Growers' Association offers a Grand Sweepstakes prize of \$50. for best three boxes of apples, any variety, competition open to the world. We have the apples to win that prize. Who will do it? Write this office for particulars.

The Annual Meeting

The annual meeting will be held in Madison, Wednesday and Thursday Jan. 7th and 8th, one week earlier than last year.

The premium lists will be the same as last year and are liberal:

Ample space will be provided both for plate entries and peeks.

Nether should vegetables be forgotten as there will be 16 different premiums offered.

As to the program it will be better than last year, of course.

It will have to be a little better in quality as there will be less of it, only two days.

It is not too early to plan for the convention.

Horticultural Institutes

The State Horticultural Society will conduct ten or more horticultural institutes this winter. In this work we are to have the hearty co-operation of the College of Agriculture. The working force will consist of three members of this Society and three from the College.

Three "experimental" meetings were held last year at Bayfield, Manitowoc and Eau Claire and were successful beyond expectation. The home orchard and garden will be given a place on the program as well as commercial fruit growing.

No dates or location have been selected as yet and invitations and suggestions are in order.

Keep in mind that these are separate and distinct from the Farmers Institutes conducted by Supt. McKerrow and aside from the

help afforded by the College are paid for by this Society. Each Institute will cost us from \$75 to \$100.

(The Panama Exposition fund would pay for 750 to 1000 institutes.)

More State Fair

According to promise more state fair pictures are shown this month and the balance will appear later. No doubt many readers are impatient with the editor for giving so much space to this exhibit but it seems to mark clearly an epoch in Wisconsin fruit growing.

We have been *talking* about commercial fruit growing for several years but the 1913 State Fair exhibits showed clearly and conclusively for the first time that fruit growing for market in this state is a fact and not a fancy. Here we had for the first time not only commercial packages of fruit but five large and attractive exhibits from as many different fruit sections, places where the growing of fruit for market is the leading industry.

This means that the business is now established and that Wisconsin must be reckoned in the future as one of the fruit states.

Those who have been most familiar with the situation have known it for some time but the fruit show at the fair proved the case to the public.

The state papers now have long editorials and special write ups on fruit growing in Wisconsin whereas five years ago not a word could be found due almost wholly to this and similar exhibits, hence the space given to it.

Manager F. Kern of the Bayfield Peninsula Fruit Growers' Assn., having a few moments leisure dropped down to Warrens and vicinity, bought and shipped 4,000 bushels of apples.

Fruit in Alaska

Efforts to grow fruit in Alaska have been watched with great interest by the editor for several years. Many of the Russian varieties have been planted at Sitka as well as our Wisconsin McMaham and Wolf river.

The following from the 1912 annual report of Director Georgeson shows pretty plainly that Bayfield, being nearest, will have to supply Alaska with apples.

"The following varieties of apples are grown in the small test orchard at the Sitka Experiment Station. It will be noticed that most of them are crab or crab hybrids. These trees were planted in 1903, except those which have been planted to replace others that have died. They were therefore, 9 years old the past season and old enough to bear fruit. In 1911 the following varieties fruited: Raspberry (crab), Yellow Transparent (crab), Hyslop (crab), Whitney (crab), and Sylvan Sweet (crab).

The past year the only varieties which set fruit were Whitney, Tetofsky, Hyslop, Raspberry, Patten Greening, Duchess, *Pyrus Baccata*, and, of course, the native crab. Those which matured were the Whitney, Hyslop, *Pyrus Baccata*, and the native crab. The fruits on the others blew off before they matured. None of the trees is doing as well as one could wish. Both climate and soil are unpropitious. It is evident that none but hardy and early maturing varieties—that is to say, varieties which would be early summer apples in the States—can be grown here with any expectation to success. It is hoped that new varieties may be developed suitable to this country, but as yet the experiments have been without success. As a whole it may be stated that the

outlook for apple growing in Alaska is not bright.

CHERRIES.

There are at the station a few trees of each of the four varieties of the sour cherries—English Morello, Ostheim, Early Richmond, and Dyehouse. The early Richmond is the best of the four varieties. They have been in the orchard nine years, and began to bear fruit five years ago. They are holding their own, making a moderate growth each year, and bear a little fruit, but are not at home here.

PLUMS.

A number of young plum trees are under test, mostly hybrids produced by Prof. Hansen, of South Dakota, but none of them is doing well. The coast climate is apparently too wet, and none of them ever showed fruit. The wood does not mature well. The rainfall stimulates growth until frosts, and then the tender shoots die back from 2 to 12 inches. They succeed better in a drier climate, even though the winters were much colder than they are here. So far not a variety of plum gives promise of being a success here.

FRUIT BUSHES.

Small fruits and berries succeed well in Alaska. The fruit crop of the territory will be confined chiefly to these.

CURRANTS.

The currant leads the list. It is indigenous to the mountains of Alaska, and may often be found as far north as Rampart, where the writer has repeatedly gathered ripe wild currants.

BLACK CURRANTS.

These also do well here, but they are somewhat more tender

than the red currant. Two species of the black currant are indigenous to the coast, but they do not range as far north as the red currant.

GOOSEBERRIES.

The gooseberry is not as hardy as the currant, but it is essentially adapted to a moist climate, and therefore it does well in the coast region. In the interior it will require some winter protection. It is not so popular as the currant, probably because the latter is so extensively used for jellies, whereas gooseberries are usually eaten ripe or canned green. Nevertheless, gooseberries can be successfully grown in the coast regions of Alaska, as has been demonstrated for some years at the Sitka Station. The varieties grown are as follows: Champion, Columbus, Industry, Red Jacket, Smith Improved, Triumph, and Whitesmith. Mildew or other diseases common to the gooseberry in the States have given little trouble. The date on which the berries ripen varies considerably with the season. The spring of 1912 was very early, and therefore the berries ripened early—that is, by the middle of August. In 1911 they did not ripen until fully three weeks later.

RASPBERRIES.

All varieties of the raspberry started growth early and by May 1 the leaves were well developed. The volcanic ash which fell June 7 to 11 affected the foliage unfavorably, which doubtless had much to do with the fruiting. The berries of all sorts began to ripen about August 8, and they continued in fruit approximately for four weeks. The Cuthbert, all things considered, is the best variety tried.

ORNAMENTALS IN ALASKA.

Of the shrubs grown solely for ornamentation, *Rosa rugosa* takes the lead. This hardy rose is well adapted to Alaska. Whether it will survive the winters of the interior is still a question. It does well in a wet climate. The writer has seen it grow wild in abundance on the west coast of Japan, where the rainfall is very heavy. It grows there in the beach sands, and seems perfectly at home. It is one of the Japanese economic plants. They extract a delicate yellow dye from the roots which they use in coloring silks. Here, of course, it is grown solely for its foliage and blossoms. The blossoms are very large and fragrant, but single.

Other ornamental bushes which do well are the Tartarian honeysuckle in all varieties and the Siberian pea-tree. The snowball and the common lilac barely hold their own.

Of the perennial herbaceous ornamentals, the columbine should perhaps head the list.

Cover With Leaves

Nothing is better as a mulch for winter protection than fallen leaves covered with snow. They may be held in place by branches of trees or brush cut and laid over them. Besides holding the dead leaves, these branches will catch and hold the snow fall. Branches of evergreen trees make very good protection when available. Marsh hay or straw may be used in localities where the supply of leaves is scant, but the straw is liable to leave a lot of weed seeds which will prove troublesome the following season.

We accept advertisements only from reliable persons and firms.

The Panama Exposition

This exposition promises to be a very fine thing,—for the Commission. Here they go, watch them!

Notice that the building will cost \$20,000, furniture, kitchen, wine cellar, sleeping apartments, parlor, chef, and a staff of employes whose business it will be to look out for the comfort of the Commissioners, their sisters, cousins, aunts and friends, \$20,000 more. The salaries of the commissioners, \$4,000 each and Secretary \$3,000 amounts to \$15,000 more. Side trips to the Grand Canon the Canadian Rockies something extra, there ought to be a little left over for live stock exhibits. Great is Wisconsin,—in spots.

"The Wisconsin commission to the San Francisco exposition will leave Chicago over the Santa Fe line tomorrow night at 8:05 o'clock, and will be gone two weeks or longer. The party will consist of Governor F. E. McGovern, John T. Murphy of Superior, chairman; A. W. Prehn of Wausau, Dr. A. J. Provost of Oshkosh and Secretary D. R. Bowe of Melton. On the way out, a side trip will be taken to the Grand Canyon of the Colorado, and the delegation will make its first stop on the coast at Los Angeles. A side trip to San Diego may be included. Then the party will head for the Golden Gate, where a round of entertainment by exposition and municipal officials will await them.

The principal purpose of the trip is the selection of a site for Wisconsin's state building, upon which it is proposed to expend not more than \$20,000. (Site set aside months ago by Exposition boards.—Editor.) The appropriation is \$75,000, but the major portion must go for transportation and other expenses of the ex-

JEWELL MINNESOTA GROWN Nursery Stock

Complete assortment of Fruit and Ornamental stock in all varieties suited to northern culture. A specialty of Hardy Shade Trees, Windbreak Stock, Evergreens (Coniferous), Deciduous Shrubs, Apples and Native Plums.

THE JEWELL NURSERY CO. LAKE CITY, MINN.

1500 Acres Estab. 1868

FIRST CLASS NURSERY STOCK IN GREAT VARIETY

Consisting of

FRUIT, SHADE AND ORNA- MENTAL TREES

Strawberries, Raspberries, Blackberries, Currants, Gooseberries, Grape Vines, Asparagus, Rhubarb, etc.

Ornamental and Flowering Shrubs, Vines and Perennials. Roses, Evergreens, etc.

If you would like to see a **really good Catalogue** we would be glad to send you ours. It has more than fifty pages and describes everything in the plainest language without any extravagant or overdrawn descriptions.

The Coe, Converse & Edwards Co.
FORT ATKINSON, WIS.
Wisconsin's Largest Nursery

hibits and for administration. The expenses of the commissioners also are included. Considerable must be spent for sending a comprehensive live stock exhibit to San Francisco. The mercantile, dairying and other interests of the state must also find their support from the general appropriation. The law does not provide for expenses of educational exhibits. John P. Callahan, president of the Wisconsin Teachers' association, and President John A. Keith of the Oshkosh normal school received information to this effect when they called on Secretary Bowe Saturday, and as a consequence it is proposed to raise enough money at various teachers' conventions and otherwise to insure an adequate representation of the state's achievements in this field of endeavor.

The Wisconsin party will return over the Canadian Pacific, viewing the Canadian Rockies at a time of year when the color on mountains and trees is exceptionally gorgeous and beautiful. They will return by way of Portal, Minneapolis and St. Paul."—*Wisconsin State Journal*.

As cold weather approaches meals should become more hearty, and there is nothing that is more satisfying for supper during these cool evenings than a hot vegetable soup. Celery and tomato, with variations, are always enjoyed. In making celery soup it is well to remember that the celery should be cooked at least an hour over a slow fire, or until very tender. If the fire is too hot the water will boil away and need replenishing often which leaves very little flavor in the soup. A small onion cooked with the tomatoes before straining, and a dash of sugar added with the milk and other ingredients will give a most delicious tomato soup.

F. T.

Advertising the Apple

There has been much discussion of late among apple growers as to the possible value of advertising in extending the apple market. This has been particularly noticeable among the producers of the Northwest States where there was some difficulty in disposing of the 1912 crop. In Wisconsin we have not yet come to the point where it is necessary to enlarge the demand for our product or go out of business, but it is still possible that we may find profit in considering this neglected field of advertising. It has been said, and with truth, that when newspapers, streetcar posters, bill boards, and electric signs unite to teach us what whiskey is par excellence or what tobacco is most delightful, that it is to be regretted that there is not a suggestion somewhere that the best apple to eat is a Grimes Golden, or a McIntosh or a Wealthy. Surely there is much to be done in educating the public on this one point.

For example, an instance was brought to my attention not long since in which a gentleman contended that an apple was an apple and that further than that it did not matter. At the earliest possible occasion this man was presented with several apples from the station orchards. Haas, Hibernial, Fameuse, and Grimes Golden were among the varieties represented, and it is needless to say he was much impressed by the differences. Again let us stop and think of the poor quality of some of our apples which sell well. We all know of a confection of which it is said that the more you eat the more you want. This motto might be applied to some apples but not to others. Is it not reasonable to suppose, then, that we can sell more fruit to the man who is buying Wealthy or

FRUIT TREES TRUE TO NAME WISCONSIN GROWN

Fifty ninth Year

Specialties: apple and plum trees and small fruit plants.

Drop us a card for our special

INTRODUCTORY OFFER

It will surprise you. Descriptive price list free, and it will save you money.

Address

KELLOGG'S NURSERY

Box 77

JANESVILLE,

WIS.

Orchard Land in Dunn County, Wis.

Surface rolling; soil, rich clay loam underlaid with limestone. The orchards of adjoining farms show the adaptability of this part of Wisconsin to apple growing. Near railroads and markets. Prices reasonable. Write for particulars.

William J. Starr

Eau Claire, - - - Wis.

The Hawks Nursery Company

are in a position to furnish high grade Nursery Stock of all kinds and varieties suitable to Wisconsin and other northern districts.

Will be glad to figure on your wants either in large or small quantities.

WAUWATOSA, WISCONSIN

McIntosh and likes them than to the man who buys Lubsk Queen or Wolf River and is disappointed.

The creation of a demand through an educational campaign in quality is one field possible in advertising, but no doubt not the only one. At present the International Apple Shippers Association is endeavoring to teach more ways of using the fruit, and it may be well in this connection to review the main features of their campaign, since it is probably the most extensive and systematic one yet conceived. In brief the association plans to issue and sell stamps to growers who are to place one of two cent denomination on every barrel and one of one cent denomination on every Lushel box of fruit. The stamp issue is to be placed under the control of the Equitable Mortgage and Trust Co., of Baltimore, Md., from whom stamps may be purchased through the agency of any local bank. The returns will be placed to the credit of the Apple Shippers Association for advertising purposes and will be subject to check on an order signed by the proper officials. The first step taken, as mentioned above, will be to print and distribute a booklet entitled "One Hundred and Ninety-seven ways to Prepare Apples." It is felt that giving the housewife more ways to use up her supply will be the surest way to induce her to buy more. Further than this, should funds be available, the leaders of the movement plan to have a press agent whose duty it will be to have articles on apples prepared and published in leading papers and magazines. Health and beauty items by the proper authorities will not be forgotten. Artists will be procured to draw slides to be thrown on the screen during the changing of films in motion picture shows. Signs for

retailer's windows bearing inscriptions such as "An apple a day keeps the doctor away" could be made for distribution at advantageous positions, and similar squibs prepared as fillers for newspapers. These are some of the suggestions given by Mr. U. Grant Border at the last association convention.

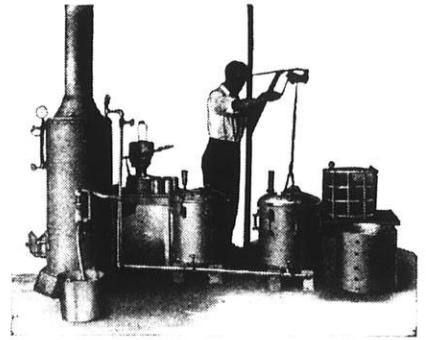
The success or failure of the enterprise depends upon the support or indifference among growers. It has been suggested by some that the basis of raising funds is unfair since the dealers who will profit by increased sales do not share in the expense. True enough, but is it not always the producer who advertises the goods. Did Wrigley secure funds from dealers to help advertise his gum? I am afraid not, yet he found it profitable without outside aid. Hence apple growers in advertising their apples will at least not be carrying an unusual burden. There is of course no compulsion, the only advantage of stamped packages over others being in the advertising value of the stamp and in the fact that a dealer will favor packages with stamps because he knows that the growers back of them are helping to finance advertising which is helpful to his business.

Good as it can be, this scheme provides only for general advertising. A supplementary field may be found in the use of brands and trademarks by individuals or associations. Perhaps the parcel post could be used to distribute samples among prospective customers, with a slip enclosed giving prices and possibly a return postal on which there was printed a blank order, merely requiring filling in the quantity desired and the address of the customer. These are a few suggestions which it is hoped will be food for thought.

Geo. F. Potter.

CANNING AT HOME

The Steam Pressure Way



The tremendous waste and big loss from low market prices and the quick ripening of fruits and vegetables is entirely saved by canning at home in a NATIONAL Steam Pressure Canning Outfit. The "Steam Pressure Way" carries Government endorsement, and thousands of satisfied users will back up our statements.

Bigger Prices for Fruits and Vegetables.

A NATIONAL Canning Outfit enables you to put up what you raise yourself, or start a small canning factory, or establish a community canning outfit among your neighbors for mutual protection. Canned fruits and vegetables are easily sold in the fall and winter at good prices.

NATIONAL Canning Outfits are the same as used in modern canning factories only made in smaller sizes. They preserve anything you grow, either in glass jars or cans. Complete Home Outfits \$15 and up. Hotel sizes \$25 and up. Factory sizes \$110 and up.

Write at once for descriptive circular and state in what size you are interested.

NORTHWESTERN STEEL & IRON WORKS
810 Spring St. Eau Claire, Wis.

The Great Northern Nursery Co.

Sells First-Class Wisconsin Grown Trees

Our Trees Live. We had an opportunity to compare 500 of our Wisconsin grown trees with a similar lot of an Eastern Nursery. At the end of the season only 52 per cent of the eastern grown stock was alive, while 95 per cent of ours lived and grew. Moral: buy home grown stock and avoid loss. Our trees are **HARDY**, and our stock is **HEALTHY**. A comparison will prove that our stock has not the willowy and watery soft growth of southern or eastern grown stock.

Every tree and shrub is packed entirely under cover, free from exposure to sun and wind.

Great Northern Nursery Company
Baraboo, Wis. Write for Catalogue and Price List

Our Hy-Bred Relations

W. J. MOYLE, AT SUMMER
MEETING.

In the horticultural world at the present time, nothing is occupying the attention of the people, more than the results that are produced by hybridizing of fruits and flowers. The hand of man has brought forth many wonderful and marvelous results. Luther Burbank has kept the horticultural press guessing for years as to what next would be produced but much to our regret most of all his productions, originating in a climate much milder than ours, have proved disappointing, when grown on Wisconsin soil. Several years ago, while employed at the Wisconsin experiment station, the writer's attention was constantly drawn towards the fact that we must grow varieties adapted to our conditions.

We had a quantity of Sand cherries fruiting at the Station at that time, Prof. Goff and myself often discussed the possibilities of improving this hardy little cherry. With this thought in mind the writer undertook a series of experiments in budding on this stock other varieties of stone fruits, such as Japanese, tame and native plums, cherries both sweet and sour. Our object at that time was to get stock that would dwarf the tree and thus produce early fruiting. The results of this experiment were most gratifying, as we found that buds took readily to the Sand cherry stock; our anticipations were high of the possibilities presented. At this juncture our connections were severed with the Station forces and the matter was dropped as far as the writer was concerned for the more pressing bread and butter problems of life.

It seems, however, there were other experimenters in the field, who began to realize the possibilities of the Sand cherry as a hardy Mother plant, on which some valuable hybridizing might be done. Notable among these was Prof. Hansen of South Dakota.

When the Compass Cherry, a cross between the Sand cherry and the Native Plum, came into existence at Springfield, Minneapolis, everybody laughed and the nurserymen who had the gall to sell it was classed as a charlatan. When the people that planted them, (the final judges), reported, everybody sat up and took notice. It was absolutely hardy and best of all, it began to bear at once and kept it up every year no matter where planted or how trying the conditions.

The Sand cherry blood in this cross, overcoming the one great fault of our Native plum i. e., its uncertainty to bear fruit.

The writers attention was called to the value of Prof. Hansen's Hybrids by Harlow Rockhill, the ever bearing strawberry man of Conrad, Iowa. We bought the following varieties Opata, Sansota, Sapa and Cheresota in the Spring of 1912. They all bore a good crop the present season.

The Opata, a cross between the Sand cherry and the Gold plum is a cling stone, green fleshed and greenish brown plum of good size and high quality, fine for eating out of the hand. Everybody should give it a welcome place in their back yard among the currants and gooseberries.

Sapa reminds me of an overgrown ex-heart cherry and appeals to me very strongly as it opens the gateway to the production of a plum that will equal the

W. A. TOOLE

"Carry nee Dule" Baraboo, Wis.

**WHOLESALE GROWER
OF Plants, Seeds and Flowers of
HARDY PERENNIALS**
Prices on Application



WISCONSIN GROWN APPLE TREES

Winter varieties of quality and hardiness, Gem City, Tuttle's Winter and McIntosh Red, Native Plums, Prof. Hansen's Hybrid Plums, Burbank's Epoch Plum. We also make a specialty of northern grown native and standard shrubs.

**HENRY LAKE SONS CO.
NURSERYMEN**

Black River Falls, Wisconsin.

APPLE TREES

We have growing in our nurseries at Waterloo, Wisconsin, the finest blocks of Apple Trees in the Northwest. We offer for late fall and early spring shipment, 75,000 two year, strictly first class; the kind of trees Commercial Planters want. We also have 40,000 three year, none better grown. In addition we have a general assortment of other stock to offer. Parties contemplating planting large quantities of Apple Trees should get our prices.

McKAY NURSERY CO.

General Offices
PARDEEVILLE, WIS.

best sweet cherries and thrive in our climate. Fruit good size, round, skin thin and dark flesh, very meaty, of fine quality inclined to acidity, stone parts freely from the flesh. For culinary purposes this plum is unexcelled. They ripened with us the first part of August and we had a difficult job to keep the birds from getting all of them, thus testifying to their value and merit.

Sansota and Cheresota, crosses between the Sand cherry and De Soto plum are ripening at this time; while not of as high quality as the former, they are valuable additions to our fruit list.

We predict that these hybrid Sand cherries and their progeny, will soon be found growing in every well kept garden. They will particularly appeal to the man with a city lot as they require little space and bear early and abundantly.

About 12 years ago, the writer was walking through the nursery grounds of F. K. Pheonix, Delavan, Wisconsin. The old gentleman had passed away a year or two before our visit. Our attention was called to hundreds of Seedling Rosa Rugosa roses that

he had grown. Mr. Pheonix was a horticulturist of high order and was able to see visions and dream dreams of horticultural possibilities, far beyond the sight of ordinary man. The old gentleman was looking for a chance cross with some of our tender roses and by this means hoped to get a rose with the exquisite sweetness and beauty of a Mrs. John Laing, with a constitution and leaf like the Rosa Rugosa. Climatic conditions were against him and fate was very stingy in awarding him.

However, the French have taken up the matter and with their more salubrious climate and advanced knowledge are producing a wonderful race of these hybrid Rosa Rugosa roses.

The one great drawback so far in our estimation to these roses, is they all bloom in clusters, on short stems like the Rugosa with few exceptions. Conrad F. Meyer, a pink and its sport Nova Zembla, a white being the only exceptions. These two roses are beauties, hardy and vigorous.

Mrs. Geo. Bruant and Blanche de Coubert are both white semi double, beautiful buds and absolutely hardy.

Agnes Emily Carmen grows and looks like a rugosa. Beautiful carmine-like color, semi-double and a very desirable rose.

Belle de Potevine another semi double, blooms in clusters, sweet scented and of an old rose shade.

Roseaie de L. Hay a beautiful rose, great bloomer, flowers a purplish rose, sweet scented and semi double. Will be planted extensively when better known.

Keep your eyes on the hybrid Rosa Rugosa Roses and try them all.

We accept advertisements only from reliable persons and firms.

Door County Fruit Lands For Sale

Also Cottages and Bay Shore Lots

BARGAINS

Write to

C. R. SEAQUIST & SON,
Sister Bay, Wis.

"We have a Fine Lot of Plants for the Garden."

SEND FOR LIST

J. E. MATHEWSON

SHEBOYGAN, WISCONSIN

FREE An 84-Page Book on "How to Plant and Improve the Home and Orchard"

will be mailed free on request to all contemplating planting fruit trees and ornamentals in the spring of 1914, together with our complete catalogue of

**CHASE'S
HARDY TREES and SHRUBS**

backed by fifty-six years of horticultural experience. Be sure to get this valuable book. A request brings it.

CHASE BROTHERS COMPANY

The Rochester Nurseries, Rochester, N. Y.

Vincennes Nurseries

Vincennes, Indiana

W. C. REED

PROPRIETOR

**Cherry Trees by the
100 or 100,000**

The Growing of Cherry Trees has been our Specialty for Years. Our soil and method of growing produces a Tree that is not excelled by any one. Splendid blocks of two-year 5 to 7 foot trees and one-year 4 to 5 foot trees. Early Richmond, Montmorency and other leading varieties by the 100 or ear load. We also grow a general line of other Nursery stock. Personal inspection invited. Correspondence solicited.

WANTED FOREMAN for orchard and fruit farm. Prefer one who would invest something in paying property. Address Orchardist, Care of Wisconsin Horticulture, Madison, Wis.

PAEONIES

Your garden is not complete without a collection of our best **PAEONIES**

Send us a \$1.00 bill and we will express you ten good roots of our selection. Get our catalog.

W. J. MOYLE, Prop.
Wisconsin Nurseries
Union Grove, Wis.

For the Cook**A DELICIOUS WAY OF PREPARING
LEFT OVER MUTTON.**

Slice thinly two small turnips and two onions, brown them in two ounces of butter in which a tablespoonful of flour has been dredged. Cut six rather small thick pieces place in roasting pan, add two cups of hot water or good beef stock. Season well with pepper, salt and few celery seeds. Make a rich biscuit dough and drop small bits among the pieces of meat. Bake 20 minutes.

Now is the time to prepare spring chicken for next spring when it is soaring skyward in price.

Cut up the same as for ordinary stew; pack into Economy Jars, pepper and salt and fill jar with water; boil three hours after boiling begins. —Mrs. L. H. P.

Nice crisp lettuce fresh from the garden for dinner Oct. 17th.

Sauk County, break all records for the largest apple. Mr. John Shale of North Freedom, exhibited at the Sauk County Fair a Wolf River Apple, that weighed 32 ounces, being 4 ounces heavier than the Iowa apple that held the record up to this time. It was sent to Prof. James G. Moore for preservation.

—Mrs. L. H. P.

Apples in Wisconsin

It is quite noticeable that the quality of the apples grown in Wisconsin has improved largely in the past few years, if one has kept track of the fruit shown at fairs and that sent into the markets. There is little doubt that this has largely been brought about by the good work done by the Wisconsin State Horticultural Society. While it is true that keener competition is crowd-

ing the poorer grades off the market, it is due to the Horticultural Society that they are replaced by fruit of a better grade. I talked with a Chicago commission man recently who handles many Wisconsin apples and he stated that there is a steady and marked im-

provement in the quality sent in each year.

W. A. Toole.

Tulip beds planted last month should be covered with leaves or other mulch after the ground freezes.

SEE HIM FIRST!

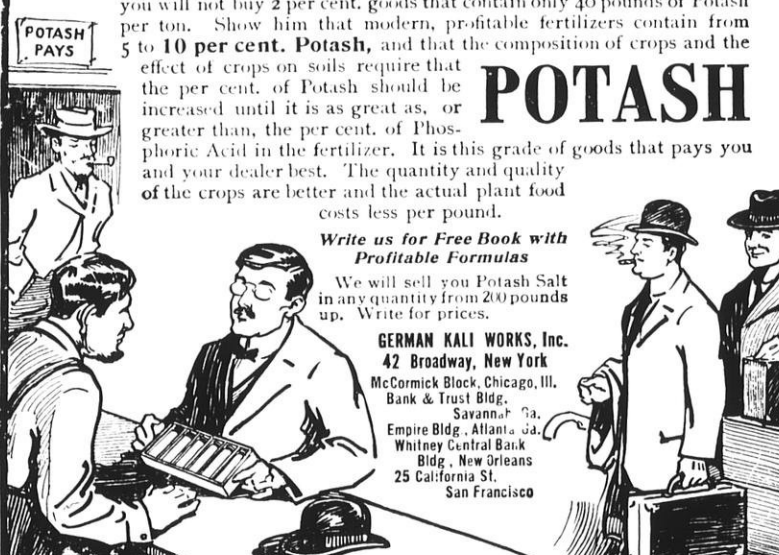
Before the fertilizer salesman arrives, go to your dealer and explain to him that you will not buy 2 per cent. goods that contain only 40 pounds of Potash per ton. Show him that modern, profitable fertilizers contain from 5 to 10 per cent. Potash, and that the composition of crops and the effect of crops on soils require that the per cent. of Potash should be increased until it is as great as, or greater than, the per cent. of Phosphoric Acid in the fertilizer. It is this grade of goods that pays you and your dealer best. The quantity and quality of the crops are better and the actual plant food costs less per pound.

POTASH

Write us for Free Book with Profitable Formulas

We will sell you Potash Salt in any quantity from 200 pounds up. Write for prices.

GERMAN KALI WORKS, Inc.
42 Broadway, New York
McCormick Block, Chicago, Ill.
Bank & Trust Bldg.,
Savannah, Ga.
Empire Bldg., Atlanta, Ga.
Whitney Central Bank
Bldg., New Orleans
25 California St.
San Francisco



STARK TREES AT LOUISIANA, MO. SINCE 1816

Plant this Fall Sure

Don't let this season pass by without getting Stark Trees in your orchard. Right now is the time to get your order in for Fall planting. Fall is the best time to plant. The tree establishes itself and is ready to start growth early in the spring with strength to withstand summer droughts.

Stark Delicious

—the apple masterpiece—exquisite flavor
—makes top record profits for growers.
Hardy, thrifty tree—fruit large, brilliant, waxy red—a wonderful keeper. Free Year Book tells all about Stark Delicious.

Stark Orchard and Spray Book

—best orchard guide, from buying trees to marketing crops. Most modern practical spray book. If you grow fruit don't miss it. Send name today on postal. Ask for tree prices for Fall planting.

Stark Bros. Nurseries and Orchards Co., Box 80, Louisiana, Mo.

“White birch” fruit packages, climax grape and peach baskets, re-packing baskets, beekeepers' supplies, tree protectors, poultry crates and wood specialties. Write for prices.

SHEBOYGAN FRUIT BOX CO. Sheboygan, Wis.

The World Moves

D. E. Bingham has been engaged as special representative of the fruit interests of the state by the Farmers Institute Board and will speak at as many of the one-hundred institutes as he can reach.

Mr. Bingham as "special" makes two to four institutes a week while the regular force makes one or two.

Five years ago at the Farmers' Institute we had an occasional talk on the farmer's garden and orchard, now a special representative all of which shows that Pomona's smiles have at last softened the hearts of the Guernsey and Clydesdale worshippers.

Prepare the pit for a hot bed this month and put plenty of rich soil under cover so it may be got at early in the spring. It is well to cover the frame of the hot bed with boards to keep it from being filled with snow and ice when wanted in the spring.

Keep the small potatoes for the hens this winter. Soft cabbage heads with all the leaves and vegetables should be stored for winter feed along with the grain. Poultry will not thrive upon an exclusive grain diet.

November is the month to cover the strawberry bed with marsh hay or clean straw, not a heavy covering but just enough to hide plants from view.

Wisconsin apples so far have been shipped to Pittsburg, Pa. (5 cars), Kansas City, Mo. (3 cars) and Winnipeg.

L. G. Kellogg found but one wormy apple when judging fruit at Door County Fair.

Wisconsin Horticulture, Two Years for \$1.00

MYERS PATENTED
DOUBLE STEEL TRACK

TAKE OFF YOUR HAT TO THE MYERS

Large Track Wheels
3/8 Turned Steel Axles
Extra Long Truck
Reversible and Swivel
Wide Open Mouth
Seven Inch Rope Sheaves
Swinging Fork Pulley
Steel Roller Bearings
Positive Double Lock

Hay unloading methods have changed during recent years. Instead of handling a load of hay or grain in six or eight drafts, the farmer now does it in three or four, thus saving time and labor—two very important items to him during the harvest season. This necessarily requires uniformly heavier and better equipment. Light flimsy outfits will not stand the strain.

Myers Hay Unloading Tools have been made to meet the present day requirements for unloading hay and grain from the wagon to the mow or stack. They are the hay unloading tools of today.

The Myers O. K. Unloader illustrated above with its many superior and advantageous points of construction shows clearly why Myers Unloaders are especially adapted to meet up-to-date methods. You will find the same extra heavy material and improved construction in our complete line of Hay Slings, Forks, Pulleys and Hay Rack Clamps—all being made for large capacity and for the purpose of giving long and satisfactory service.

Our complete Hay Tool Catalog will give you full and detailed information and our reasons why. Write us or ask your dealer.

F. E. MYERS & BRO. ASHLAND OHIO
THE ASHLAND PUMP AND HAY TOOL WORKS
BRANCH DISTRIBUTING HOUSES
ALBANY • CEDAR RAPIDS • HARRISBURG • MILWAUKEE • ST. LOUIS.

MYERS PATENTED
DOUBLE STEEL TRACK



Arsenate of Lead Lime Sulphur Solution

Recognized as standard in principal fruit growing sections of the country. Convenient source of supply for Wisconsin fruit growers. *For further information write*

The Grasselli Chemical Co., Milwaukee, Wis.

Established 1839

Main Office,

Cleveland, Ohio

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

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Volume IV

Madison, Wisconsin, December, 1913

Number 4

The Farmer's Orchard

In the November issue the Farm Orchard received considerable abuse but an attempt was made then and is now repeated to distinguish between the farm orchard and the home orchard.

It is merely another way of saying that one farmer expects to have fruit to sell and the other does not. The elimination of the small neglected orchards will do more to solve the many troublesome questions concerning the marketing of apples and noise about rotting fruit than anything else that can happen.

On the other hand there is danger in going too far, for every one who owns an acre or more of land should have an orchard and especially should the farmer who has many acres, often too many, have a good supply of fruit of all kinds. This is possible and with but little effort if the problem is approached in the right way.

It's wearisome to write about it because to do so involves saying the same old things over and over again in the same old way and when you have been doing that sort of thing for 20 or 25 years you feel as if you would like to get a bunch of farmers together and go at them with an ax. You might get something

into their heads that way or perhaps it might be better to soak 'em in a brine in which several volumes of horticultural literature was first incorporated.

west, north or south is of but little importance and need not be seriously considered. Don't plant the orchard in a pocket with woods on two or three sides in



We don't really care for box apples in Wisconsin but if you want them,—here they are, and beauties too! 1913 State Fair W. S. H. S. exhibit.

In the hope (what a blessing is Hope) that another feeble effort may not be in vain the following is set forth:

THE HOME ORCHARD.

This is to be planted only on plowed ground and near the house. The particular slope east,

the mistaken notion that the trees need protection but put it out in the open instead where there is a good circulation of air. Plow the ground next spring before planting and keep it plowed,—forever.

Order your trees now for early spring delivery. Buy from a re-

liable and honest firm. You can take your pick of many such by reading the advertisements on pages 9 to 16 of this paper.

If any one of these advertisers fails to live up to their specifications just write the editor about it and he will do the rest.

Buy two year old apple trees and one year old cherry.

Buy the kinds that will live and thrive in your locality.

If in the southern part or along either lake shore, Superior or Michigan, select any kinds you like best from the general list in the annual report of the state society which includes such apples as Alexander, Dudley, Fameuse, Golden Russett McIntosh, McMahan, Newell, Northwestern Greening, Duchess, Perry Russett, Plumb Cider, Scott, Tetofsky, Talman Sweet, Utter, Wealthy, Seek-no-Further, Windsor, and Wolf River.

Two dozen trees if only indifferently cared for will be enough and may be of as many kinds as desired but at least two-thirds should be late fall and winter kinds. For instance: 2 Tetofsky for very early, 2 Duchess for second early, 1 Wolf River just for big apples, 3 Wealthy, 2 Dudley, 2 Fameuse, 2 McIntosh, 2 Windsor, 2 Northwestern, 2 Talman, 2 Golden Russett, 2 Hyslop Crab.

These kinds will supply apples from the first of August until the following May.

If the orchard is to be planted far north and away from the shore lines we may have to select a little closer for hardiness but no matter where you may be in Wisconsin you may still have apples for these three, Duchess, Patten Greening and Hibernial will live and thrive anywhere.

For cherries, where cherries will live, plant 6 each of Early Richmond and Montmorency and let it go at that.

A couple of pear trees will cost but little and may live.

Seckel's a little red pear and as sweet as sugar.

Kieffer is tough and hardy both as to tree and fruit.

Nearly everybody hankers after the "big blue plums" and the green gages but it's a safe bet to buy instead De Soto, Rockford, and Surprise, two of each for these will surely live.

Because the nursery agent is nearer at hand than spring, a few remarks on buying trees will be more timely than directions for pruning and planting.

Two ways are always open to buy trees, from an agent and from a catalog.

If you know what you want as to varieties and size of tree you can often buy cheaper from a catalog than from an agent and are quite as likely to get what you pay for. If you keep a copy of your order (copy the letter completely) and freight bills you have a record of the transaction that may be of value later.

The agent of course relieves you of all the trouble of studying catalogs, letter writing, money orders, etc., and will often deliver the trees at your door.

Here again you will be perfectly safe if you *know what you want* and insist on getting it. The average nursery agent knows mighty little about the goods he sells and as a matter of extended observation it is here recorded that he usually cares less. He is out to sell trees and plants and as many as possible—and not to give extension courses in horticulture.

Still if you know what you want you can get it without any added frills of "budded trees," "whole root" or other nonsense. Here again it must be repeated that you *must* know what you want, just plain, common everyday varieties that have been tested for years.

Let the fellows with plenty of money to spare or the horticultural cranks buy the novelties. As to prices it is not the business of this paper to set prices on nursery stock but it may be said that it takes some money to grow good

trees these days and those are the only ones worth having. Usually the tree that sells for ten cents is a ten-cent tree either a whip too small to go in the regular grade of one year old stock or a scrub three years old.

Better pay a fair price for good stock.

And thus endeth the first lesson.

Big Bayfield Business

"We have just closed our shipping records for fruit for 1913 and we are pleased to report a very satisfactory season in every particular.

With an ideal season, opening with the ice going out of the lake on the last of April and a gradual rise in temperature during the first three weeks in May, vegetation started about the middle of May. First strawberry bloom appeared about the 25th of May, and picking season opened a week earlier than in 1912.

We had plenty of rain all through the season and moderately cool weather, only two afternoons in the entire season that the thermometer reached 85 degrees.

Began picking strawberries on June 17th and shipped last car on July 18th, and shipped just 24,000 cases or 80, 300 crate cars. The first berries sold at \$3.00 and the lowest price at which we sold a car in Duluth was \$1.50 and in the Twin Cities at \$1.60. We shipped this season to Minneapolis, St. Paul, Duluth, Fargo, Chicago, Grand Forks, Milwaukee and Ashland in carloads, besides about 4,600 crates shipped on small orders by express.

The fruit consigned to Chicago, Milwaukee and the Twin Cities, brought our average price down to a trifle below \$1.50 per case for strawberries for 16 quart crates. We shipped 880 crates of cherries which averaged to net us \$2.02. 1,000 currants averaged \$1.13 per crate. 78 crates of gooseberries averaged to net

\$1.60. 1,530 crates red raspberries averaged to net \$1.85 for 24 pints. 298 crates black raspberries averaged to net \$1.86 for 24 pints. 438 crates blackberries averaged to net \$1.75 for 24 pints. 170 plums averaged to net about \$1.00 for 16 quart crates. Our Duchess apples averaged to net us 78 cents, for standard bushel box.

Crabapples, all varieties, averaged to net us very nearly \$1.25 and our Wealthy and all fall varieties averaged \$1.25 per box, just about 3,000 boxes of apples all varieties.

About 100 baskets of grapes, Niagara and Moore's Early, averaged 30 cents per basket.

Our green peas netted about \$1.25 and our string beans about 80 cents per bushel. Tomatoes, 4 basket crate, about 20 lbs, averaged about 65 cents per crate, and cauliflower averaged \$1.15 per bushel box.

We handled about 1,500 cases of blueberries this season, less than half as many as during 1912.

In addition to marketing our Bayfield crop we bought, packed and shipped thirty carloads of apples from Kendall, Wilton, Elroy and Warrens, Wisconsin, and three cars from Washington.

We will have shipped in during the year, of flour and feed, hay, straw, fruit packages, drain tile, apple barrels, dynamite and fertilizer, more than 100 carloads and have shipped out ten cars of potatoes, making a total of more than 200 carloads handled out and in during the year, which is practically double the number handled during 1912 and all at very satisfactory prices.

Our acreage of small fruits for 1914 will be little, if any larger than this season as many of our strawberries have been grown in cherry or apple orchards between the tree rows and are being plowed out as the cherries come into bearing, leaving only about 125 acres of strawberries, with about fifteen acres of red and

black raspberries, five acres of blackberries and about ten acres of currants in full bearing.

We have about 70,000 cherry trees growing here, from one to five years planted and about the same of apples from one to six years planted."

(Preliminary report submitted by F. Kern Mngt. Bayfield, Pen. Fruit Co. Exchange on request of editor.)

graphs made of the whole lot. This was in the spring of 1906. In the report of the State Entomologist and Pathologist for 1910-1911 these photographs are published, and at the same time descriptions and photographs of 18 trees dug in October, 1911. Not all the trees were lifted, as it is planned to examine a few each year. The paper is of interest because, in addition to read-



This is a photograph of a W. W. Greening planted in our orchard seven years ago. Although last year, 1912, was an off year for fruit it bore twenty four bushels of first class No. 1 fruit. This amount does not include the wind falls. We would like to have some of the Hood River boomers beat this record. What is the matter with Wisconsin for growing apples? Spray, take good care of your orchard and you can have photos of trees similar to this one.

M. F. FOLEY, Baraboo,
Prop. Great Northern Nursery.

About September 1, 1913, this tree was carrying at least 15 bushels of fine fruit. What, indeed, is the matter with Wisconsin? Editor.

Crown Gall Evidence

Another bit of evidence on crown gall is contributed by the Virginia Experiment Station. The opinion, that if planted and well cared slightly infected trees would recover led Mr. J. H. Phillips, the former pathologist, to secure and plant 180 two year old apple trees, each of which was infected to a greater or less degree with the crown gall disease. Previous to planting brief but concise notes as to the character and seriousness of the infection were taken and photo-

ing the writers descriptions and opinions, we can examine a good picture of the young root and turning over the page see it as it was after six seasons of presumable recovery.

The significant facts are these. Eighty-five out of the original 180 trees failed to even survive. Of the 18 still living which were dug and examined, every one was at least as badly infected as when it was planted, and in no case was there a normal healthy root development.

G. F. P.

Observations on Winter Killing

G. H. Townsend.

Some time ago the writer remarked to our genial secretary-editor, that he would like to write an article on Winter Killing, if he knew anything about the subject. His answer was, write it anyhow—"start something."

We do not know much about the relation of wood texture to hardness and have no way of repeatedly duplicating weather conditions so that most of what we know is merely conclusions not provable—It is with the hope of stimulating more accurate observations that this article is written.

Winter killing is probably the effect of either bursting of cell structure or water evaporation. Wood that grows late is not mature and presumably contains enough water when frozen to disrupt its cells. The first requisite to prevent winter killing is by raising varieties that mature early. Late fruit culture nor any other for that matter, is not common in Wisconsin, but hog rooting in orchards up till cold weather is common. If hogs are pastured in an orchard it should not be later than the first of August and exposed roots should then be covered.

Winter killing from moisture evaporation occurs at times because the wood contains less than a normal amount of sap. This condition comes from drought, overbearing and defoliation. Drought can be met by cultivation, overbearing by pruning and thinning and defoliation prevented by spraying. Moisture evaporation in trees from long hard freezing ground is hard to meet, and likewise that due to freezing and thawing. All fruits are most likely to winter kill when grown in sunny nooks where the sun's rays warm quickly and the wind obstructed, evaporation is rapid in both freezing and thawing and the ef-

fect may be from freezing dry or enough flow of sap when frozen to break the bark loose. Fruits suffer least from freezing and thawing when planted on high ridges or near large bodies of water and when grown on north and northwest slopes.

Blackberries and raspberries will often be winter killed on the side exposed to the sun and sound where the sun does not strike. Winter covering is not to prevent freezing but to prevent moisture evaporation and to keep off the sun's rays.

Winter killing and frost killing is general in most all fruit regions at varying periods of time, and not peculiar to Wisconsin as some people suppose.

The balance of what I don't know about winter killing would probably fill this paper, so I pass the subject to the editor and readers.

The Pewaukee Apple

About eight years ago an agricultural paper published in Chicago contained a criticism both of the Pewaukee apple and the Wisconsin Horticultural Society for disseminating it.

Letters were sent at that time to several of our older members asking for an opinion on the Pewaukee.

Extracts from the replies are here given and if any who are quoted now have a different opinion let's have it.

"My opinion of the Pewaukee apple being asked I will say that I have not planted any trees of this variety and shall not. We have hardier varieties fully as good which cover the same season. I do not think any of the older orchardists of Sauk County would recommend growing the Pewaukee apple."

William Toole,
Sauk County.

"From my observation of the Pewaukee apple I would not recommend its planting generally

throughout the state as it has proved too tender for all sections.

It is one of those varieties which you may call a local variety and seems especially adapted to the locality in which it originated, the Lake Shore region of S. E. Wis. Its quality is good and will keep nearly as well as N. W. Greening. In my section of the state it matures its fruit very late and usually as soon as the tree has produced its second crop of fruit the next spring it is found dead, root and branch."

L. G. Kellogg,
Fond du Lac County.

"My opinion about Pewaukee apple is somewhat limited, being confined to two small trees, 15 or 16 years old, and we thought so little of them they were cut down last spring.

1st as to tree, it is only 2nd hardy; 2nd, Blights badly; 3rd, Is not productive enough; 4th, As to fruit, quality only fair; 5th lacks showiness. So you may gather from this that I am not much of a friend of the Pewaukee for this locality."

C. A. Hatch,
Richland County.

"The Pewaukee apple if picked on the green side is one of the best keepers we have. The quality of the fruit, however, is below par. The tree is an early and productive bearer but short-lived and in hardness should be classed as medium."

W. J. Moyle,
Racine County.

"It is of very poor quality at its best and since it has the habit of falling from the tree before maturity it is seldom at its best. I've grown it along with Utter, Haas, Wealthy, Newell, Fameuse and many others and the Pewaukee is inferior to all of them and I would not plant it."

A. L. Hatch,
Door County.

"I saw your ad in WISCONSIN HORTICULTURE".

Apple Shipments

We are planting orchards extensively in the Kickapoo, Door county and Bayfield and in a few years these points will be in friendly competition for first place in quantities of apples shipped but for the present, and for some time to come we must grant honors to Sauk and Richland counties with Baraboo and Richland Center as centers.

More apples are grown and shipped from these two counties than from any other in the state as the following reports testify.

Report from Sauk County by J. S. Palmer.

Statistics as to number of barrels of apples shipped from these stations in season of 1913, furnished by the railroad companies:

Baraboo, 64 carloads, and 1000 barrels in small lots.

North Freedom, 20 carloads.

Reedsburg, 69 carloads and 250 barrels in small lots.

Ableman, 11 carloads.

Also, 1 carload of Sauk county apples was loaded in Portage and 6 carloads in Kilbourn.

Estimating these cars loaded at the minimum of 160 barrels to the car makes a total of 28,610 barrels of apples shipped out this season from Sauk county.

Richland County.

Herewith partial report of apple crop of Richland county published in Richland County Democrat:

"We have obtained some facts relative to the apple crop in this locality. Some were averse to giving any statement for fear of the income tax. Those who have furnished the total of their crop in barrels are: Ed. Sippy, 100; Joe Hess, 105; Ben Davison, 110; Carl Spyker, 200; Fred Rowe, 200; E. Blackman & Sons, 200; Matt Ghastin, 250; Max Schlafer, 300; R. S. Weitzel, 360; Wm. Stout, 500; Albert Lewis, 640; Fred Crapey, 650; Daniel Killoy, 660; Roseo Davis, 825; John Lewis, 850; Paul Weitzel, 900;

Balgiheim Bros., 1000; Arnold Greenheck, 1460; Tony Weitzel, 1660; George Townsend, 2200. Tony Weitzel marketed 150 cases of cherries and Balgeheim Bros. sold 1800 baskets of grapes. Not long since the Lone Rock Review published an article stating that 17 carloads of apples had been shipped from Twin Bluff's station.

\$2.50 to \$3.00 per barrel net for No. 1, with a few higher and some early apples lower and Lubok Queen as high as eight dollars net, a little fancy box stock sold \$1.50 to \$2.00 net per box. Local pickers paid 40 to 75 cts. per bushel for "barnyard stock"—the bulk bought at 60 cts.

G. H. Townsend.



LOST. One very handsome and well grown Wisconsin apple tree, picture of same herewith. Owner will please notify editor and oblige.

We took the trouble to get the figures from the agent himself and got the statement that there had been 75 carloads, averaging 180 barrels to the carload or a total of 13,500 barrels. The value of the apple crop at a conservative estimate is at least \$100,000 in a radius of eight miles from this place. A great many wagon loads of this fruit was marketed at Richland Center, Cazenovia and Lone Rock, from which places we have received no figures."—*The Richland Democrat*

From general knowledge of shipments the amount shipped from the county exceeds 25,000 barrels.

Of these McMahon leads. Wealthy second, Duchess third, and N. W. Greening probably fourth and about a thousand and one varieties the balance.

The selling price ranged from

The Old Story

It's an old story many times told but none the less true that damage to fruit trees by mice can be almost wholly prevented by a mound of earth around the base of each tree. Snow, tramped hard will take the place of earth but may need to be renewed during the winter. Better take a spade and go through the orchard before the ground freezes.

It was gratifying to hear the many expressions of appreciation and surprise at the State Fair Fruit Show this year by visitors from other states, including the much talked of Western section. In fact the high quality of Wisconsin apples is only beginning to be known by Wisconsin people themselves. W. A. T.

British Columbia Aids Fruit Growers

Sometimes we have to go a long distance from home to learn the news.

It is now quite generally known that the apple crop in Washington, Oregon and other western states in 1912 brought the growers but a few cents a bushel when they were able to sell at all. In many districts only a small portion of the crop was picked at all, the cost of picking, packing and packages being more than the fruit would sell for.

The same conditions prevailed in western Canada but they do things rather better over there, in some ways at least.

Here we have commissioners that "investigate," there the government is equipped to *do things*. Speaking about going far from home to get the news: the western mail is published in Perth, Australia and a copy comes to this office. By reading the following from a recent (September) number it will be seen that we will have to hurry if we want to catch up with Canada.

LESSON FROM THE OKANAGAN.

"Recent events in the Okanagan afford a highly interesting object lesson. Last year there was a bumper crop of fruit in the valley. Partly this was due to the very favorable nature of the season and partly to the fact that numbers of orchards came into good bearing for the first time. As a result the markets of Western Canada were called on to absorb unexpectedly large quantities of fruit. With proper organization the crop might have been marketed with profit to all concerned—growers, middlemen, and consumers. But the organization of the industry was not equal to

the strain put upon it. The Okanagan was not the only fruit-growing district with a big crop. In the western United States also nature was, if anything, over bountiful. Supplies flowed into the larger cities from many quarters. The city jobbers, who received the fruit on consignment, had the game in their own hands. They were able to play off one source of supply against another, and reduce prices until they barely covered the cost of handling and freightage. Loud were the lamentations among the growers at the end of the season, and the Provincial Government, recognizing that the future of the industry was to some extent at stake, decided to take action. Investigation showed that the failure to obtain remunerative prices was due not so much to the excess of supply over demand as to the concentration of the supply in a few big centres and the shrewdness of the consignees in utilizing the advantages of their position. In the Okanagan alone there were nine associations for selling the fruit of the various settlements in competition with one another.

To remedy this state of affairs there has been formed an association called the United Okanagan Growers' Limited. Just as in Saskatchewan the Provincial Government came to the assistance of the farmers, and advanced to a coöperative association the great bulk of the capital required for the erection of grain elevators which would render the farmers independent of the elevator companies, so in British Columbia the Provincial Government has advanced at a low rate of interest the great bulk of the capital required for the establishment of this United Fruitgrowers' Association. Mr. W. E. Scott, the Deputy-Minister of Agriculture,

has made a tour through the Okanagan explaining the scheme to the growers, who are reported to have welcomed it in the heartiest possible manner. Accompanying Mr. Scott was Mr. R. Robertson, a member of a leading business firm in Vancouver, whom the Government engaged to assist the Okanagan growers in establishing the new organization along sound lines. This is only the first of such unions which the Provincial Government intends to promote as time goes on. Mr. Scott denies that any favoritism is being shown by starting with the Okanagan. The settlements embraced within that district produce from 70 to 75 per cent of all the fruit grown in British Columbia, so that it is obviously the district marked out for making the experiment. No one need suppose that this effort to improve the organization of the fruit industry will end all the troubles against which the growers have to contend; but it should help them over a serious difficulty, and advance them another stage along the pioneer road they are treading."

Select Evergreens Now

Winter is the best season to select evergreens for decorative planting. A mixed group of pines and spruces may often serve a double purpose on grounds sufficiently large to accommodate it, decoration and defense against sweeping winds.

Sauk County Apples Lead

A former Sauk Co. resident writes to a Baraboo friend, for a barrel of Fameuse apples. He has lived in California for years, but is unable to get any California apples to equal the good old Fameuse of Sauk County.

Mrs. L. H. Palmer.

Thinning Apples

"Thinning For More Fruit" is the title of an article by Mr. E. H. Favor in a recent number of the *Fruit-Grower*. Mr. Favor declares that when apples are of imperfect shape or occur in numbers greater than the tree can bring to full maturity they are comparable to too many stalks of corn in one hill, and that it is just as reasonable for an apple grower to pick off part of the crop of small apples as it is for the vegetable gardener to thin his rows of carrots and beets.

The thinning is best done just after the June drop. Before this time it is unsafe, and delay afterward robs the grower of the profits. Obviously, the apples must be removed when small, if others are to benefit by an increased share of the tree's nourishment. Moreover, practice demonstrates that although thinning may save the branches from breaking if done later in the season, it will not materially increase the size of fruits remaining on the tree. The small apples are most easily removed by means of a special thinning shear with which part of the fruits can be removed from a spur without loosening or injuring the others. The greatest difficulty is in removing the right amount of fruit. Thinning to a fixed minimum distance apart is probably the most satisfactory. The difficulty is in removing enough, for tiny apples four to eight inches apart look like a very light crop, although at harvest they may make a heavy load.

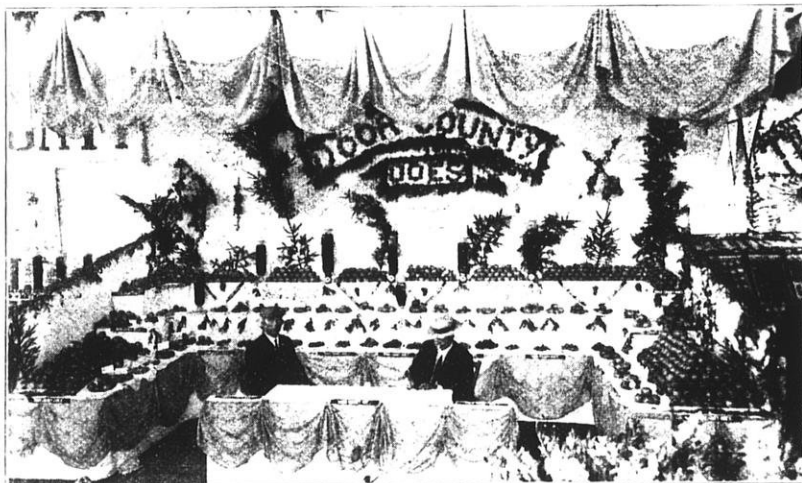
The cost of the work can hardly be considered, since the saving in picking and packing when ripe more than offsets the expense. Logically it is just as cheap to pick an apple in June as in October, and it would be considerably cheaper owing to the greater speed when using thinning shears were it not that thinning and picking at different

times necessarily means covering the ground twice.

As proof of the value of the practice, Mr. Favor cites an experiment in his orchards. To show the benefit of the thinning which he was practicing, he left four trees in the midst of a block of Jonathans unthinned, and four others he thinned when the apples were half grown. The apples on the unthinned trees were practically all below two inches in diameter and were therefore unmarketable, while those thin-

onds, and culls, it was found that most of the thinned fruit could be placed in the fancy class. The greater proportion of the fruit from unthinned trees was culls or seconds, and the market value per eight year old tree where the fruit was thinned was increased \$1.16. With nine year old Jonathans there was a very slight increase in total crop and 71c per tree increased market value.

While having large apples is in itself an inducement to effort,



1913 STATE FAIR.

ned when half grown were little if any larger. In the remainder of the orchard, practically all the apples were of marketable size.

It is evident then that at least in years of heavy crops thinning is profitable for the commercial orchardist, while it is of doubtful importance for home plantations. An extra half inch in diameter will raise the grade of a market apple, and thus bring about a relatively large increase in value. Experiments performed by Mr. L. D. Batchelor at the Utah station bear out this view. Where careful records were kept, the thinning of apples had little or no influence on the total crop. With Ben Davis there was a very slight reduction in the total crop on the thinned trees, but when a division was made into fancy, sec-

and while systematic thinning may have some effect in bringing trees into annual rather than biennial bearing, the home orchardist will scarcely find thinning profitable. With the commercial grower it would be of service only in conjunction with spraying and other good cultural practices. G. F. P.

It was interesting at the State Fair to notice the difference in appearance of the different barrel lots of apples exhibited. After noting how some of the apples which were of fine quality but poorly packed appeared when opened up one could not help forming a resolution to take more care in facing and packing the apples after getting home.

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By all means attend the Convention. Bring your wife along or if you can't do that bring your neighbor's wife,—and her husband; they will enjoy the trip.

Nothing in the capitol at Washington can compare with the Senate and Assembly Chambers of our new State Capitol. Come and take a look. We meet in the Assembly Chamber.

This little paper is a family affair. It belongs exclusively to the members of the State Horticultural Society. The editor neither owns nor controls it, it's

yours. Therefore say what you please and when you please, the forms close the 20th of each month for the succeeding month's issue. If you have a grouch by all means work it off. Better still if you have a message of good cheer send it along.

Get Together

Patronize home talent. Get together at the school house some evening just to find out how much you know about fruit, flowers and gardens. The institute and extension lecturers have no doubt come and gone on their way leaving new ideas, new thoughts but the *best* lies unused in your own community.

Somebody in the neighborhood raises better and earlier peas than anyone else; let him tell whether it is the seed he uses or some kind of culture. Unless he is a grouch he will tell. Somebody knows how to top-graft; let him bring the tools and show how. Some woman has the prettiest Dahlias in the whole neighborhood and has a bushel of roots saved; no doubt she will gladly exchange for gladiolus tubers. The children will sing their prettiest school songs, somebody can pop some corn, the bigger boys and girls will take care of themselves, and each other and there really is no end to the good times that may be had. It will not be quite as formal nor dignified as an "institute" but it's worth while sometimes to throw dignity over the fence and be just "folks." Maybe it will take more than one evening, so much the better.

Blackheart

Some years ago an enterprising liar went about the state selling nursery stock for an Illinois firm, stating to customers that all Wisconsin grown fruit trees were affected with "blackheart" a very dangerous and fatal dis-

ease differing somewhat from Asiatic cholera but equally as fatal.

By way of pastime we looked up the "firm" and found it to consist of a single individual, a jobber buying, wherever handy, any kind of stock. At the same time we strewed a few more thorns, tacks and things in his path by publishing two letters, one from the Illinois secretary of state and one from the state nursery inspector.

Two other letters received at the same time and bearing on the subject of blackheart are given herewith for the benefit of our readers.

"Your favor in regard to blackheart of nursery trees is at hand. I regret to say that I have no experimental knowledge of blackheart though I have long known the trouble. I do not think it is a disease but an injury brought about by severe cold. In my opinion it cannot be controlled by nurserymen. To my definite knowledge it does often occur in nurseries. As an inspector of orchards and nurseries in Michigan I have frequently found this trouble in nurseries and I have frequently seen it in trees grown in nurseries in New York state. I have no decided information as to whether trees with blackheart are seriously injured or not. I have known thousands of trees with this discoloration to be planted and to make good trees. On the other hand I have a suspicion that if the discoloration extends much outside of the real pith of the tree the winter injury is serious enough to be harmful. I might sum up by saying that if only the pith of the tree were discolored I should plant it without fear. If there is further discoloration, however, or if there are other signs of winter injury I should not care to plant such trees. I may add that the trouble is very common in New York state, as it is also in Michigan, to my knowl-

edge, and to my belief occurs in all northern latitudes.

U. P. Hedrick, Horticulturist,
N. Y. Agr. Exp. Sta.

"The trouble that is sometimes termed "Blackheart" of fruit trees is not a specific disease. It is merely a symptom showing that the interior of the wood has been killed and converted into dark colored "heart wood" earlier than would naturally be the case. This is more frequently caused by frost than by any other cause, although dry heat or other unfavorable climatic conditions may lead to it, and it sometimes comes from improper union of the graft. In the case of frost, the discoloration will not extend to the pith but will generally be limited to one or more annual rings with sound wood inside as well as outside. Where the discoloration is overgrown by healthy tissue the trouble is not serious. I have not had an opportunity for a personal inspection as to the occurrence of "Blackheart" in Wisconsin nursery stock but have made careful inquiry of our official nursery inspectors in the Horticultural department and they say that there is no just ground for the claim that Wisconsin stock is more liable to show this than outside stock.

Prof. L. R. Jones,
Wis. Agr. Exp. Sta.

Pigeons as Bug Eaters

Early in the season, the writer had a strawberry patch threatened with extinction by a small black bug. Sprays were tried with only partial success, a neighbors' pigeons discovered the bugs and got busy and soon cleaned them out. If pigeons are generally bug eaters it's time this fact was exploited. Will the readers of Wisconsin Horticulture and Exchanges take the matter up and report?

G. H. Townsend.

The Good Old Days are Gone

BY PROF. J. G. SANDERS.

Past and gone are those days when large crops of perfect fruit, uninjured by curculio codling moth or scab, could be harvested without thought of sprays and spray pumps, of lead arsenate or paris green, of lime-sulfur and bordeaux mixture, and of other treatments for the troubles which contest the modern fruit grower's success.

In the early days young orchards required but little care after planting other than occasional cultivation, until in due time the perfect unblemished fruit was gathered. A gradual change has taken place with the introduction and dissemination of new insect pests and plant diseases, until now spray apparatus and materials are absolutely necessary.

These changing conditions have taught us a strong lesson of the possibility of even more disastrous introductions of pests. There are still many serious pests in foreign lands which have not become established in our country, but doubtless will be sooner or later if systems of rigid inspection of imported plant material are not soon inaugurated.

The awakening of the entomologists and the public in general to the danger of introducing serious insect pests and fungus diseases, was caused more largely by the introduction of the San Jose scale than any other one factor. No other insect has caused so much state and national legislation as the San Jose scale (a harmless insect in its native country in Central China), which infests a wide range of fruit trees as well as many ornamentals. The damage caused by this tiny insect was early recognized by entomologists and means were sought to prevent its spread. But before adequate

means of control were discovered, it had gained a foothold in many sections of some of our eastern states, and in spite of all precautions has gradually spread.

What is true of fruit trees is also true of shade trees. Take, for instance, the injury to our beautiful birch trees by insects. Such a general destruction of birch trees in ornamental plantings has occurred in the past four or five years throughout some sections, that the attention of a great many people has been attracted to the loss.

The small white larva of the bronze birch-borer burrows just beneath the bark, eating its way irregularly around the trunk and limbs of the tree in the sap-bearing layers, leaving winding galleries of castings and cutting off the flow of sap beyond the point attacked. On the younger branches these winding galleries are revealed by the corresponding ridges on the exterior of the limb.

No adequate remedy has been found to combat this pest. It is always advisable to cut out and burn all infested limbs very early each year before the adults emerge.

Until this serious infestation passes over, it is not advisable to plant any birches, for loss of the tree is almost sure to result.

The fruit growers have again had to learn that it is not good business management to ship all their fruit to some central point. It overloads distributing capacity and the fruit is held until it is unfit for use.

Mrs. L. H. P.

Remember you may shoot rabbits on your own land at any time with or without a license. Also do it.

Winter Care of House Plants

By W. A. Toole.

Winter time is here again and the cheer of a few plants in the window makes life more cheerful. By this time the potted chrysanthemums are probably through blooming. The tops should be cut back and the soil allowed to dry out if one wishes to carry the plants over to another year. Enough water should be given to keep the growth fresh and alive but not enough to sour the soil. The old plants may be carried over and perhaps divided up some and brought into blossom again next year. The most satisfactory way is to start new plants from cuttings as soon as the new growth which springs up from the bottom is large enough for this purpose. When a sufficient number of plants have rooted, the old plant may be thrown away. Do not throw away the old stock plant till the cuttings or slips are surely rooted as the chance is some of them will fail to take root and another crop of cuttings will have to be started.

Now is the time when we will begin to hear the old familiar cry: "What is the matter with my Boston Fern?" "I water it every day but it don't do well." There are probably more ferns as well as other house plants killed by overwatering than from all other causes put together. No set time or rule can be given for watering plants other than to say to give them water when they need it. In drying weather or in a room where the heat is drying this may be every day or under other conditions it may be but once a week. Water thoroughly when watered at all and then leave them alone till the soil is looking dry again. A little dribble every day will cause the top soil to sour and grow green moss while at the same time the bottom of the pot is dust dry. If from over watering or other causes moss forms on the top of

the soil, repot with fresh soil in the same size pot or if fresh soil is not available, keep the surface stirred till the moss is killed.

Lice are very liable to trouble some of the house plants during the winter. The best remedy for these is a solution of water and some of the different kinds of nicotine extracts. Usually a sufficient amount can be bought from the local florist for 25c to last some time. For red spider and its relatives a good remedy is a spray of cold water applied with enough force to knock off the spiders, or better still spray them with the following: Make an ounce of flour into paste for each gallon of water. Mix this with two ounces of ordinary flowers of sulfur and stir into the water. Spray this onto the plants being sure that the under sides of the leaves are covered as this is where the red spiders make their home. A few applications of this remedy will fix the little pests.

A great many house plants are frozen every winter. This is a very good thing for the florist as he has a chance to sell more plants, but it is often a cause of grief to the flower lover. A few precautions will usually prevent the disaster. When the plants are on a stand near a window they should be drawn a little distance away at night. If it is extra cold outside set up newspapers next the window. This keeps off much of the danger. If it is extremely cold or if the wind is blowing towards the side of the house where the plants are kept the plants should be drawn further into the center of the room and the windows covered with newspapers. Newspapers should also be spread over the plants themselves. If by any chance the plants are frozen, move them into a cool part of the room, cover with newspapers and allow them to thaw out slowly. While some kinds of plants such as coleus will be injured by a chill without actually freezing,

other kinds seem none the worse for the experience if they are thawed out slowly.

Keep dead leaves and faded flowers picked from the house plants. It helps the appearance of the plants and they will grow better as well.

A pretty filling for the winter fern dish is a combination of partridge berries and rattlesnake plantain. These grow wild in many parts of the state and where available there is nothing prettier. The leaves keep their freshness throughout the winter and if plants of the partridge berry can be found with berries on they are doubly attractive.

If you buy or are given a poinsettia at Holiday time, be careful that it does not get chilled. The plants do not need to near reach the freezing point to be affected and if chilled most of the green leaves will drop off leaving the bare stem with the red bracts at the top.

Perhaps the commission men do as well as they know, but when fruit growers get numerous letters from people who live in the suburbs of the great market centers, asking for fruit, claiming they can not get it, while reports are sent out from the market centers that the market is glutted it looks as though there was something wrong somewhere.

The growers should look for a wider range of market, as there are large tracts of country that have had little or no fruit this season and are grateful to those who have shipped in a small quantity and would gladly use more.

A small sum spent for postage would many times locate a good market. It is worth trying.

Mrs. L. H. Palmer.

Membership is State Horticultural Society and WISCONSIN HORTICULTURE two years for One Dollar.

Twig Blight in Apples and Pears

(Extract from a paper read at the State Horticultural Society convention of a neighboring state.)

Before we can treat any disease that afflicts animal or vegetable life intelligently we must understand the anatomy and physiology of the organic structure. But even when we know that the construction and function of each organ we must fail in our application of remedies as well as in our hygienic treatment unless we take into account the instinctive purposes and habits of the living germs that operate for the continued growth of the structure and for the perpetuation of their species.

Every tree or plant is the home of millions of living intelligences that work together in perfect harmony for the welfare of the whole community and for the perfection of growth. Each living germ is enclosed in a (bacterial) cell the walls of which eventually become the woody substance that supports the tree or plant or from the framework of the leaves and the waste matter of the leaves and bark.

In a deciduous tree, like an elm or apple tree, these cells are borne between the wood and bark and by sprouting from the last row or layer of cells that surround the body and limbs of the tree or its roots. The leaves are also formed by the addition of new cells on the circumference, and new layers of bark are formed in the same manner as the new layers of wood, while the roots are extended by addition of cells to the extremities.

There are no sap vessels in the tree, but the cells of the roots absorb nourishment through the white hairlike threads that penetrate the soil in every direction where there is moisture. These white threads are no part of the tree, but appendages to the roots, just as the leaves are temporary

appendages to the branches and both disappear after the season of growth is over.

The crude sap absorbed by these white threads goes up the tree through the older cells by absorption from one cell to another. Each older cell gets its nourishment from this crude sap and the waste matter from digestion is applied to the membrane which encloses the cell which grows thicker with the woody substance until at last the whole cell is filled with solid wood and dies, usually when about a year old, and becomes "heart wood."

No cells obtain nourishment from crude sap. Whenever there is a bud extending through the bark, this crude sap enters and develops in the leaves and there it is exposed to the sun light and changed from a chemical to a vegetable substance which goes through the network of veins to the young cells between the wood and bark, and passes from one to another down the tree to the extremities of the roots. It will be seen that the new growth which is always between the wood and bark comes not from the ground but from the top.

And now if I should ask you to explain the cause of "twig blight" you would say that if the crude sap is supplied to the leaves more rapidly that it can be changed into vegetable substance the leaves would become gerged and the sap would ferment or sour. This would kill the young cells in the twigs and then blood poison would extend down the limb and perhaps further. When it reaches last year's growth, however, the older leaves, which do not receive so great a supply of crude sap have already fed the new cells below them and these refuse to absorb the poison. Some varieties, like some persons are more easily affected by poison than others. The remedy will suggest itself. Since the warm rain caused the abundant flow of crude sap and

the cloudy weather which followed shut off the sunlight and prevented the evaporation in the leaves, our only remedy available, would be to cut off the supply of crude sap from the feeding roots immediately.

If the tree is in sod, cut a circle around the tree four to six feet from the trunk, by thrusting the spade its full length into the ground. This will check the growth at once and do no permanent injury to the tree. If the tree is large, go further from the trunk where the feeding roots are nearer the surface. In cultivated ground a furrow on each side of the row with a plow or running a wheel coulter to its full depth would accomplish the same purpose. (As the blight occurs not later than July) The same treatment would probably be beneficial to trees on rich ground by checking the growth and causing the development of fruit buds for another year. After July it would cut off the supply of sap for winter storage and also injure the present crop.

The bacteria found by Dr. Burriil on blighted twigs were due to ferment of dead cells. A post-mortem investigation is not always reliable. The cause of blight in trees as well as in many homes is want of sunshine.

COMMENTS ON ABOVE

It is reported that the Missouri State Horticultural Society forbids the discussion, at conventions, of three subjects viz.:

Politics, Religion—and Fire Blight.

This rule might well be adopted by other horticultural societies for the horticulturists who have given thought and attention to the subject are quite well agreed on at least three points:

1st. That the bacterial theory of Burriil is the correct one;

2nd. That, to date, there are neither preventive nor remedial measures of any value;

3d. That in heroic surgery

(pruning) applied to the affected tree lies the only hope;

In the case of the commoner fungous and insect troubles we deal with things visible and tangible; the scab on leaf or fruit is something we can follow in its different stages, we can see and handle it and above all we can prevent it.

This is true of insects. The Codlin moth no less than its offspring the apple worm is a tangible reality. About these troubles there are no improbable theories. We talk about them unceasingly but all fruit growers, except an occasional erratic brother, agree on the application of remedies.

With fire blight the case is different. The inception of the disease is usually sudden and its progress so rapid and conspicuous as to attract notice even from those unaccustomed to observe plants and their ways. Add to this the resistance of the disease to all known methods of treatment and the utter lack of knowledge as to the source of the disease for at least a century and we have a set of conditions admirably adapted to give rise to mystery. And many and mysterious have been the theories advanced to account for fire-blight; and the promoters of these theories were often, like the writer, thinking men.

We cannot say that they are ignorant. They and all of us, until the cold and nerveless hand of science touched the matter, were merely influenced by the fascination of the unknown, a psychological law. The discovery by Burrill in 1878 of the organism causing fire-blight and the perfect ease with which the theory may be demonstrated has quieted most of the "theories of mystery."

One, however, tenaciously persists, viz., the sour sap theory, so plausibly presented by the writer.

Without entering into a detailed discussion of the matter

the following propositions are submitted: 1st. It is wholly impossible that fermentation should occur within *living* cells. The cells, must first have perished before "sour sap" is present. What killed them?

2nd. Any one with a pocket knife and patience may demonstrate that fire blight may be transmitted to a healthy pear or apple tree by first cutting an affected twig and without cleansing the knife cut or scarify a rapidly growing twig of the healthy tree.

What is it that was carried on the knife blade, "sour sap" or certain invisible bodies known as bacteria?

Our Annual Meeting

The Annual Convention will be held at Madison Jan. 6th, 7th and 8th. Premium list and preliminary announcement appear in this issue. No special invitations are issued, none are needed. Everything is free, no admission cards, no doorkeeper, everybody welcome.

The excellent program offered each year is possible because of the willingness of the members who participate to give of the very best they have for the benefit of others. Nothing stingy or narrow about the real horticulturist.

It is all done for your benefit gentle reader, so come down to Madison next month and mix with the best, the very best bunch in Wisconsin or elsewhere. It may do you some good, surely no harm.

P. S. Bring along some apples.

P. S. S. Bring your neighbor along.

Apple Pomace for Cows

According to the Fruit-Grower the Vermont Experiment Station has found apple pomace to be a profitable feed for dairy cattle, being equal in food value to corn silage.

Who deserves **BEAUTIFUL HOMES** more than the Wisconsin farmer? And who has a better opportunity to have them?

We are prepared to help.

White Elm Nursery Co.

Oconomowoc, Wis.

Specialties in

**Ornamental Nursery
Stock and Land-
scape Work**

We raise a large variety of choice trees, shrubs and flowers; also the standard varieties of fruits for Wisconsin.

WISCONSIN APPLE ORCHARDS

Costs less to start and produce more and better apples than elsewhere. Nearness to market great factor in net profits. For information relative to apple orchard lands along the Soo line ask for booklet "Garden of Eden." Address W. H. Killen, Land Commissioner, Soo Line, Minneapolis, Minn.

GRAPE VINES

Gooseberries and Currants. Best varieties and finest grade of stock. Guaranteed true. Prepared to meet the demands of large and small growers and country estates. Largest growers of grape vines and small fruit in the country. Send for Free Book

T. S. HUBBARD

FREDONIA, N. Y.

WANTED FOREMAN for orchard and fruit farm. Prefer one who would invest something in paying property. Address Orchardist, Care of Wisconsin Horticulture, Madison, Wis.

Picking Time

In the last issue of *Better Fruit* mention is made of a series of lectures on picking time delivered at several points in the Northwest by Mr. A. W. McKay and others. The object was chiefly to demonstrate the difference in keeping quality in most varieties of apples according to whether the picking is done too early, just at the proper time, or too late. While the data is not given, it is stated that the wall charts exhibited impressed the growers with the necessity of knowing the proper stage at which to pick. The color of seeds is unreliable, and color of skin and flesh in both red and yellow sorts is said to be the best criterion by which to judge maturity. Growers may profitably give this point some attention.

G. F. P.

Apple Cook Books

Apple Receipt books are all the rage now.

The newest one is "*Apple Talk*" with 55 receipts and other information published by C. C. Hutchins of White Salmon, Washington. Mr. U. Grant Border is still boosting the "*One Hundred Ninety-seven Ways*" at 218 Light Street, Baltimore, Md. But Miss Gertrude Mackay, Pullman, Washington, has taken the lead with "*209 Ways of Serving the Apple for Table Use*."

It never rains but it pours!

Birds

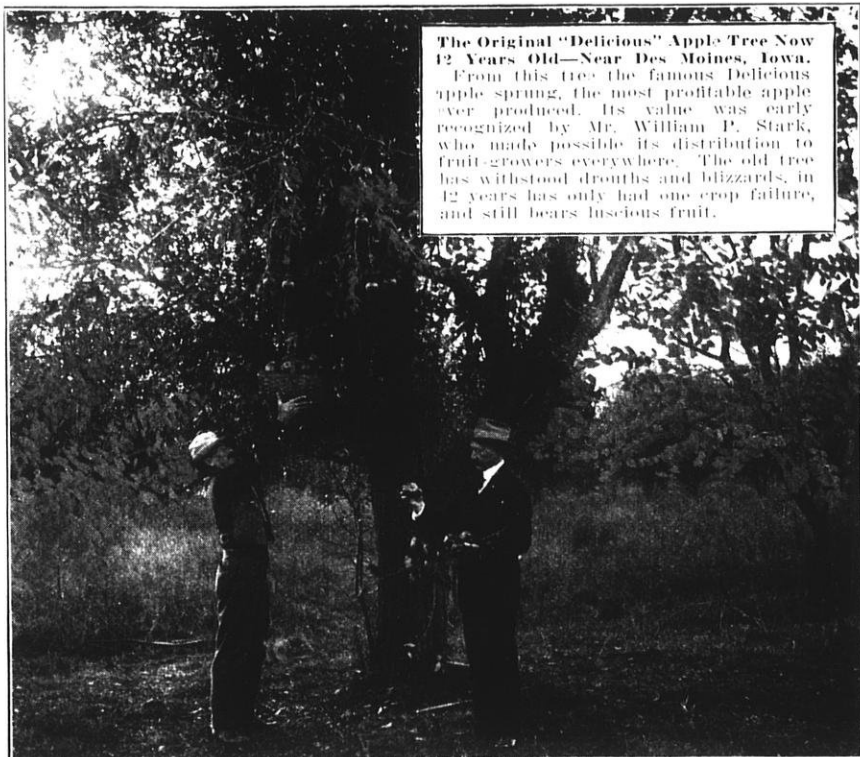
Birds are worth dollars to us to say nothing of their value for the beauty and melody they add to our lives.

G. O. Shields, the well known lecturer estimates that every quail is worth \$20.00 to any farmer. The amount of bugs, weedseed and worms they destroy is enormous and yet many of these birds are sent to market in butter firkins marked 'butter'.

Do the well fed people need those few ounces of meat bought at such a price? Do they wish to give their children a country devoid of birds and animals? These questions must be answered now

by the people of Wisconsin. Each and every one must make it his or her special business to help save from total extinction our vanishing wild life.

Mrs. L. H. Palmer.



The Original "Delicious" Apple Tree Now 12 Years Old—Near Des Moines, Iowa. From this tree the famous Delicious apple sprang, the most profitable apple ever produced. Its value was early recognized by Mr. William P. Stark, who made possible its distribution to fruit-growers everywhere. The old tree has withstood drouths and blizzards, in 12 years has only had one crop failure, and still bears luscious fruit.

GENUINE "Delicious" Apple Trees at Growers' Prices

We have a contract with S. L. Hiatt, the owner of the original Delicious Tree, to furnish us with buds and scions cut directly from the original tree. You get pure-strain stock, genuine, guaranteed Delicious Apple Trees, and at growers' lowest net prices.

Selected Trees Save 50%

We will ship you direct from our famous Stark-Ozark Nurseries, splendid one and two-year old guaranteed Delicious Apple Trees, personally selected by Mr. William P. Stark.

You know the Delicious Apple. It has topped the markets of the world for years. Here is an opportunity to get the genuine Delicious strain, and at a saving of 50 per cent to 50 per cent. We employ no agents, no solicitors. You buy direct from the nursery, and get the benefit of growers' prices.

Our catalog is our only salesman. Write for it, and note the saving under what traveling peddlers and salesmen ask you, not only on Delicious, but on all profitable varieties of apples, pears, cherries, plums, grapes, bush-fruits, ornamentals, etc.

Hardy Stock for Wisconsin

Through long experience with Wisconsin orchard conditions we recommend in Apples, Liveland, Raspberry, Duchess, Wealthy, Wagner, Yellow Transparent, McIntosh and Jonathan. In Cherries, Montmorency and Early Richmond.

These are exceptionally well-rooted, well-balanced, hardy trees, with the reliable William P. Stark quality. There are thousands of William P. Stark trees thriving throughout all of Wisconsin. Get the best it pays.

Send for 120 Page Catalog Today

All prices in plain figures, so you can easily determine what you want of each variety. Note the saving. Clear descriptions, valuable information. Send for it.

Wm. P. Stark Nurseries STATION M-6
STARK CITY, MO.

Wisconsin State Horticultural Society ANNOUNCEMENT

ANNUAL CONVENTION

TO BE HELD AT

Madison, January 8, 9 and 10, 1914

All sessions, except one, will be held in the Assembly Chamber, State Capitol.

Wednesday afternoon session at Horticultural Building, University of Wisconsin.

PROGRAM. (Subject to change)

Tuesday Afternoon 2:00 o'clock.

Assembly Chamber.

Address Hon. J. S. Donald, Secretary of State
Introduction of Delegates from Minnesota, Iowa, Illinois and N.
Illinois Societies.

SMALL FRUITS.

Pumping Water into Strawberries.....N. A. Rasmussen
Problems in Marketing Berries.....E. A. Richardson, Sparta
Discussion by F. Kern, A. W. Lawrence and others.
Something new and something old, H. B. Blackman, Richland Center
Papers on Small Fruit growing by W. S. Powell and J. F. Hauser
of Bayfield, topics to be announced later.

Tuesday Evening.

Ladies' Session—the best ever. Full announcement in Jan. paper.

Wednesday Forenoon.

President's address, Report of Secretary, Report of Treasurer, Report Chairman Trial Orchard Committee.

Report of Delegates to: Minnesota, Iowa, Illinois and Northern Illinois.

Election of Officers and Executive Committee.

The Distribution of Horticultural Products.

The Grower gets 35 cents of the Consumer's Dollar. Why?

A discussion of this live topic from different angles.

The Consumer....Miss Belle C. Crowe, Madison, Prop. The Irving

The Producer.....A. K. Bassett, Baraboo

The Commission Merchant,

The Retailer.....Paul Findlay, Madison

JEWELL MINNESOTA GROWN Nursery Stock

Complete assortment of Fruit and Ornamental stock in all varieties suited to northern culture. A specialty of Hardy Shade Trees, Windbreak Stock, Evergreens (Coniferous), Deciduous Shrubs, Apples and Native Plums.

THE JEWELL NURSERY CO.

LAKE CITY, MINN.

1500 Acres Estab. 1868

FIRST CLASS NURSERY STOCK IN GREAT VARIETY

Consisting of

FRUIT, SHADE AND ORNA- MENTAL TREES

Strawberries, Raspberries, Blackberries, Currants, Gooseberries, Grape Vines, Asparagus, Rhubarb, etc.

Ornamental and Flowering Shrubs, Vines and Perennials. Roses, Evergreens, etc.

If you would like to see a **really good Catalogue** we would be glad to send you ours. It has more than fifty pages and describes everything in the plainest language without any extravagant or overdrawn descriptions.

The Coe, Converse & Edwards Co.
FORT ATKINSON, WIS.
Wisconsin's Largest Nursery

Wednesday Afternoon 2:00 o'clock.

Horticulture Building U. W.

BETTER FRUIT.

A Short Course in Horticulture of Three Hours.

Pruning PrinciplesProf. J. G. Moore, Univ. of Wis.

Why Cultivate?Geo. F. Potter, Univ. of Wis.

All About Spraying (15 min.)....Prof. J. G. Sanders, Univ. of Wis.

The Illinois WayJ. C. B. Heaton, Illinois

How We Raise Fruit in Iowa..Wesley Green, Sec. Ia. Hort. Society

Wednesday Evening.

Illustrated Lecture, Highways and Byways of The South,

Dr. J. C. Elsom, Univ. of Wis.,

Thursday Forenoon 9:00 o'clock.

Growing Greenhouse Vegetables for Small Town Trade,

W. A. Toole, Baraboo

Making Roads and Walks on the Farm..Wm. G. McLean, Madison

Research Work in Horticulture.....R. F. Howard, Agr. College

Thursday Afternoon 2:00 o'clock.

Demonstrations in Grafting.....Geo. F. Potter

What Nature and Art Could Do For The Home,

F. C. Edwards, Ft. Atkinson

Landscape Gardening for the Farm, Illustrated..Prof. J. G. Moore

Social Centers for Horticulturists.....Wm. Toole, Sr.

Students Speaking Contest.

Premium List

THE FOLLOWING CASH PREMIUMS ARE OFFERED
FOR EXHIBITS AT THE ANNUAL CONVENTION
MADISON, JAN. 6, 7 and 8, 1914.

	1st	2d	3d	4th
1. Best collection of apples, not less than 15 varieties	Pre.	Pre.	Pre.	Pre.
2. Best 5 plates (5 varieties) commercial apples for Wisconsin.....	\$10 00	\$6 00	\$4 00	\$2 00
3. Best Plate Avista.....	5 00	3 00	2 00	1 00
4. Best Plate Ben Davis	1 00	75	50	25
5. Best Plate Dudley	1 00	75	50	25
6. Best Plate Eureka	1 00	75	50	25
7. Best Plate Fameuse	1 00	75	50	25
8. Best Plate Gano	1 00	75	50	25
9. Best Plate Gem	1 00	75	50	25
10. Best Plate Gideon	1 00	75	50	25
11. Best Plate Golden Russet	1 00	75	50	25
12. Best Plate Jonathan	1 00	75	50	25
13. Best Plate Longfield	1 00	75	50	25
14. Best Plate Malinda	1 00	75	50	25
15. Best Plate McIntosh	1 00	75	50	25

FRUIT TREES**TRUE TO NAME****WISCONSIN GROWN**

Fifty ninth Year

Specialties: apple and plum trees and small fruit plants.

Drop us a card for our special

INTRODUCTORY OFFER

It will surprise you. Descriptive price list free, and it will save you money.

Address

KELLOGG'S NURSERY

Box 77

JANESVILLE,

WIS.

**Orchard Land in
Dunn County, Wis.**

Surface rolling; soil, rich clay loam underlaid with limestone. The orchards of adjoining farms show the adaptability of this part of Wisconsin to apple growing. Near railroads and markets. Prices reasonable. Write for particulars.

William J. Starr

Eau Claire, - - - - Wis.

**The Hawks
Nursery
Company**

are in a position to furnish high grade Nursery Stock of all kinds and varieties suitable to Wisconsin and other northern districts.

Will be glad to figure on your wants either in large or small quantities.

WAUWATOSA, WISCONSIN

	1st Pre.	2d Pre.	3d Pre.	4th Pre.
16. Best Plate McMahan	1 00	75	50	25
17. Best Plate Newell	1 00	75	50	25
18. Best Plate Northern Spy	1 00	75	50	25
19. Best Plate Northwestern Greening..	1 00	75	50	25
20. Best Plate Patten	1 00	75	50	25
21. Best Plate Pewaukee	1 00	75	50	25
22. Best Plate Plumb Cider	1 00	75	50	25
23. Best Plate Salome	1 00	75	50	25
24. Best Plate Seek-no-Further	1 00	75	50	25
25. Best Plate Scott Winter	1 00	75	50	25
26. Best Plate Tolman	1 00	75	50	25
27. Best Plate Twenty Ounce	1 00	75	50	25
28. Best Plate Utter	1 00	75	50	25
29. Best Plate Wagener	1 00	75	50	25
30. Best Plate Wealthy	1 00	75	50	25
31. Best Plate Windsor	1 00	75	50	25
32. Best Plate Wolf River	1 00	75	50	25
33. Best peck of each of the following varieties: Dudley, Fameuse, Gano, Gem, Golden Russet, Jonathan, McIntosh, McMahan, N. W. Green- ing, Tolman, Wealthy, Windsor and Wolf River	\$2 00	\$1 00	\$0 75	
34. Best Exhibit Pears	1 00	75	50	
35. Best Exhibit Crabs	1 00	75	50	
36. Best Exhibit Grapes	1 00	75	50	
37. Best Seedling Apple	2 00	1 00	50	

VEGETABLES.

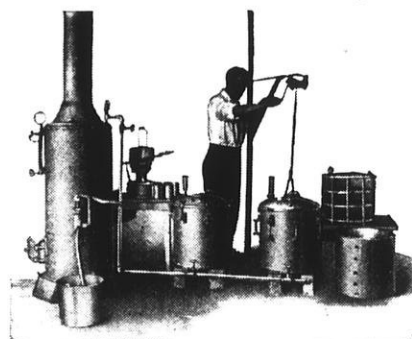
	1st Pre.	2d Pre.	3d Pre.
Best collection, not less than 10 entries.....	\$5 00	\$3 00	\$2 00
1. Best 6 Blood Turnip Beets	1 00	75	50
2. Best 3 Round Turnips	1 00	75	50
3. Best 3 Rutabagas	1 00	75	50
4. Best 6 Chantenay Carrots	1 00	75	50
5. Best 6 Shorn Horn Carrots	1 00	75	50
6. Best 6 Salsify	1 00	75	50
7. Best 3 Winter Cabbage	1 00	75	50
8. Best 3 Red Cabbage	1 00	75	50
9. Best 6 Ears Pop Corn	1 00	75	50
10. Best 6 Red Onions	1 00	75	50
11. Best 6 Yellow Danvers Onions	1 00	75	50
12. Best 6 White Onions	1 00	75	50
13. Best 6 Gibraltar Onions	1 00	75	50
14. Best 6 Winter Radishes	1 00	75	50
15. Best 6 Parsnips	1 00	75	50
16. Best 6 Peppers	1 00	75	50

RULES OF ENTRY.

1. All entries must be filed with the secretary before 5 P. M., Tuesday, January 6.
2. Fruit must be arranged ready for judges by 9 A. M., Wednesday, January 7th.
3. Four apples constitute a plate, no more, no less.

CANNING AT HOME

The Steam Pressure Way



The tremendous waste and big loss from low market prices and the quick ripening of fruits and vegetables is entirely saved by canning at home in a NATIONAL Steam Pressure Canning Outfit. The "Steam Pressure Way" carries Government endorsement, and thousands of satisfied users will back up our statements.

Bigger Prices for Fruits and Vegetables.

A NATIONAL Canning Outfit enables you to put up what you raise yourself, or start a small canning factory, or establish a community canning outfit among your neighbors for mutual protection. Canned fruits and vegetables are easily sold in the fall and winter at good prices.

NATIONAL Canning Outfits are the same as used in modern canning factories only made in smaller sizes. They preserve anything you grow, either in glass jars or cans. Complete Home Outfits \$15 and up. Hotel sizes \$25 and up. Factory sizes \$110 and up.

Write at once for descriptive circular and state in what size you are interested.

NORTHWESTERN STEEL & IRON WORKS
810 Spring St. Eau Claire, Wis.

The Great Northern Nursery Co.

Sells First-Class Wisconsin Grown Trees

Our Trees Live. We had an opportunity to compare 500 of our Wisconsin grown trees with a similar lot of an Eastern Nursery. At the end of the season only 52 per cent of the eastern grown stock was alive, while 95 per cent of ours lived and grew. Moral: buy home grown stock and avoid loss. Our trees are **HARDY**, and our stock is **HEALTHY**. A comparison will prove that our stock has not the willowy and watery soft growth of southern or eastern grown stock.

Every tree and shrub is packed entirely under cover, free from exposure to sun and wind.

Great Northern Nursery Company
Baraboo, Wis. Write for Catalogue and Price List

4. Separate samples must be furnished for each entry, except for No. 1, which may include all entries.

5. 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, fifty cents.

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 entries must be made on regular entry blanks which will be furnished by the secretary on application.

F. CRANFIELD, *Secretary W. S. H. S.*, Madison, Wisconsin.

STUDENTS' JUDGING CONTEST.

Twenty dollars in prizes will be awarded to students in the long and middle courses, Horticultural Department, College of Agriculture, for the best scores in identifying and judging varieties of fruit on exhibit.

Under rules prepared by Prof. J. G. Moore.

Final awards to be decided by a judge appointed by the president.

Orchard and Garden Notes

Begin to plan next year's garden now before this year's experience is forgotten.

Perennials should not be covered with heavy material. Straw or hay is good. Aim to keep them dry without smothering.

Norway poplar is a quick-growing tree and gives shade quickly, but a good, well-grown, hard maple, elm, or hackberry lasts longer and becomes prettier as it grows older.

Do not use red cedar as a windbreak tree near an orchard. It gives a harbor to one stage of the apple rust which is very in-

jurious to apples, especially the Wealthy.

Keep the palm and fern leaves free from dust by washing frequently in a tub of water.

* Apples wrapped carefully in paper keep better than those unwrapped. Common newspaper may be used.

A good method of watering ferns is to set the pot in a pan or tub of water long enough to soak the roots and soil thoroughly. Do not water again until the plant needs it.—Prof. Le Roy Cady, horticulturist University Farm, St. Paul, Minn.

Wouldn't Mind That

An Italian who kept a fruit stand was much annoyed by possible customers who made a practice of handling the fruit and pinching it, thereby leaving it softened and often spoiled. Exasperated beyond endurance he finally put up a sign which read:

If you must pincha da fruit—
pincha da cocoanut!

We accept advertisements only from reliable persons and firms.

W. A. TOOLE
"Carry nee Dule" Baraboo, Wis.
WHOLESALE GROWER
Of Plants, Seeds and Flowers of
HARDY PERENNIALS
Prices on Application



Eclipse Spray Pump

WISCONSIN GROWN APPLE TREES

Winter varieties of quality and hardiness, Gem City, Tuttle's Winter and McIntosh Red, Native Plums, Prof. Hansen's Hybrid Plums, Burbank's Epoch Plum. We also make a specialty of northern grown native and standard shrubs.

HENRY LAKE SONS CO.
NURSERYMEN

Black River Falls, Wisconsin.

APPLE TREES

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WISCONSIN HORTICULTURE

A **WISCONSIN MAGAZINE** published by the **WISCONSIN STATE HORTICULTURAL SOCIETY** containing each month articles on fruit, flower and vegetable growing written by **WISCONSIN** growers for **WISCONSIN** conditions.

In this respect it is in a class by itself. Horticultural papers published for profit must cover the whole country, or aim to do so, and sometimes the information gets pretty thin from being spread so far.

WISCONSIN HORTICULTURE is not published for the purpose of making money but exclusively for the benefit of members of the **STATE HORTICULTURAL SOCIETY**.

It is better,—for **WISCONSIN** people, than any other horticultural paper published. It tells the best varieties to plant in **WISCONSIN**, the best methods of cultivation for **WISCONSIN**. It's a paper for the home gardener and fruit grower as well as for the big grower.

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Honest nurserymen advertise in **WISCONSIN HORTICULTURE** and only that kind. The other kind cannot buy space.

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A dollar bill pays for two years.

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Timely Thoughts Tersely Told

By Mrs. W. A. Toole.

Apples have been known to absorb flavors from their surroundings, so have a care as to what they are stored in and where. Especially avoid mouldy boxes and poorly ventilated cellars.

A miniature Christmas tree decorated with white cotton, a bit of tinsel, small red paper stockings, gilt cornucopias and planted in a flower pot which is covered with frills of crepe paper, looks well in the center of the table at Christmas time. It does not occupy much space and so is especially desirable at this season of heavily laden tables.

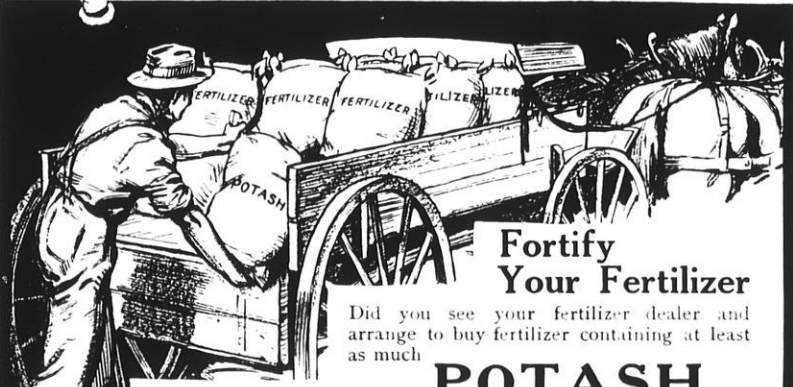
Corn may be popped in an ordinary frying pan or iron skillet. Put a very little lard in the pan, add the corn and cover. When it has become thoroughly heated, shake constantly until all is popped. It is difficult to pop corn over a gas flame with an ordinary wire netting popper, but it may be successfully accomplished if this method is followed.

A receipt for Sea Foam Candy which I have proven good is as follows: Put three cups of light brown sugar, a cup of water and a tablespoonful of vinegar into a saucepan. Heat to boiling point. Then boil without stirring until the mixture forms a hard ball when tested in cold water. Pour the mixture into the stiffly beaten whites of two eggs, beating constantly until it becomes quite stiff, then add a cup of chopped nut meats. Drop from a spoon on buttered tins. A whiter appearing candy may be made by adding one-half cup of corn syrup to two cups of granulated sugar and one-half cup of boiling water. Proceed as with the above.

Let the children help prepare for Christmas. Half the fun of

a Christmas tree lies in its preparation. Stringing pop corn and cranberries, pasting paper chains, making candy holders of bright colored paper or tarlatan and filling them with candy, in the making of which they have had a

hand, will all prove a delight to the children and these home made decorations are quite as effective as purchased ones. Too often the children are allowed to accept the Christmas season as a time of receiving, are never



Fortify Your Fertilizer

Did you see your fertilizer dealer and arrange to buy fertilizer containing at least as much

POTASH

as Phosphoric Acid? That is the real kind that pays you and the dealer. If you did not, you should at once ask your dealer to carry Potash Salts so that you may increase the Potash in the ordinary brands. To increase the Potash 1 percent, add 40 pounds Muriate or Sulphate of Potash to a ton of goods. A 200-pound bag will increase the Potash of a ton 5 percent.

Try it once and see how Potash Pays.

If your dealer will not carry Potash Salts, write us for Prices. We will sell any quantity from one 200 pound bag up.

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Don't let this season go by without getting Stark Trees in your orchard. Right now is the time to get your order in for Fall planting. Fall is the best time to plant. The tree establishes itself and is ready to start growth early in the spring with strength to withstand summer droughts.

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Hardy, thrifty tree—fruit large, brilliant, waxy red—a *wonderful* keeper. Free Year Book tells all about Stark Delicious.

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Stark Bros. Nurseries and Orchards Co., Box 80, Louisiana, Mo.

“White birch” fruit packages, climax grape and peach baskets, repacking baskets, beekeepers' supplies, tree protectors, poultry crates and wood specialties. Write for prices.

SHEBOYGAN FRUIT BOX CO. Sheboygan, Wis.

taught that they may give and so do not know the greater delights of Christmas plans and secrets.

Fudge.

To two cups of white sugar add one cup of sweet milk, butter the size of an egg and one or two squares of Bakers' chocolate. Boil without stirring, cool before beating, then add vanilla and one cup of chopped nuts.

Butter taffy, which is delicious, is made with two cups of light brown sugar, one-fourth cup molasses, two tablespoons of vinegar, two tablespoons of water, seven-eighths teaspoon of salt, one-fourth cup of butter and two teaspoons of vanilla. Boil first five ingredients until, when tried in cold water, mixture will become brittle. When nearly done add butter and just before turning into pans, vanilla. Cool and mark in squares.

At this season of the year when plans for Christmas are uppermost in the mind, one is often confronted with the problem of choosing acceptable gifts for friends and relatives. One way of solving this problem is offered in potted plants which may be had at moderate prices and in a variety to suit all tastes. Ferns, primroses, Jerusalem Cherries, Begonias and Cyclamens are all procurable from the average florist at Christmas time. It is advisable to make the selection a week or more in advance before the best plants have been sold. They may be presented in pots made gay with holly-printed crepe paper, but personally I prefer them covered with dull green crepe tied about with dull green or red ribbon. It is a mistake to dress up the holder of a plant too gaily or elaborately. The freshness and beauty of a growing plant and flower should not be detracted from.

Wisconsin Horticulture, Two Years for \$1.00

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WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

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Volume IV

Madison, Wisconsin, January, 1914

Number 5

Co-operation

Very soon, in three or four or five years, growers in different parts of the state, Baraboo, Richland Center, Eau Claire, Warrens, Manitowoc, and other points will get together, bury their hatchets, fire arms, etc. and organize co-operative fruit selling associations.

Just now there is too much of suspicion and jealousy in these places and in some cases too much self interest on the part of local shippers to permit of any organized effort.

Bayfield, Sparta and Sturgeon Bay are at present the only bright spots in the co-operative field.

Co-operation means more than getting together for the purpose of getting a few cents a crate or bushel for fruit than may be had by individual effort; it means some sacrifice on the part of each member for the good of all; it means loyalty to a common cause and confidence in leaders.

A great deal more of these things are needed in the associations we now have if they are to stand.

The fruit growers of Canada are well organized and we can well afford to study their methods. A. McNeil, Chief of Fruit Division of the Canadian Dept.

of Agr., has prepared a pamphlet on "Co-operation and Fruit Growing." Every fruit grower in Wisconsin should read this from cover to cover. It is distributed by the Dept. of Agr., Ot-

tawa, which Canadian fruit growers have made in reference to co-operation is to regard it as an isolated movement for the purpose of securing them a few dollars more than they would otherwise



Wisconsin Grown Peonies. Wisconsin Nurseries, Union Grove.

towa, Canada. Ask for Bulletin No. 38 above title.

They are of a neighborly spirit across the line and always send publications on request to this office and no doubt would do the same for growers.

A few striking paragraphs on the development of co-operation and the ethical principles involved are here given:

"Perhaps the greatest mistake

obtain. In its broader outlook co-operation is a friendly society or a benefit association. European co-operators have recognized this and have taken for their motto, 'Each for all, and all for each.' Taking this view, co-operation implies not only getting something that you did not have before, but also giving something or helping some one whom you could not otherwise

help, and the giving or helping end is quite as important as the receiving end."

"Co-operation is founded upon mutual confidence, loyalty to principle and unselfish in action. In an association the members must have confidence in their leaders and in their fellow workers. Without this confidence no progress can be made; no other virtues will compensate for its absence. Such confidence is not the blind faith that follows without reason, nor yet is it the cold and calculating sureness that comes from perfect knowledge. The confidence which one has in leaders and in his fellow workers in this democratic age, does not dispense with all the mechanism of personal oversight and close auditing. But it does consist in unreservedly placing our interests in the care of others who are working with us and whom we have no good reason to suspect of fraudulent and selfish intent. The millennium is not yet come, but it is safe to say that nine-tenths of the suspicions of the average man are without good foundation. The criminal code in certain countries is founded upon the principle that an accused man is guilty until he proves himself innocent. The British courts of justice consider a man innocent until he is proved guilty. Applying this principle to the working of co-operative associations, we should consider our fellow members as worthy of our confidence until it is proved otherwise by unimpeachable evidence.

"A coöperative society cannot be fully successful simply because a few of the local growers are keenly interested. It is essential that each member of a co-operative association should bear in mind that the success or failure of the organization depends upon the combined efforts of its members, in giving every possible support to the movement. The ultimate success of co-operation depends largely upon the cheerful optimism and enthusiastic loyalty

of the association members. It is assumed that the leaders of the movement in any section are men of greater executive ability and better training than the average grower. Such men are capable of doing many things well. But at the same time every member must have his mind permeated with the thought that unless he gives every possible assistance the efforts of the leaders are necessarily limited.



Three Beauties, Couronne D'or, Grandiflora rubra, Thurlow. Grown by W. J. Moyle.

"Given good feeling among the growers, earnest endeavor on the part of each member, and enthusiastic and well trained leaders, the success of the movement is assured.

"Selfishness is a relic of a primitive civilization. Enough remains however, to make it a disturbing element in everyday life. One of the main charms of modern social life is unselfishness, but the ordinary methods of business appear to have no place for it. Co-operation, on the other hand, endeavors to eliminate selfishness and its success depends largely upon the extent to which this is accomplished. No co-operative association can

possibly succeed if the members are determined to act upon the ethics of ordinary business methods. If the few who have power in an association exercise that power for selfish ends, then there can be no real co-operation; and though rules and regulations may be carefully drawn up to offer no temptation to the selfishly inclined, yet after all is said and done we must, in a large measure rely upon the broad moral education of the members rather than upon direct and distinct prohibition. Have by-laws and regulations by all means, but it should be understood among the members that there is a higher code of morality than can possibly be embodied in these.

"It is for this reason that the co-operative methods limit the dividends that may be paid to capital and exclude share voting. In ordinary joint stock companies, the influence and power is proportional to the money invested, so that the rich become richer by appropriating selfishly, through the power of money, the fruits of the labours of others, the unearned increment of values created by society, and the natural resources that in justice should be shared in due proportion by everyone. Co-operation distributes wealth in proportion to the just earning of each worker, prevents the accumulation of large profits, and shares unselfishly all natural resources."

Hotel Reservations

Rooms have been reserved at the Capitol House for officers, members of the executive committee and all whose names appear on the program. These reservations will hold only until 11 o'clock P. M., Tuesday, Jan. 6 unless by special arrangement.

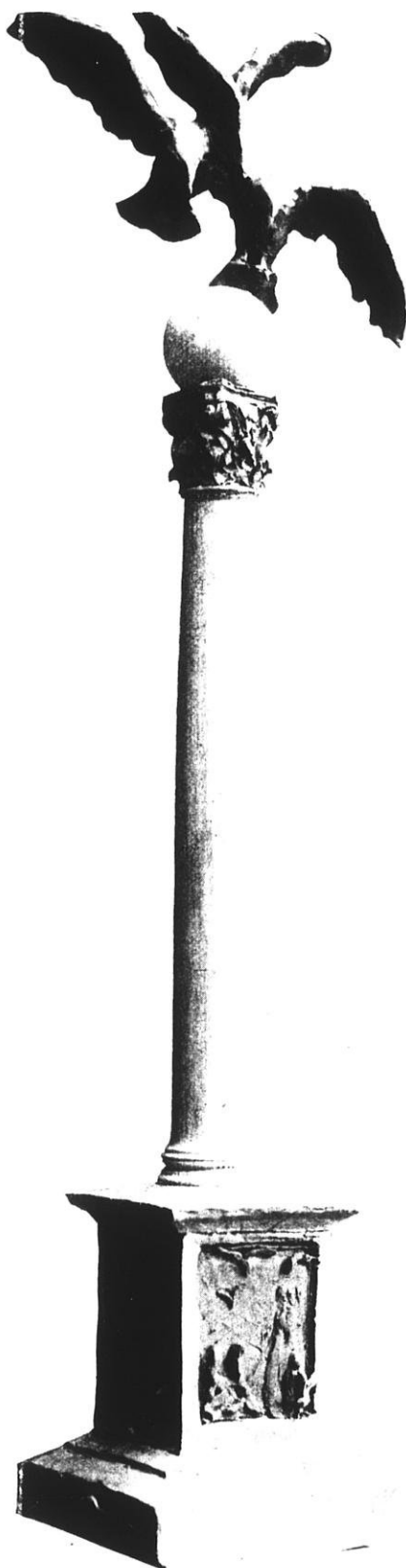
Reservations will be made for members or others by the Secretary at the Capitol House or any other Madison hotel on request. Write early.

**The "Fisherman's Friend" is Also
the Farmer's Friend**

A. C. Burrill, State Entomologist's Office.

We of Wisconsin are neither as progressive as Eastern states in recognizing the horticultural value of bird reserves nor as thoughtful as Western states in erecting public tributes to their economic worth, where he 'who runs may read' and learn the lesson of some bird's usefulness to man. The Salt Lake monument to the gulls was erected in 1912 to chronicle the inroads of black crickets upon the crops of the first Mormons in 1848 until great flocks of gulls rushed in and devoured the crickets, often mentioned as grasshoppers. Utah straightway canonized the bird and severe penalties attach to one who may kill a sea-gull. This Corinthian shaft with the alighting gulls above is fitting gratitude of the people whose tale is told in the bronze panels at the base,—the planting of the first Western crop, the despair of the planter when the crickets attacked the harvest, the despairing wife wielding the flail to beat off the hungry hordes, and the joy of the husbandman when the crop was gathered in after the gulls had destroyed the crickets.

Now comes a howl from Door and Bayfield counties that the sea-gull, locally known as the 'fisherman's friend,' steals fish guts and heads after they have been hauled upon the land as fertilizer. It has been made rather plain that the food of the herring gull entitles the bird to be ranked in the useful class in my article 'A Plea for the Herring Gull' (By the Wayside, Feb., 1912, pp. 41-3) and in my announcement before the 1912 summer meeting of the Wisconsin Horticultural Society at Bayfield, that President Taft signed an executive order, January 9, 1912, creating our Gravel Island reservation off Door county for the breeding of gulls and terns. The



reason that farmers are troubled by gulls seizing the fish offal is that farmers leave this fertilizer on the surface, very bad agricultural practice indeed. Professor A. R. Whitson of the Soils Department, Wisconsin University, tells me that it is far better to add lime to break up the nitrogenous matter as ammonia, since fish offal alone hurts the land, especially as it is usually spread in a thick layer, making the soil too greasy and oily to work easily. Moreover, to insure that the soil does not become too hard to work, spread this offal in a thin layer and plow it under to get quick returns from the fertilizing value. If the fish oils are left on the surface, they take over a year to weather into anything like a fertilizing material. Thus it serves the poor farmer right who leaves a thick layer of fish offal on his fields where the gulls may feast and steal all, for it is bad agriculture.

You, who follow this practice, take notice that it is against the law to shoot the gulls as you are doing about Bayfield. Hundreds of tons of fish offal are hauled onto the land about the town, so that the business is profitable enough for you to heed this challenge to better methods. I was informed by Mr. Wm. Barnhardt, the deputy warden for Door county that similar practices are in vogue in the Sturgeon Bay district. He has express orders to arrest any farmer who seeks false self-protection by shooting gulls for such reasons. He has set an example by feeding gulls on the ice when severe winter weather freezes over the lake surface, cutting off the chief feeding grounds of these bird scavengers. Other wardens have taken a hand at feeding these aerial citizens of ours, notably Mr. H. C. Gruebner at Sheboygan, others at Manitowoc, Milwaukee, and Racine.

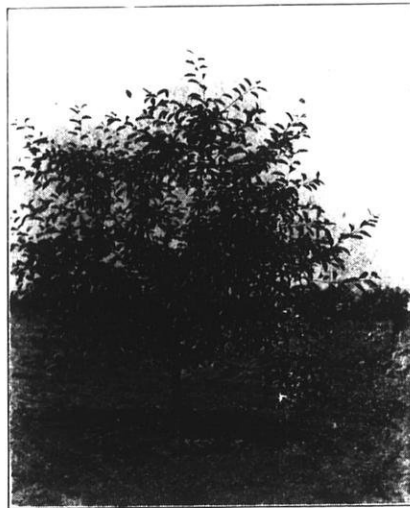
Sea-gulls have a habit of wandering northward to their breeding grounds as the ice breaks up

in spring, scavenging many or most of our inland state waters for all offal floating to the surface when released by the ice. This statewide patrol of a self-appointed lake and river garbage-cleaning brigade is more marked in spring than the return of these birds in autumn, which has been recently proven by Mr. Cahn, graduate student in ornithology, University of Wisconsin, and myself this fall for Madison and one or two other inland points. Constant interrogation has failed to elicit very valuable information on these points for the Mississippi Valley, such as we desire, although Deputy Warden C. W. Thompson reports occasional gulls in the St. Croix county deer park, twenty-five miles east of St. Croix lake. A few gulls were reported by the September, 1912, expedition of the Wisconsin Archaeological society, Messrs. C. E. Brown and A. Flint, and as long ago as May, 1870, Prof. Samuel Aughey of Nebraska found in the stomachs of two of these herring gulls, the more exact term for this bird (*Larus argentatus*), obtained from Winnebago Indians,—two grasshoppers in one and eleven in the other, besides which each stomach had remains of fish and small molluscs.

The venerable greenhouse gardener and bird-lover of Oconomowoc, Mr. Chas. Oehlenschlaeger told me how the sea-gulls visit every winter the plowed lands and even the stubble fields at the Poor Farm in Wauwatosa, Wisconsin, as well as about Oconomowoc less frequently, doing abundant good in spring especially. Many other reliable observers bear witness to these visits to the Wauwatosa Poor Farm, especially Dr. E. J. W. Notz of Milwaukee. D. E. Lantz calls attention to the value of the American gulls in feeding upon field mice—whenever they find them. Dr. Notz reported that the gulls have long been used to going to the above county Poor Farm for garbage and that April 24, 1913, much manure from the road-con-

struction horse-camp was spread on the fields next the Wauwatosa street-car tracks, whence came suddenly to work over the manure, flocks of gulls like hundreds of great white chickens.

Dr. H. W. Henshaw, Chief of the United States Bureau of Biological Survey, writes me "We have a number of stomachs collected in Maine by Dutcher, and these contain the remains of June bugs and other insects with about 10% of fish garbage, showing that the herring gull is to some extent insectivorous."



One year cherry planted May, 1911; photo July 1913. F. L. Blackinton's farm, Fish Creek, Door county.

Success and Failure in Growing Vegetables and Fruit in 1913

(C. Philipson, Oshkosh, at meeting Oshkosh Hort. Soc.)

In looking back to find the successes and failures in the past year, I find that I have been abundantly blessed with both.

To begin with, my early beets were a failure owing to a small insect or grub getting into the leaves eating the colored matter of the leaves and almost destroying them, and although they finally made a new growth they were so weakened that they never amounted to much. As I know of no remedy the lesson learned is, try again.

My early cauliflower were destroyed by maggots and there-

fore a failure, but the late ones were a success, every plant having a flower of fairly good size and quality. Lesson which I have learned many times before, but forgotten, don't plant cauliflower early, it don't pay.

My onions, carrots and other vegetables that I planted did well enough to be called a success, although perhaps not as large a crop as the year before.

My tomatoes were fine, especially my early Buckstaff which have never been better both in yield and size and smoothness of fruit. Lesson, save your own seed.

My peppers were a failure. They grew too rank and the blossoms fell off without setting fruit. Lesson, do not plant on land rich enough to produce such heavy growth.

My small fruit may be called a success, although the late frost injured my currants somewhat and the dry weather came very near ruining my raspberries. The first pickings were very small but when rain came they swelled and gave a big crop of large berries, which teaches us they must have an abundance of water at the right time to produce fine fruit.

My cabbage both early and late was a success especially a piece of Glory of Enkhausen. Nearly every plant made a solid head weighing from 4 to 10 lb. Lesson learned, be sure of having good seed; to be sure of your seed. I find it best to buy it a year ahead and try it in a small way the first year. If not right throw it away.

My first planting of cucumbers was a failure owing to frost, heavy rain and bugs. Those planted late were a success and gave abundantly of nice straight pickles: Lesson, do not plant too early.

And so you will see as I said before that I have had my ups and downs but take it all in all I have much to be thankful for and I hope to profit by the lessons I have learned.

A New Cure for Drink

By Henry Ditmers.

From the American Magazine
for December.

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Company.

"I wish to express my gratification at reading the experience of a "Bar Tender" which appeared in a recent number of The American. It gives one a new point of view of the liquor traffic and incidentally helps to dispel the illusion that there are no honorable men in the business. I do not desire to be personal, I do not seek any notoriety, but I could write of some things in my experience of twenty years in the liquor business that would be fully as remarkable as those of our unknown friend.

Like him, I never sold to a drunken man or a minor, and while he is probably doing business in some city where one can telephone for the "hurry-up wagon" in case of a rough-house customer, I, on the other hand, commenced my career in a frontier, "end of the railroad" town, where it was as much as a man's life was worth to refuse a man a drink, especially if he was already under its influence. Moreover, I never accepted a treat from a customer, and to refuse a drink is a form of attempted suicide, you know.

Also, I can truthfully say, with a good deal of satisfaction, that I never drank a glass of liquor in my life. Further, I was instrumental in breaking several hard drinkers of the habit.

I was afraid of liquor all the time.

One thing more: It is generally believed, and not without some show of justification, that a whisky seller's boys—out of charity, the girls are not mentioned—are bound straight for hell. I have four boys, the kind they are supposed to "raise" Out West. They have never touched liquor. The youngest boy is something

over six feet, the eldest stands six feet five in his socks. They are just babies, you see, not old enough to have formed the drink habit!

I found early in my experience that as a general rule—there are exceptions of course—a regular consumer of fruit was not a very good customer in my business. On the other hand, a typical "booze fighter" seldom touches fruit. I always kept some apples behind the bar for my own use, and I often experimentally offered one to a "star customer," who almost invariably refused. The more I looked into this matter, the more firmly I became convinced that these two habits clash. Not caring to have my boys acquire the one I inoculated them with the other, and I have found that the fruit habit early acquired acts as a perfect antidote to the liquor habit.

I mention apples especially because they are something like bread, one never tires of them, which is more than can be said of peaches, pears, and oranges. And apples, thanks to cold storage, can be had every day of the school year.

Why shouldn't the apple habit be cultivated in the public schools at public expense? School trustees could advertise for bids to supply the school. Then by means of a push-the-button contrivance placed at the boys' and girls' exits each child could get his apple as he marched out to play at recess time. Two apples a day would do the work. Children have a veritable craving for fruit. I have often heard one urchin beg another for the "core." And if it happens that I have merely imagined that the fruit habit offsets the drink habit, I know that two apples a day will have a valued influence on the health, good temper, and morals of any child.

Please understand I have no ax to grind, I do not own a single apple tree.

I have never claimed to have discovered that fruit juices act as

a liquor antidote, although I have talked it for twenty-five years.

Some three years ago an article appeared in the "Technical World" which claimed a Nebraska physician as a discoverer of the theory. The good doctor and I will never quarrel over it. He can have the glory. I do not need it. I am only too glad to see that my views have gained some scientific backing.

If you remove the desire for drink, the liquor question will solve itself, and while poverty may not be banished the general welfare of the people will be much improved; and even if my scheme is never adopted I will feel a thousand times repaid for my pains if I can only convince the mothers of our country, those who have the means to do so, that to implant the fruit habit in their children is the best assurance for a temperate life.

The Farmer with One Idea

The one idea that the farmer is the hardest worked man in the universe, has done more to drive the boys off the farm than any or all reasons together.

The farmer from the dawning of time has groaned over his hard lot, preached to his children to get an education so they could get a living with out work, quite overlooking the fact that there is no easy road to wealth and that the successful professional or business man works just as hard and puts in more hours than any farmer in the country. They may not get to work quite as early in the morning but they work far into the night, as the only man who stops work when the whistle blows is the day laborer.

When there comes a business crisis, who is it that is sure of a home and something to live on? It is not the man who has been looking for an easy road to wealth, neither is it the man that dropped his shovel at the first sound of the whistle.

Mrs. L. H. Palmer.

Onions

Wm. Toole Sr. Baraboo.

Probably no crop which I have ever raised in the vegetable garden has ever given me more satisfaction than the yield of onions last summer on a very small piece of ground.

The leading factors entering to success in onion growing are seed, soil, season and care of crop. The care given was nothing to boast of. The season was almost too wet. Soil was good but most credit I think is due to the seeds. They were obtained from Phillipson of Oshkosh. Whoever has attended the Fair at

before cold weather. Stores were only laying in "hand to mouth quantities," so it was we and the people. A neat sign was placed by the roadside announcing Onions for Sale and the price per bushel. A row of nails on top of the sign held specimen onions and attracted attention. It was expected that farmers would want the onions and they did after the sign was taken down and the crop of twenty-six bushels had been mostly called for by city people. I wish I had experimented less with peas and grown more onions. The thought came to me that if Phillipson can raise good onion seeds why can't I? I

coarse manure finished with a thin coat of soil to keep out the rain.

It is hoped that this protection will not keep out all frost but that it will prevent too frequent thawing.

I expect that the onions will come out all right and if I have success in raising onion seeds next summer I will let it be known in our paper and then if Phillipson can't raise seeds enough to go around I will advise you to raise your own onion seeds.

Orchard and Garden Notes

Help organize a Farmers' Club.

Now is a good time to cut cions for next spring's work in grafting.

The King raspberry has taken the place of other red raspberries in many parts of Minnesota.

A few evergreens about the farm come in handy for Christmas decorations.

Begin to plan for a better garden next year. It should include fruit, flowers and vegetables.

Squashes should be stored in a dry place at a temperature of about 50 degrees. Do not lay more than one deep on shelves.

Go over all garden tools and see that they are repaired or replaced with new ones before next season's work begins.

Orchard and lawn trees may be pruned at this time of year on warm, bright days, but spring pruning is better.

Do not plant more apple trees unless you are taking good care of what you have. A few well cared for give better returns than many given over to insects and disease.

Cotoneaster acutifolia has proven an interesting plant this fall. Its foliage changed in September to orange and scarlet. The black shiny fruit also added to its attractiveness.

Onions should be stored in a cool, well-ventilated building. They should be piled not over a



F. L. Blackinton's orchard Fish Creek, Wis. Trees set May, 1911; photo July, 1913.

Oshkosh has seen Phillipson's Premium taking yellow Globe onions. Don't write to him for seeds for all of the last crop was spoken for before they were raised.

I have grown onions before from expensively advertised seeds. None before were so shapely, of such good size and free from either small onions or "thick-necks." At harvesting time showers were frequent and there was no airy building in which to store the bulbs and they were trimmed and thrown in small piles. On a fair day they were piled in a windrow and whenever storm threatened they were covered with old bags and anything else that would keep them dry. Having no storage place a market must be provided

sorted out a bushel of beauties, large and shapely and wished I had Phillipson's ideas of a standard of perfection.

Next to plan for was the care of this seed stock with no suitable storage cellar. A furnace in the cellar won't aid in keeping onions. Late in November when it seemed as if winter was here to stay a heap of rubbish which had been purposely placed there was removed to make place for the onions. The soil surface was scraped smooth and covered with a layer of corn stalks and on these a thin layer of straw. Next was piled a cone of onions which was covered with a thin layer of straw. Next was added a little tent of corn stalks which had been cut to fit the pile. Over all was added a six inch covering of

foot deep on shelves or in bushel boxes made of slats. If they are frozen, they should remain frozen until used, as this softens the bulb and causes a rough skin.

Do not plant elm or other large trees less than forty feet apart.

Plan to attend the nearest short course or institute given. Go prepared to ask questions.

Go over the house plants and remove all scale or other insects.

Are the Hyacinth and Tulip bulbs rooting well in the cellar? Perhaps they need a little more water.

Can the door yard be improved by planting a few shrubs and plants there? Now is a good time to study the matter. Select those shrubs that have some attractive feature over a long season, such as Lilac, Peony, Spirea Van Houttei, and high-bush Cranberry.—*Le Roy Cady, Associate Horticulturist, University Farm, St. Paul.*

Top Worked Hardy Stocks

W. J. Moyle.

Dear Mr. Moyle: Have you any Hiberna or Virginia Crab stocks that you could graft a few semi-hardy apples on for me. I understand these hardy stocks, will make such apples hardy in Wisconsin.

The winter of 1911-12 killed my Northern Spys and Surprise Plums.

An Amateur.

The above letter is a sample of many we are getting; a cry as it were, from the wilderness of horticulture destruction, now evident on every side, caused by the hard winter of 1911-12.

Can we help them? I think we can.

First we must be honest with ourselves and start with the "root," of all evil, "Money and the root of the tree." For if your Hiberna or Virginia Crab is grafted on a whole root or budded on a tender French crab seedling it's no more hardy than its feet or roots which will freeze to death in any cold, dry Wisconsin

winter. We can grow the quickest and nicest looking nursery tree on the French crab seedling that's the reason 75% of all apple trees are propagated on this stock. "It is a matter of dollars and cents."

Last July we took a fifty mile auto ride, through Racine and Milwaukee counties, and were astonished to note the dead and dying condition of so many orchards. In one orchard we counted sixty-three dead trees, with a single Transcendent Crab looking as green and thrifty as a burdock. Had there been some Hiberna, Virginia, Patten or Longfield in that orchard, growing on their own roots, they would have made as good a showing as that Transcendent Crab.

We have had our ear close to the ground for a long time, listening to the wise men of our Agricultural Experiment Stations, expecting they would trot out the all important hardy stock, with a method of propagation that would make it possible for us to use it in a wholesale way. So until that time comes we must satisfy ourselves with a long cion and a short piece of root, then plant deep so that cion will have a good chance to become established on its own roots; thus insuring a hardy tree from the bottom up. On this stock we can graft our more tender sorts with a marked degree of success.

We nursery men don't like to take hold of this top working of apple trees as a commercial proposition. It takes time and money to do it and most planters are not willing to wait for the first or hand over the second. Generally, every farmer can get some local Horticulturist to do the work for him if he can get the young tree; well established, in his orchard. Then cut the cions from bearing trees that you are sure of; call in your expert to perform the operation.

We are now watching with interest and great pleasure, the antics of a lot of Jonathan, North-

ern Spy, Wagner, Wismer, Hubbardstons and Yellow Belleflower cions, that we have top worked on some thrifty Longfield trees in the orchard. For next to the root of the tree, the weakest spot is in the crotch where the branches come together. Here is where the frost gets in and bursts the bark. Blight and canker set in and a decayed trunk is the result.

With the Longfield, Virginia and Hiberna nature has particularly fortified herself at this point and we find a reinforced condition that defies the elements.

We prefer to put in a dozen or more grafts in a tree, in branches with a diameter of an inch or less, as we get a perfect union quicker, and are better able to properly balance our head later by trimming.

Our advice is to get some of these hardy sorts, say ten or a dozen trees, set them out and graft later to McIntosh, Fameuse, Golden Russet, Seek-no-further, Jonathan and Northern Spy, as these are bang up good apples. Grafting this way, will not only make them more hardy but will cause them to bear more frequently and begin at a much earlier period; particularly is this true of the Spy.

Fancy Apples

We are all familiar with the plan of marking initials on apples by covering portions with paper or paints before the color has begun to form. According to the Fruitgrower, however, Mr. Maxted of Washington has taken the lead in making this a commercial operation. He has patented a film which can be stuck to the side of a green apple, the film containing initials, any design, or even a picture. In this way he has produced apples bearing the emblems of various orders, trademarks of local merchants, slogans, and even portraits. Because of their novelty these fruits command very high prices.

G. E. P.

Wisconsin Horticulture

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

Jan. 6, 7 & 8, 1914.

The Annual Convention opens Tuesday afternoon Jan. 6th and continues thru Wednesday and Thursday Jan. 7th & 8th, closing Thursday afternoon in time to take evening trains.

Bring apples to the meeting but bring good ones, scabby, wormy and rotten fruit will be ruled out.

Even if there was no program at all it would still be worth while. Just to meet, renew acquaintance and meet newcomers would be worth all the trip costs.

The Capitol Hotel will be headquarters for officers and dele-

gates: rates \$2.50 and \$3.00 American.

Other Madison hotels and rates as follows:

Park Hotel, \$1.00 and up, European.

Avenue Hotel, 75c and up, European.

Cardinal, near Northwestern and East Side C. M. & St. Paul depots, \$1.00 and \$1.50, European.

Trumpf, near C. M. & St. Paul west side depot, \$1.50 and up, European.

The Agricultural College and Experiment Station

It's worth all that it costs, and more. No figures are at hand to show the actual expense to the taxpayers of the College, but, no matter it's worth whatever it costs to run it.

The College is indispensable to our well being and success in agriculture.

It is all well enough for the self-satisfied farmer or fruit grower to ridicule "book-farming", make sport of experimental methods and of going to college to learn farming but there are certain stubborn facts which remain that it would seem must penetrate all but the very thickest skull.

Without going into any general review of the accomplishments of the different colleges and experiment stations we may safely say that in our own line we owe pretty much all we have of accepted methods of plant protection as well as much of tillage, etc., to the colleges.

It is not alone or even chiefly the specific facts and theories disseminated that rank first in value but the spirit of investigation, the everlasting question mark constantly before the investigators that leads to results beneficial to us.

Separating truth from error, the discovery of new truths, these are or should be the high office

of the experiment station workers; the setting forth of these facts to those who care to come as students is the business of the College.

In the early days of the Colleges and Stations the output was greater and of more value than now, the fields were virgin and the harvests abundant.

Those giants of the early days labored under many difficulties, lack of money and equipment, lack of moral support just as our pioneer forefathers knew poverty and hardships but their output was fine, sturdy sons and daughters and in advancing years a competence. The sons of these sons, however, go to college now and rather seek to avoid any allusion to their genealogy.

So the stations and colleges grown rich thru the generosity of state and federal government have somewhat fallen on evil days.

Our own college especially has grown rich and somewhat self satisfied and self centered. The output isn't up to its standard of twenty years ago.

It's rather living on dad's reputation and the money he made and there is danger in that.

Most of the colleges have developed largely into factories for turning out graduates in the four year courses who in turn enter other colleges to teach other students who in turn teach in other schools and colleges.

A pup chasing his own tail never got anywhere yet and one half the energy put into the job expended in running down a rabbit would do a lot more both for the dog and society.

We need more rabbit chasers, more of "first aid to the injured", less of self-praise and of living on dad's reputation; less effort toward graduating teachers and more toward making farmers and farm teachers. An eight year course is needed, four years in school and then four more in doing things. The years

might be profitably divided so as to go to school in the winter and go to work in summer. Graduates of this sort would make mighty good extension men for no community of farmers should be asked to bear in patience and humility the infliction of city bred Agricultural College graduates fresh from college. No man under thirty should ever tackle the job of "county agent" or extension worker.

To go back to the beginning, it's always a good plan before finishing a job to go back and look it over, to repeat, the college and station, one and the same in Wisconsin, is indispensable, we must have it, but we want to feel that the men who are running it can spare a little time and money from the "long course" students to help us in our present needs.

These few remarks are offered, not in any spirit of antagonism but from a heart overflowing with love:

"Bobby I am about to punish you, it will hurt me more than it will you." Yes Pa but not in the same place."

New York Fruit Growers Meet

January is the fruit-growers' month in New York State, and Rochester is their Mecca. For fifty-nine years the Western New York Horticultural Society has held its meetings, and the fruit-growing industry owes very much to the splendid accomplishments of this organization, which is both the oldest and largest association of fruit growers in the Empire State. The gathering of January 28th, 29th and 30th will be a memorable one, the program containing several attractive features. Among the out-of-State speakers will be the always-welcome Professor S. A. Beach, of the Iowa College of Agriculture; Dr. Lipman, director New Jersey Agricultural College Experiment

Station; a Michigan peach-grower, etc.

A large aggregation of spray rigs, etc., is already arranged for. Liberal prizes are offered in the competitive class for fruits, such as a solid silver cup, several large cash prizes for boxed fruits and collections, and the usual cash prizes for single plates. Those wishing further information regarding the fruit entries should at once communicate with John Hall, secretary-treasurer, 204 Granite Building, Rochester, N. Y., also for copies of program when ready.

Use of Dirt Bands

During the seasons of 1910-1912, a trial of several methods of starting tomato plants of the Stone variety was carried on by the Purdue Experiment Station. The results show a decided advantage in the use of dirt bands. Should the reader not be familiar with "dirt bands" it may be well to state that they are simply strips of prepared paper or veneer so cut that they may be easily folded and fastened to form a cylinder. Placed in the soil of the hotbed or greenhouse bench such a band serves to confine the root system of a plant set within it with the result that in transplanting to the field practically none of the roots are lost.

In the experiment mentioned above plants grown in this manner were set in the field under similar conditions with plants grown in each of the following ways: first, plants grown in an outdoor seedbed without transplanting before setting in the field; second, plants grown without transplanting in a hotbed; third, plants grown in a hotbed and transplanted once into flats or shallow boxes at a distance of two inches apart; fourth, plants grown in hotbeds and transplanted twice being set two inches apart at the second transplanting.

We are not surprised to find that the field grown plants yielded scarcely half as much as those grown in beds, for the bearing season is materially shorter when this method is used. Each transplanting in the beds brought about a slight increase in yield, in each case more than enough to pay for the extra labor. This is probably due to the fact that a more compact root system is formed when the plants are moved once or more times. But the most striking fact is that as the average of two seasons' crops, the plant grown in bands produced crops more than thirty per cent larger than those from other hotbed grown plants. Moreover the fruits ripened slightly earlier on this plot. It is suggested that the higher yield is due to the fact that with its root system intact a plant grown within a dirt band grows steadily onward when planted in the field suffering no check whatever. However this may be it is probable that the bands are worthy of more general use than they are at present given.

G. F. P.

The Happiest Horticulturist

W. J. Moyle, Union Grove

The happiest reader of this paper, is the man who has a little orchard, planted by his own hands, of choice assorted varieties, his only object being to grow enough for his own use, a few for his friends and the less lucky kids, who pass by.

This orchard is well protected by a good fence, from his live stock, of which he has considerable. He is a diversified farmer and setteth his heart, not entirely on an orchard of Lubsk Queen or Wealthy for which he expects to get \$6.00 per barrel, provided he lets Bro. Kern, sell them for him.

He getteth up in the morning and from his doorstep he beholdeth the Whitney crab tree in full

bloom in the front yard. It giveth of its fragrance, shade and fruit, the whole summer through and he sings a song of spring time as he goeth forth to milk the cows and feed the pigs.

He doesn't sit down and sigh because he isn't located at Sturgeon Bay, Baraboo or Bayfield. "The several Gardens of Eden," in Wisconsin, but girdeth up his loins and goes out to the garden and cleans out the gooseberries and currant bushes for his wife, then plants a few rows of "Apples of the earth," potatoes and some beans, on which to fall back on provided his apple blossoms should get caught with a late frost.

The surest crop, he finds on the farm is a bunch of fat hogs and with the long greens, from the same he buys a spraying outfit and gets a lot of fun out of squirting, among his chicken coop and apple trees, according to directions by Bingham.

He hasn't got it in for the commission man because he doesn't know him as he was never caught, trying to foist off a lot of small green cully apples on God's patient poor in some large city.

He saveth a little money out of his milk check as he goeth along, he never dreams of storming the markets of the world with McMahons and Wealthies, like our editor and starting a millionaire apple growers aristocracy in our midst.

He taketh the county paper, the almanac and Wisconsin Horticulture, but as he peruses their columns, he is compelled to take a pinch of snuff, in order to assimilate all of the startling revelations of latter.

Keep close watch of the winter supply of apples in the cellar and remove all decayed ones as they appear. One decayed apple in a box or a barrel will do much damage in causing the surrounding fruit to spoil.

Home Hints

Home Hints by Mrs. W. A. Toole of Garry-ne-Dule.

Cakes are less apt to stick to the pans that are greased with lard or any fat that does not contain salt.

Plain steamed rice served with dates and sweetened cream flavored to taste, is enjoyed as an occasional dessert. The dates are prepared as follows: To one-half pound of dates washed and stoned, add one tablespoon of sugar and one-half cup of water. Cook slowly until soft.

How to keep the girls on the farm is as much of a question as how to keep the boys. This should not be forgotten by the members of Farmers Clubs who are seeking to make farm life more attractive by developing an interest in rural affairs through social intercourse and exchange of ideas.

Too often the so called Farmers Club becomes one sided in its interests, the possibilities of the women's side of farm life is not given as much attention as it deserves. There is as much ground for study, observation, investigation and interchange of experiences to be found in the one phase of rural life as in the other.

Sunflower seeds help to make a variety in the chicken feed during the cold winter months. They contain an oil that is most valuable as a food, and if they are raised in the odd corners where nothing else will grow to advantage, they really cost us nothing.

When repotting plants be sure that the soil is thoroughly damp before taking out of the pot. The fresh soil used in repotting should also be moist though not nearly wet enough to be muddy

or to pack hard. If the old ball of earth around the roots is very dry when repotted it will be hard to thoroughly moisten the soil after potting and the plant will suffer for want of water even if much water is given it.

If the house plants get frozen put them into a cool, dark room as soon as their condition is discovered, and shower thoroughly with cold water. If this is done promptly, the frost will be extracted gradually and many of them may be saved.

Turn your house plants often that all sides of them may have the benefit of the sunlight if you wish them symmetrical. Plants grow toward the light and if not turned they soon become one-sided.

During this season of good resolutions it would be well if some were made in connection with the children and the garden. Begin the new year with a resolve that the children shall be given an interest in the garden. Few farms there are that do not have some spot of ground, often going to waste, which may be spared for the education and enjoyment of the younger members of the household. In planning the years campaign set aside a small piece of ground for each child for his own use, and let them work out their desires according to individual ideas. Many valuable lessons will be learned.

It is not necessary to use warm water to water house plants in the winter time, though ice-cold water should be avoided as ice water has a tendency to check the growth of some varieties. Ordinary cold water as it comes from a well or cistern does not seem to have any injurious effect.

A Busy Dec or in an Old Orchard

Dr. C. E. Greenfield, Chicago, Ill.

In your recent letter you requested me to write some of my experiences in Horticulture.

My experience has been very limited because being a practicing physician in Chicago I could not spare the time necessary to accomplish what I would like.

Ever since I was a boy on the farm I have been greatly interested in Horticulture, clipping the most interesting articles from our farm and fruit papers and pasting them in my scrap book and am still in the habit of doing so, especially when Wisconsin Horticulture comes, I at once get busy with my scissors and paste and when I have finished there is but little that does not go into my scrap book.

About ten years ago I planted an orchard on a small farm I own in Indiana about one hundred miles from here. The ground hogs tunneled under and killed about one-half of my trees the second year after planting them. When my Kiefer pears began to bear the blight came and killed some outright and injured others. If I had lived close to my farm I would have given the ground hog a dose of Bisulfide of Carbon and would have cut the blighted limbs out of my pear trees and probably saved them from destruction.

So five years ago this fall I bought a farm nearer my home, close to Wheaton, Illinois, twenty-five miles west of Chicago near a station of the Aurora & Elgin Electric Ry. I can reach this farm in one hour from my home in Chicago.

This farm appealed to me, being close by and the land is rolling and had the reputation of having years ago one of the largest and most productive apple orchards on it in this section of the country. About forty of the old trees remain, scattered in ill-defined rows over a twenty acre field. The only complete row is of about fifteen trees of willow

twigs that are located on the highest elevation of the old orchard site; also several Maiden Blush, Dominic and Golden Russets.

This orchard is about sixty years old. I found the trees in bad condition surrounded by suckers, a tangle of water sprouts and dead wood. I employed an experienced man in orchard pruning to cut out the dead limbs, open up the tops to let the sunshine in, paint the wounds with whitelead and grub out the suckers.

The field had been cultivated for years by a tenant, growing wheat, corn and oats. The trees looked as if they were almost starved. The first year I covered the field with manure and mixed about forty pounds of ground rock phosphate to each manure spreader load and then planted to soy beans. That treatment had a magical effect on that old orchard. The leaves took on a more healthful color and the trees made a vigorous growth for such old trees and bore a fair crop that year and had promise of a great crop the next spring but got caught in that terrible freeze while in bloom, but the next year got a bumper crop, especially the willow twigs. We picked them carefully and placed them on shelves in my new underground concrete storage vault and had sold all of the willow twigs at the vault at a dollar a bushel before April but could have kept them much longer.

Then I planted the field in alfalfa and have gotten more alfalfa and less apples, so am in somewhat of a quandry. I hate to plow up the alfalfa and dislike to loose the apples. The alfalfa seems to absorb most of the moisture and nourishment. This orchard being so old I have been providing for the future by planting. The first year I bought the farm I planted about three acres of new orchard, mostly Wealthy, Duchess, Jonathan and McIntosh.

I also have about one acre ad-

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FREDONIA, N. Y.

ANNUAL CONVENTION

MADISON

JAN. 6, 7 AND 8, 1914

Come early and stay late

joining the house that I call my experiment garden. In that plat I have a number of varieties such as Tetofsky, Longfield, Delicious, Lowland Raspberry, Wagner, Yellow Transparent, Snow and Sweet Bough apples; Hyslop, Transcendent and Whitney crabs; Kiefer, Duchess (dwarf), Seckle, Bartlett and Howell pears; Elberta, Champion and Crosby peaches; Early Richmond and Montmorency cherries; Desota, Forest Garden and Wyant plums.

My Yellow Transparent and Duchess apples, Kiefer, Howell and Bartlett pears and both varieties of cherries have begun to bear. The peaches all bore this year, the Champions were loaded to breaking with fine peaches. The Champion is surely the champion peach for this section of the country and the most delicious peach I have ever eaten. I shall plant many more Champion peach trees next spring. This winter I shall draw the tops together of my Champions with a rope and enclose them with corn fodder, hoping to protect the buds against the wintry cold and the spring frosts. This summer when it became so dry that I feared that it would affect the peach crop I mulched the trees

heavily with strawy manure for a radius of about six feet or more above each tree. I had a fine rolling two acre plat near the house that had a desirable exposure and seemed an ideal site for an orchard but was infested with quack-grass. I hesitated to risk a young orchard on account of the quack-grass but two years ago I concluded to accept the challenge and planted that tract with mostly Duchess and Wealthy apples and Hyslop crabs and instructed my tenant to plant nothing but a cultivated crop such as corn, potatoes, and beans between the rows. I planted the trees twenty-five feet each way. Last year corn was raised; this year potatoes, sweet corn and beans. I hoe about the trees, to destroy the quack that can not be reached by the cultivator, until about June 1st, until I get the benefit of the spring rains, then I have placed tar paper, a yard square, about each tree, weighing it down with clods or stones and leave it there until about September 1st, when I remove the tar paper to get the benefit of fall rains so roots won't dry out during hard freezes of winter. This is sure death to quack grass and its roots and those trees all made a very satisfactory growth even during the terrible drought of last summer.

I am determined to raise that orchard in spite of the quack grass. I have just finished preparing my young trees for the winter by removing all the rubbish and weeds from about the trees and throwing a few spadeful of earth around each tree to protect against mice as I have found by my experience that this is an effectual method. As to rabbits, I have offered twenty-five cents for all rabbits proven to have been killed on my farm. I have not much to fear from the rabbits as there are not many about. The farm is so near the town the nimrods have kept them pretty well cleaned out.

I could tell you much better about the mistakes I have made than about my successes, because I have had many more of them.

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Before you place your order, Mr. Planter, for your trees, write us for prices.

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Wisconsin State Horticultural Society ANNOUNCEMENT

ANNUAL CONVENTION

TO BE HELD AT

Madison, January 6, 7 and 8, 1914

All sessions, except one, will be held in the Assembly Chamber, State Capitol.

Wednesday afternoon session at Horticultural Building, University of Wisconsin.

PROGRAM.

Tuesday Afternoon, Jan. 6th, 2:00 o'clock.

Assembly Chamber.

Address Hon. J. S. Donald, Secretary of State
Introduction of Delegates from Minnesota, Iowa, Illinois and N.
Illinois Societies.

SMALL FRUITS.

Pumping Water into Strawberries..... N. A. Rasmussen
Problems in Marketing Berries..... E. A. Richardson, Sparta
Discussion by F. Kern, A. W. Lawrence and others.
Something new and something old, H. B. Blackman, Richland Center
Strawberries W. S. Powell, Bayfield
Raspberries J. F. Hauser, Bayfield

Tuesday Evening.

Illustrated Lecture, Highways and Byways of The South.

Dr. J. C. Elsom, Univ. of Wis.

There will also be a packing school. Pres. J. S. Palmer will conduct it. This will be only the barrel pack as we are not prepared this year to demonstrate the box pack. A packing table will be set up in the lobby of the Assembly Chamber and daily demonstrations given.

Wednesday Forenoon, Jan. 7th, 9:30 o'clock.

Assembly Chamber.

President's address, Report of Secretary, Report of Treasurer, Report Chairman Trial Orchard Committee.

Report of Delegates to: Minnesota, Iowa, Illinois and Northern Illinois.

Election of Officers and Executive Committee.

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A New Pudding.

One tablespoonful of butter stirred with two tablespoonfuls of brown sugar until creamy; then add one egg, and beat thoroughly, add one cupful of sifted flour to which add one and one-half level teaspoonfuls of baking powder; add one cup of sweet milk, then beat in another egg and one cup of day old bread crumbs crumbled very fine; stir in a half cupful each of seeded raisins and currants, one fourth cup of broken walnut meats, the grated rind of one lemon, and a grated nutmeg. Pour into a fancy mould until it is two-thirds full, cover and steam four hours. Decorate by placing slices of lemon around and on each slice place a melted marshmallow topped by a candied cherry. Can be eaten with any preferred sauce.

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Demonstrations in GraftingG. T. Potter

Wednesday Afternoon 2:00 o'clock.

Horticulture Building U. W.

BETTER FRUIT.

A Short Course in Horticulture of Three Hours.

Pruning PrinciplesProf. J. G. Moore, Univ. of Wis.

Why Cultivate?Geo. F. Potter, Univ. of Wis.

All About Spraying (15 min.)....Prof. J. G. Sanders, Univ. of Wis.

Some Problems in Orchard PathologyProf. L. R. Jones

Wednesday Evening.

Assembly Chamber, 8:00 o'clock.

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The Coming GenerationMiss Caroline Trumpf, Reedsburg

Quality FirstMrs. H. H. Morgan, Madison

"Facts and Fancies about Gardens"Mrs. J. J. Thrig, Oshkosh

Thursday Forenoon 9:00 o'clock.

Assembly Chamber.

The Illinois WayJ. C. B. Heaton, Illinois

How We Raise Fruit in Iowa..Wesley Green, Sec. Ia. Hort. Society

Growing Greenhouse Vegetables for Small Town Trade,

W. A. Toole, Baraboo

An Original ContributionW. J. Moyle, Union Grove

Making Roads and Walks on the Farm..Wm. G. McLean, Madison

Research Work in Horticulture.....R. F. Howard, Agr. College

Potter the Grafter will perform twice each day.

Thursday Afternoon 2:00 o'clock.

Assembly Chamber.

Demonstrations in Grafting.....Geo. F. Potter

What Nature and Art Could Do For The Home,

F. C. Edwards, Ft. Atkinson

Landscape Gardening for the Farm, Illustrated..Prof. J. G. Moore

Social Centers for Horticulturists.....Wm. Toole, Sr.

Students Speaking Contest.

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15. Best 6 Parsnips	1 00	75	50
16. Best 6 Peppers	1 00	75	50

RULES OF ENTRY.

1. All entries must be filed with the secretary before 5 P. M., Tuesday, January 6.

2. Exhibits must be arranged ready for judges by 9 A. M., Wednesday, January 7th.

3. Four apples constitute a plate, no more, no less.

4. Separate samples must be furnished for each entry, except for No. 1, which may include all entries.

5. 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, fifty cents.

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 entries must be made on regular entry blanks which will be furnished by the secretary on application.

F. CRANFIELD, *Secretary W. S. H. S.*, Madison, Wisconsin.

STUDENTS' JUDGING CONTEST.

Twenty dollars in prizes will be awarded to students in the long and middle courses, Horticultural Department, College of Agriculture, for the best scores in identifying and judging varieties of fruit on exhibit.

Under rules prepared by Prof. J. G. Moore.

Final awards to be decided by a judge appointed by the president.

The students' speaking contest, 500 words. Must relate some actual experience with fruit, flowers or vegetables.

On dollar each will be paid for the ten best short articles received on or before January 20th—not less than 200 nor more than most.

Door County Fruit Lands For Sale

Also Cottages and Bay Shore Lots
BARGAINS
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**"We have a Fine Lot of
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will be mailed free on request to all contemplating planting fruit trees and ornamentals in the spring of 1914, together with our complete catalogue of

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backed by fifty-six years of horticultural experience. Be sure to get this valuable book. A request brings it.

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**Cherry Trees by the
100 or 100,000**

The Growing of Cherry Trees has been our Specialty for Years. Our soil and method of growing produces a Tree that is not excelled by any one. Splendid blocks of two-year 5 to 7 foot trees and one-year 4 to 5 foot trees. Early Richmond, Montmorency and other leading varieties by the 100 or ear load. We also grow a general line of other Nursery stock. Personal inspection invited. Correspondence solicited.

Good Seeds

Some time ago the writer published a short article in these columns, calling attention to great differences found by the Pennsylvania Experiment Station in seed of the same variety of cabbage as purchased from different seedsmen. The Indiana Experiment Station has recently published the results of a similar test of several strains of the Stone tomato. While the data is not fully submitted, the statement is made that some of the strains yielded as much as 3.5 tons per acre or 20% more than others, and that variation in earliness was also found. These differences are less striking than the cabbage results previously referred to, but they point in the same direction. The day is passing when we accept as good any seeds which will germinate readily. We ask in addition that the seeds be from plants selected for productivity, trueness to type, earliness, and such other characters as are specially desirable.


But where can we obtain such seeds? The Indiana experimenter states that the highest and the lowest yielding strains tested were both obtained from the same seed house. The question is hard to answer, but if vegetable growers demand and are willing to pay for good seeds, the seedsmen will supply them. As long as we continue to buy from the cheapest source, however, the seed grower cannot sell good seeds because doing so means financial loss.

In the mean time why not try growing seeds which can be easily produced and harvested at home. In a recent number of the Market Grower's Journal, Prof. Watts suggests a good plan for the selection of home grown seeds of the tomato. He says we have long heard of the "ear to the row" method of selecting seed corn. Why not adopt a "tomato to the row" method? We know that of two equally good appearing and productive plants, one

may be worthless as a seed parent because it will not transmit its good qualities to its offspring, and the other priceless because it will. The only way to tell the difference is by trying separately a sample of seed from each. It is wrong, therefore, to gather seed from the six or eight best

plants in the field and, mixing it, to sow as one lot. We must save the seed from each plant *separately*, plant in separate rows and select the seed for succeeding generations *only from the row in which the largest number of plants resemble the parent*.

G. F. Potter.



The Profits in Progress

Farmers are learning the profitable fertilizer—the one that gives the best profit consistent with maintaining soil productivity.

Progressive farmers are increasing, for all crops, the

POTASH

in their goods. Results have shown there should be at least as much Potash as Phosphoric Acid, for ordinary farm crops take from the soil from 2 to 4 times as much Potash as Phosphoric Acid. For potatoes, truck and fruit the Potash should be double the Phosphoric Acid.

If your dealer insists on carrying only low grade, 2% Potash goods, we will sell you Potash in any amount from one 200 pound bag up.

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Plant this Fall Sure

Don't let this season go by without getting Stark Trees in your orchard. Right now is the time to get your order in for Fall planting. Fall is the best time to plant. The tree establishes itself and is ready to start growth early in the spring with strength to withstand summer droughts.

Stark Delicious

- the apple masterpiece—exquisite flavor
- makes top record profits for growers.

Hardy, thrifty tree—fruit large, brilliant, waxy red—a wonderful keeper. Free Year Book tells all about Stark Delicious.

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—best orchard guide, from buying trees to marketing crops. Most modern practical spray book. If you grow fruit don't miss it. Send name today on postal. Ask for tree prices for Fall planting.

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Stark Bros. Nurseries and Orchards Co., Box 80, Louisiana, Mo.

“White birch” fruit packages, climax grape and peach baskets, re-packing baskets, beekeepers' supplies, tree protectors, poultry crates and wood specialties. Write for prices.

SHEBOYGAN FRUIT BOX CO. . Sheboygan, Wis.

Attention, Game Wardens

Washington, D. C., Nov. 24—The annual damage to crops by insect and mammal pests in the United States now amounting to many millions of dollars, and is steadily increasing partly as the result of the encroachments of new insect enemies and rodent pests but mainly perhaps because of man's unthinking destruction of his natural allies which kill the crop-destroying pests. Man, instead of permitting these natural allies to keep pace with the multiplication of the pests upon which they feed, has destroyed them until their numbers are entirely inadequate to preserve the balance. It therefore is important that the farmer and stockman should everywhere seek to protect and encourage the natural foes of injurious mammals and not unwittingly or because of unfounded prejudice or misinformation, kill any animals that he regards as enemies but which are real friends.

Predacious animals and birds have an important function to perform in their capacity as natural enemies to crop-destroying insects and pests, according to Dr. A. K. Fisher, economic investigator of the Biological survey, department of agriculture. Before man interfered with the intricate relations of wild creatures and disturbed the balance of nature, the carnivorous animals served admirably to prevent undue increase of the hordes of smaller animals that fed on herbage, seeds, fruits, and other vegetables. So perfectly was the balance regulated that a temporary increase or decrease in one direction was followed sooner or later by a corresponding change in another.

Most flesh eating animals change their ordinary diet only under pressure of hunger, in the main, they prey upon some abundant species, which, when available, furnished almost their entire subsistence. For example, if

Wisconsin Horticulture, Two Years for \$1.00

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Myers Door Hangers for either Flat or Tubular Track are made in twelve styles for barn, shed, warehouse and factory doors of all sizes.

They have become the favorite door hangers with hardware dealers, contractors, carpenters and users everywhere, because they are easily handled, readily sold, quickly installed and always ready for use.

The lateral and perpendicular adjustments permit them to meet all weather conditions. The Stayon feature keeps them on the track. The large trolley wheels with roller bearings make them Push and Pull Easy.

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Arsenate of Lead Lime Sulphur Solution

Recognized as standard in principal fruit growing sections of the country. Convenient source of supply

for Wisconsin fruit growers. *For further information write*

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meadow mice were always present, the red-tailed hawk would rarely touch other food. It is when their normal food is scarce and therefore frequently after they have done a good job of eradicating a pest, that predatory birds and mammals are, from necessity forced to take what they can find and thus become trespassers on man's property.

For its occasional misdeeds, the fox is looked upon by the majority of mankind as a villain that devotes its entire life to robbery and derives all its forage from the chicken yard or duck pen. As a matter of fact, even in localities where foxes are abundant it is comparatively rare that poultry is destroyed by them. On a well regulated farm chickens are housed at night and the fox necessarily turns its attention to field mice, rabbits, ground squirrels, and insects such as grasshoppers, crickets and May beetles to the great benefit of the farmer.

Mink.

While the mink feeds on fish mussels and birds, it is indefatigable in its search for meadow mice and other marsh-loving rodents. It is very fond of muskrats and one of its most important services to man is its destruction of these pests about mill-dams, canals and dikes.

Weasel.

The weasel is one of nature's most efficient checks upon the hordes of meadow mice and other rodents which at times destroy forage crops, orchards, vineyards and garden produce. It feeds also upon rabbits, squirrels and birds, but in many sections its occasional inroads on the poultry yard have brought it into disrepute. While it is of course desirable to kill particular individuals which have acquired the poultry habit, farmers and horticulturists will make a mistake if they systematically destroy them.

Skunk.

The skunk renders important service by destroying immense numbers of mice, white grubs, grasshoppers, crickets, cutworms, hornets, wasps and other noxious forms. Although it prefers this kind of food like the opossum, it will eat almost any animal matter and at times certain wild fruits and berries. While it is said to

be fond of eggs and young chickens a mother skunk has been known to make her nest and rear her young in the inner walls of the chicken yard and neither eggs nor fowls were molested.

Hawks and Owls.

An important fact farmers should bear in mind is that all hawks and owls feed largely on

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you make
your home
grounds "a
beauty
spot."



(A block of our Norway Maple)

We make plans and offer suggestions. If interested write us. It will cost you nothing.

We have a complete line of the best hardy varieties of Fruit Trees, Small Fruits, Vines, etc., adapted to your needs.

We Offer: *Quality - Service - Price*

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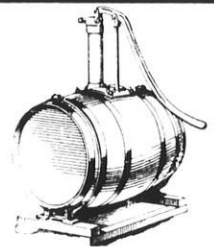
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The Bean Little Giant Spray Pump

The most powerful Barrel Pump on the market. Can be fitted to top or side of barrel.

Exclusive features—Ball valves; threadless valve seats; reversible; porcelain lined cylinders; large steel air chamber; long powerful lever; rotary agitator; no stuffing boxes or glands. Beyond doubt, the easiest running, most powerful Spray Pump on the market. Can be fitted on side of barrel, mounted on skids. Also fitted on top of barrel.



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Write for new 1914 Catalog—Free.

noxious rodents and the larger insects such as grasshoppers, crickets, and May beetles. Yet in the more thickly settled sections of the country, except at rare intervals, the goshawk, duck hawk and great horned owl are so infrequent that years will pass without an individual being seen. There are two kinds of hawks that should be kept in check and they are the sharp shinned and Cooper hawks. These feed almost entirely on wild birds and poultry.

The Heron.

The heron, a fish-eating bird, will consume a number of gophers daily. We should not, therefore, begrudge it the fish it eats when we remember that a gopher is capable of destroying trees large enough to produce marketable fruit.

Gulls and Terns.

The gulls and terns that live inland do effective service in checking the inroads of injurious insects and mammals. Gulls follow the plow in the spring and gather from the upturned soil many an insect that would later attack the growing crop. During the summer they feed on grasshoppers and crickets. Terns feed also on grasshoppers and other insects. In the south the black tern has been seen capturing the moths of the cotton-boll worm in flight over the young plants.

Ravens, Crows and Jays.

Ravens, crows and jays do effective work in destroying pests, but in localities where they have increased out of proportion to the available food supply they become troublesome by killing small chickens and by destroying eggs and nestlings of wild birds.

—Madison Democrat.

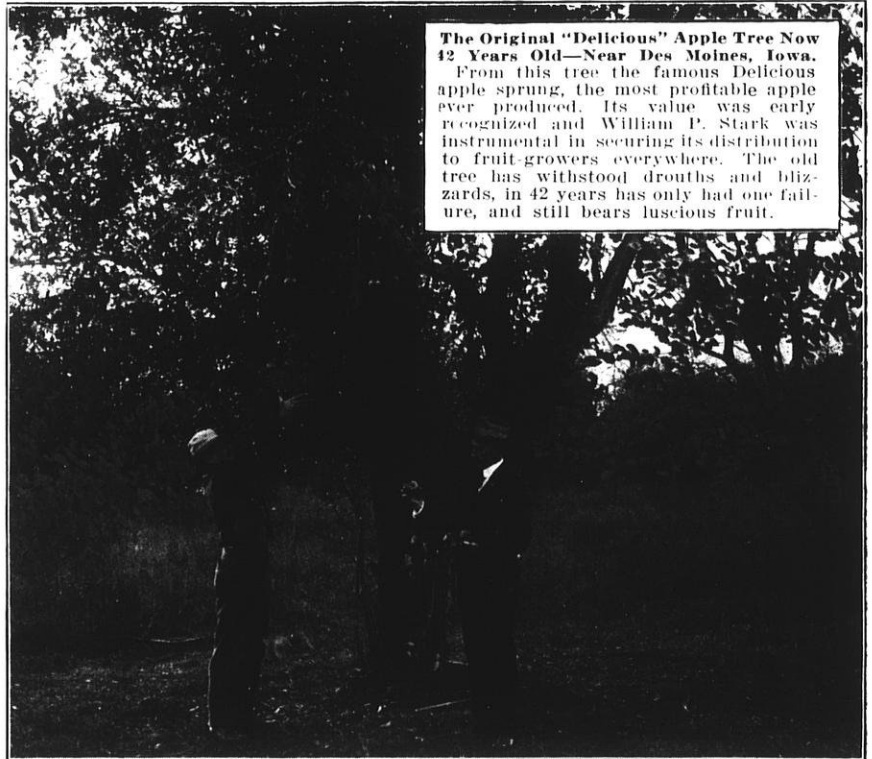
Red letter days: Jan. 6, 7, 8, 1914.

The place Madison, Wisconsin, U. S. A.

Dr. Greenfield planted alfalfa in his apple orchard and now has to choose between apples and alfalfa. Moral: raise hay in the meadow and apples in the orchard.

We can pick our advertisers only the best can buy space.

Forget it; the date line p. 14, December Horticulture.



The Original "Delicious" Apple Tree Now 42 Years Old—Near Des Moines, Iowa.
From this tree the famous Delicious apple sprung, the most profitable apple ever produced. Its value was early recognized and William P. Stark was instrumental in securing its distribution to fruit-growers everywhere. The old tree has withstood drouths and blizzards, in 42 years has only had one failure, and still bears luscious fruit.

GENUINE "Delicious" Apple Trees at Growers' Prices!

We have contracted with S. L. Hiatt, the owner of the original Delicious Tree, to furnish us with buds and scions cut directly from the original tree. You get pure-strain stock, genuine, guaranteed Delicious Apple Trees, and at growers' lowest net prices.

Selected Trees--Save 50%

We will ship you direct from our famous Stark-Ozark Nurseries, splendid one and two-year old guaranteed Delicious Apple Trees, personally selected by Mr. William P. Stark.

You know the Delicious apple. It has topped the apple markets of the world for years. Here is an opportunity to get the genuine Delicious strain and at a saving of 30 per cent to 50 per cent. We employ no agents, no solicitors. You buy direct from the nursery, and get the benefit of growers' prices.

Our catalog is our only salesman. Write for it, and note the saving under what traveling peddlers and salesmen ask you, not only on Delicious, but on all profitable varieties of apples, pears, cherries, plums, grapes, bush-fruits, ornamentals, etc.

Hardy Stock for Wisconsin

Through long experience with Wisconsin orchard conditions we recommend in apples, Liveland Raspberry, Duchess, Wealthy, Wagner, Yellow Transparent, McIntosh and Jonathan. In cherries, Montmorency and Early Richmond.

Our stocks of these are exceptionally well-rooted, well-balanced, hardy trees, with the reliable William P. Stark quality. Get the best -- it pays.

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All prices in plain figures, so you can easily determine what you want of each variety. Note the saving. Clear descriptions, valuable information. Send for it.

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WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

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Volume IV

Madison, Wisconsin, February, 1914

Number 6

Planting the Home Grounds

E. H. Niles, Oconomowoc.

White Elm Nursery.

In this short article no attempt will be made to go into the principles of Landscape Gardening but there are certain difficulties in connection with such work on the farm in regard to which a few practical suggestions may be of interest. Every farmer realizes that a tastefully arranged lawn improves the farm and makes the home more pleasant. There is no class in the world that have more opportunities for inviting homes than the American farmers. They are realizing this but most are deterred not from the initial expense but from the work and expense in keeping it up.

One objection is the lack of water as the average farmer cannot turn on the sprinkler as the man in the city. But cultivation is of more importance than watering and this is something the city man often does not understand. It is advisable to water plants every week or two the first season after planting when it does not rain but after that it is unnecessary if the surface of the soil is kept well stirred. The main thing is to water them thoroughly when they are watered and to stir the surface of the ground as soon as

it is dry enough. This retains the moisture. If the ground is well fertilized with rotted manure it is also easier to retain the moisture. The best system is

is all that is necessary. This does not take long after the ground is once in good condition.

There are several advantages from the mulch aside from add-



"Do not scatter the shrubs all over the lawn, but plant them in groups around the base of the house and around the edge of the lawn." E. H. Niles.

fall after the ground has commenced to freeze and spade it in the next spring. The remainder of the season a surface cultivation with hoe or rake just often enough to keep the surface loose probably to put a good mulch of manure on the plants late in the

ing fertility to the ground. It protects the plants from severe freezing and possibly of even greater importance, prevents the alternate freezing and thawing which kills so many plants, and it also holds the plant back in the spring so the buds are not so

likely to get killed. It also improves the texture of the soil which helps to hold the moisture. Some leave this mulch on during the summer as this gives practically all the benefits and saves the cultivating but it does not look as neat, is more likely to harbor disease, and it is hard to get the mulch thick enough to keep the weeds down.

Labor can also be saved by arranging the planting properly. Do not scatter the shrubs all over the lawn but plant them in groups around the base of the house and around the edge of the lawn and such other places as they may be needed. But leave the center of the lawn open as much as possible. This gives several advantages. It allows an open view through the lawn which if it is nicely sodded and bordered with shrubs and flowers makes the ideal landscape. It makes it much easier to mow the lawn and also to cultivate the shrubs.

Another suggestion which may save the temper if not the work is to stick to hardy varieties largely. There are dozens of hardy shrubs and flowers which will grow without much difficulty so it is unnecessary to send to Europe for something that will make only a sickly growth at best. Of course there are many fine flowers and shrubs from Europe and Asia but it is best either to get the advice of some one who knows or experiment gradually with varieties of unknown hardiness.

Fruit trees and plants can also be used to add to the utility as well as the beauty of the planting. Fruit trees are pretty in bloom and in fruit and the berry bushes each have some attraction. The Currant comes in leaf early and has very pretty foliage early in the season while the Blackberry turns a bright red in the fall. Asparagus makes a fine border.

The accompanying sketch (P. 3) is used to illustrate some of these

points. The trees in rows on each side of the house are fruit trees and they are filled in between with berrybushes and vegetables. The stars in the back of the lawn are Evergreens and make a background for the lawn as well as a screen for the barn. The Plum trees are placed in the chicken yard as that is probably the best place. The first row to the south of the lawn is Asparagus and the beds along the edge and near the house are shrubs and flowers. This gives a nice open lawn bordered with shrubs and flowers and an abundance of fruit all on a compact piece of land that will not be difficult to take care of.

Trimming we will discuss very briefly and only in relation to ornamental plants. Some ask the best time of year for trimming shrubs but it depends on the shrub. In general they may be divided into two classes, those which bloom on new wood and those which bloom on the last year's growth. Most early flowering shrubs as Bridalwreath and Lilaes bloom on the previous season's wood and if they are trimmed in the fall or spring, it will destroy many of the flowering buds. On the other hand most of the late flowering shrubs as Spirea Billardii and Hydrangeas bloom on the current years growth and if trimmed in the summer many of the flower buds would be destroyed. Therefore as a broad rule it might be said to trim each variety soon after they are through blooming. All budded shrubs should be trimmed up from the bottom to prevent suckers coming up from below the bud. Others should not as a rule be trimmed up from the bottom but the old stocky wood should be taken out so as to keep a bushy shrub of young healthy growth all the time. Evergreens should also be allowed to branch down to the ground. There are many suggestions which might be made in regard to trimming deciduous trees but the most common error

is to leave stubs where branches are cut off. This makes it almost impossible for the wound to heal over.

Those Tree Paints

More or less misrepresentation and many false claims are found in the advertisements and package labels of some tree paints now on the market.

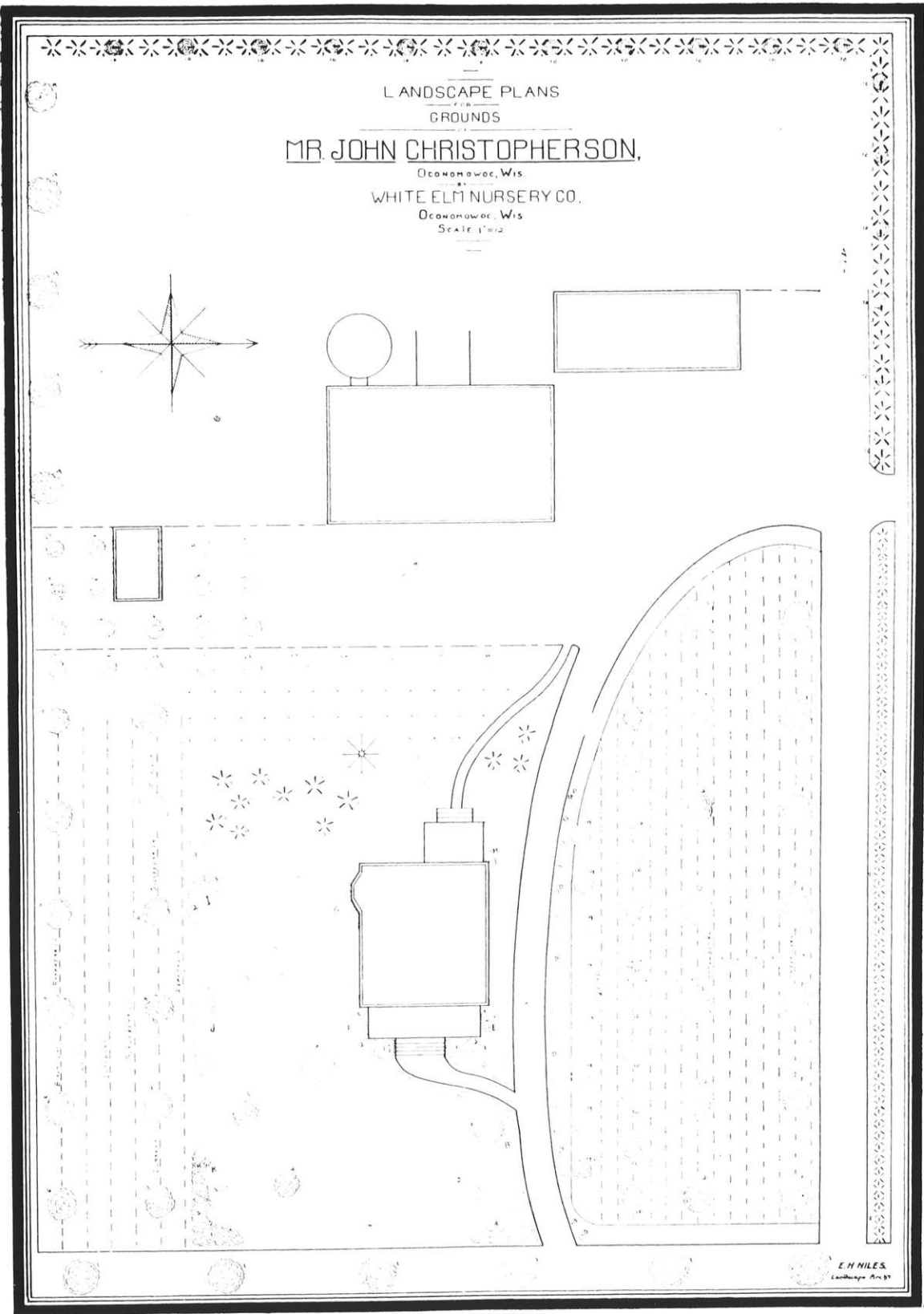
Tree paints are valuable only as a partial protection against mice, rabbits, sun-scald and certain insect borers which affect the trunks of trees. No known preparation applied to the trunk of a tree will prevent any insect which flies from attacking the foliage or twigs. And further, no preparation plugged into a hole bored in a tree can possibly affect the health of a tree except to hasten its death.

"Otwell's Tree Paint (patented) For Summer Use. This package makes one-half gallon. Price 80 cents. "The best preparation ever discovered to protect Fruit and Shade Trees against Borers, Insects, Black Lice, Aphids, Black Scale, Sun Scalds, etc., etc. Puts the trees in the very brightest, healthiest growing condition."

These engaging statements, as part of the label of this brand are accompanied by the usual "before and after using" appearance of two trees, one of which is a beautiful artist's conception of a perfect tree, while the other looking as though just treated to a 70 mile an hour gale, is being attacked by a rabbit, a mouse and "worms" and beetles of gigantic proportions. This paint may protect a tree from borers, but the fruit grower who would protect his trees from the curculio, codling moth and aphids with this material should paint it on his hitching post, then buy a spray pump and follow the directions of his experiment station bulletins.

J. G. Sanders.

Entomologist of Agr. Exp. Sta.



Woodrow and the Schoolhouse

Written for W. H. by Pete.

Louie Sackett owns a livery barn now and when I dropped in the other day he was getting various strings of sleigh bells out of storage preparing to take a bunch of city people out to the country.

Louie is fairly well fixed these days, his brother is an undertaker and couple more of the family are doctors besides having several intimate friends who own autos. Business is always fairly good.

Just once in a while we get together and go over the old times when we were kids on farms, back in the late seventies.

About three years back Woodrow Wilson came to Madison and told us about Civic Centers and how we could use our school houses for meetings and a mighty shout arose, "Yes let's use our school-houses, why not", just like that! Only a few of us who heard him saw the joke. Louie was one of them.

Quoth Louie: "About how much would you give, besides that new fuzzy wuzzy lid of yours if you could hitch on to your old bobs tonight pick up the old bunch and go over to the 'debate' at the Wilson school house? Or over to the Center school to the spelling-bee, or even as far as the Bryant school where they had a big program of speaking and singing?"

"Don't, Louie, if you want me to be your friend, please don't remind me of those nights." The big bob with plenty of bright, clean straw, lots of real buffalo robes, two strings of big bass sleigh bells and a steady team.

Some fellow who knew how to drive and liked the job up in front and about a dozen boys and as many girls packed in behind. What if it was five or six miles over to Center, the farther the better. Two hours of entertainment, speaking, singing and the debate, and then home again.

Later in the week if the sleigh-

ing held good somebody else hitched up and got us for the singing school over at the Lake-side school. Quite likely there would be a dance or two in between for those who danced but these were not at the school house.

"Louie do you or do you not remember the night of the big blizzard in '81 and the dance in the old Grange Hall?" "Certainly, Jim Travers and his sisters and Al Douglas and the others who lived beyond Stone Prairie were snowed in, and towards morning the wood gave out?" "Jim was a good boy and had been to Sunday school a lot and when it really began to seem as if we might freeze a little bit anyway and some of the girls began to whimper, 'What will we do', Jim chirps up, 'The Lord will provide.'" "Yes," chirped Louie, "and you grabbed Jim by the neck, hurried him to the door and across the road to the Methodist church and together you raided the Methodist wood pile."

"Why couldn't you think of it sooner you walking prayer book? was all the thanks Jim got."

"Well, Louie we didn't have any social Center highbrows to tell us how to 'get together at the school house' but we got just the same. Where are you going tonight?" "Me, Oh I am going to the Orpheum; the kids are going to the picture show; where are you going?" "Oh I've got to drive Prof. Archibald out to the old Bryant school. He is going to tell them out there how to organize a Social Center on scientific lines. He gets \$3000 a year from the 'Extensive' Division for doing that. What bloomin' chumps the people in the country are these days."

I went outside to think it over. Maybe Louie is somewhat sot in his ways but on the whole I am inclined to think he is a little more than half right. The country boys and girls come to town these days and nights for entertainment.

We made our own good times and didn't have anybody tell us to use the schoolhouse.

My mind gets a little mixed when I try to dope it out whether those times were good times or whether we didn't know any better.

Anyway I must get out of this retrospective mood and write an editorial for Wisconsin Horticulture on, The Value of Dead Cats as Fertilizer for Cucumbers.

Raspberries

J. T. Hauser, Bayfield.

(At Annual Convention.)

So much has been said and written on the culture of raspberries and so generally are they grown in our state that a person can simply say nothing new on the subject. Next to the strawberry the raspberry is the most popular of small fruit. It can be grown successfully in every part of our state. It will thrive in places where the strawberry would be a failure. It will bear *some* fruit under the worst neglect where under the same treatment the strawberry would be a complete failure. The raspberry would therefore be a more desirable fruit for the farmer to grow than the strawberry but like all other cultivated crops it will respond wonderfully by giving the proper care and cultivation. It thrives best in a rather cool and moist location but drainage is quite necessary. The finest black caps that I have ever seen were growing on low land that at times was so wet you could hardly drive a horse over but the land was ridged up two or three feet where the plants were growing. The preparation of the soil should begin a year or two before it is planted, manured heavily and cropped by some cultivated crop one or two years previous to planting. This will put your soil in good tilt and free from weeds. Never plant on land that is full of clover, timothy or quack grass.

Sod land is not fit to plant small fruit of any kind on. Spring is the best time to plant yet I know of good success of fall planting up in our country where we had a good covering of snow from early winter until late in the spring. Plant in rows 3 feet and the rows 7 or 8 feet apart. The first year a row of something else can be grown between. Last year we grew tomatoes in ours but they grew so rank that it interfered somewhat in the later cultivation. Cabbage, beans or peas would be a more suitable crop to grow between. Hoe and cultivate thor-

the canes during the summer is a question where some of us differ. I think that depends a great deal whether or not you lay down the canes for winter protection. Where it is necessary to put them down it is best not to pinch back any during the summer as they will grow too stiff and stalky to bend over without breaking them. They should, however, be cut back in the spring which insures better, larger and cleaner fruit. Summer pruning depends somewhat on the variety you are growing. For instance Cuthbert seems to throw out a good many

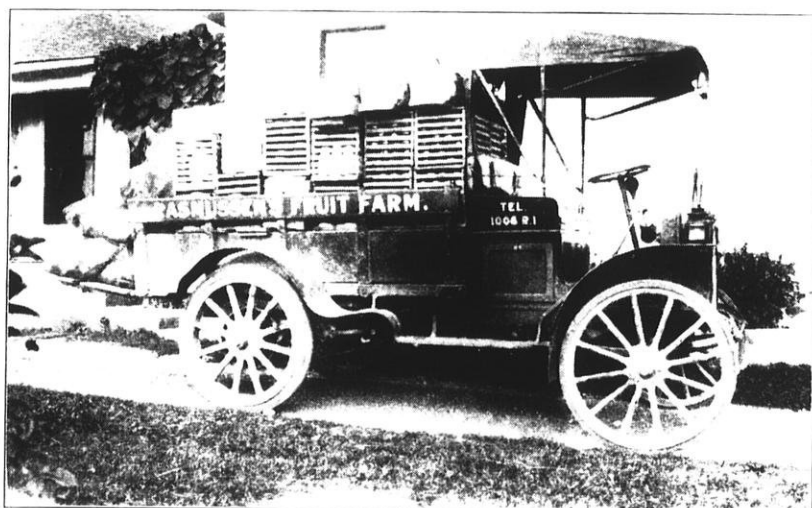
know of. With us in the north, it sometimes lives over but being a biennial plant it will die the next season. I consider this the best plant to grow in all cane fruit as a cover crop. As to the varieties to grow we favor the Cuthbert and Marlboro, giving the latter the preference, as it picks easier, ships better and yields more than the Cuthbert. The Cuthbert is far best in quality, a little later and possibly harder than Marlboro. The reds reproduce themselves and are propagated by suckers.

For black raspberries we grow the Plum Farmer a vigorous, hardy, large growing, good quality berry. All black caps are propagated from the tips by covering them in August or September and then cut off the cane when wanted for transplanting. I think the black caps are going to be the most profitable ones for us to grow. Last year they sold, I think, for a little more than the reds. They stand shipping better, pick more berries at a picking and much easier to get pickers to pick them.

In the picking of raspberries possibly mere pains should be taken than in the picking of any other fruit. Wet berries put into a box on a warm day will grow whiskers in a very short time. Care must be taken not to get any over ripe berries in the box nor bruise or crumble when picking. They should be taken into a cool, breezy packing shed as soon as possible.

It is a good time now to look over the catalogs and make out the orders for shrubs and hardy plants. These need to be planted early to make a good strong growth the first year. So many people do not remember that they intended ordering a Bridal Wreath or a Honeysuckle until they see the one in their neighbor's yard in blossom and it is then too late to transplant with success.

W. A. T.



This load with nineteen more like it brought one thousand dollars. Sold to Oshkosh grocers.

oughly and often not only the first year but ever after for they need lots of moisture to grow a good crop. At no time is cultivation more important than at picking time. I wish to emphasize this especially for this is a period when it is so often neglected. Follow the pickers with a cultivator and stir up the trampled down soil. It will mean a longer bearing season and good large berries to the last.

I do not believe in mulching between the rows but instead cultivate to break up and pulverize manure particles thus making it available for plant food. I believe a good fine dust mulch will hold more moisture than anything else.

Shall we prune and cut back

more laterals than the Marlboro. If you do any summer pruning, do it early enough so as to give the new shoots time to ripen the wood.

All suckers not wanted treat as weeds, cutting them down while they are little before they have sucked half the life out of the bearing hill. After picking, cut out the old canes and seed down to crimson clover. I like this plant best as cover crop. It is the only clover we can grow in the berries that will not become a weed. It makes a larger growth than any other clover would in that time and judging from the nodules on the roots it seems to have the power to gather more nitrogen in the *early* stage of its growth than any other legume I

Strawberries

W. S. Powell, Bayfield.

(At Annual Convention)

I am not going to give you the history of the strawberry, but for the benefit of the new beginners, will point out some of the essentials in growing them commercially.

In the first place, know that your soil is in first class physical condition and also that it is adapted to the growing of strawberries. Plow quite deeply in the fall if possible, turning under a green leguminous crop if you can, but do not harrow it down until spring, leaving the ground as rough as possible, as the freezing and thawing and the aeration will make it mellow and will also freeze out and destroy a great number of insect pests and eggs of same. Commence harrowing in the spring as early as possible and as soon as your plants are ready to dig, commence planting. Be sure the varieties you plant are adapted to your locality. You may find this out by inquiring of some one in the neighborhood, the names of the varieties they have had the best success with. Do not try too many varieties at one time as not all of them will be adapted to your soil and climate.

In setting them, set them in rows $3\frac{1}{2}$ feet apart and from 18 to 24 inches apart in the row. The heavy plant maker should be at least 24 inches apart in the row. Set them with a spade, one man using the spade while the other man places them in the trench made by the spade, spreading the roots out fan shaped, placing the crowns even or a little below the surface of the ground.

Commence working in them as soon as possible after planting, if it be the same day. I prefer using a garden rake, raking between the plants toward the center of the row. By so doing you fill the space that is sometimes left open by the planters not being careful, therefore avoiding

the escape of moisture and the raking also causes the plants to show up better, when you start the cultivator. Shallow cultivation should always be practiced which causes the moisture to remain close to the surface. Frequent and thorough cultivation should be given at all times if you wish to get a good growth of plants for your next year's crop.

Do not need to take up any of



your time explaining about training the runners but I want to dwell upon what will soon be the main question of the growing of strawberries and that is the use of commercial fertilizers. Our older growers tell us there is nothing more to write about the strawberry but I am going to predict that a new and better method is awaiting the man who will start experimenting with the different fertilizers. How many of you have used commercial fertilizers and in what proportions, also is it necessary to have soil examined in order to ascertain what is best to use. Some will say yes and others, no, as it is impossible to learn how much of the mineral elements already in the soil is available.

Do any of you know what our State Experiment Station is doing

in the way of testing out the use of the different commercial fertilizers on the strawberry fields? The only one I have ever been able to find is a report of the Missouri State Experimental Station on the strawberry fields of Neosho, the strawberry center of the middle west. They have been experimenting for the past 3 or 4 years and during that time have found that phosphoric acid applied to the land, about 400 pounds to the acre has increased the crop nearly 100%. They have used nitrate of soda alone and combined with potash and combined with phosphoric acid and find that with any of the combinations in which nitrate of soda had been added that the crop was decreased nearly one half. They state that the nitrate of soda assists in growing large thrifty plants but does not produce fruit buds.

Prof. Cyril Hopkins of Illinois now of Massachusetts is authority on soils and claims that ground phosphate rock is practically the only element in the fertilizer line that is necessary to produce large crops as the decomposition of it liberates some of the potash and the nitrates that is contained in the soil, but one must plow under more or less green crops which produces sufficient humus and nitrates.

Why can we not start experimenting with the mineral fertilizers and report at the regular meetings the results of our experiments. Let us see if there is not something new about the growing of strawberries. There surely ought to be something as none of our Horticultural departments are a finished science, for we are learning something new every season. Mr. Rasmussen has told you how to pump water into the strawberry which certainly is something new and I will predict that in a few years that by the use of the right application of the mineral fertilizers we will double the yield of our crops. Some may say that we will have an overpro-

duction of them but Kern will sell them if you will give him the chance.

There is one thing that I have learned and it has been a dear lesson and that is that you cannot make a success of growing strawberries on new land, such as we have at Bayfield. While we raise a fairly good crop and of good quality on such land the record breaking crops are grown on old soil specially prepared for it.

In closing will say that the coming spring will plant about 15,000 plants and will use ground phosphate rock, drilling it into the ground each side of the row with a one horse disc fertilizer drill. Drilling it immediately after setting the plants, and will report the growth of the plants next year. How many of you will do a little experimenting and do likewise.

Tropical Flowers

Two bouquets have come by mail both from sunny south lands.

One from a business man in Missouri and one from far away Australia.

The only reason they are mentioned is because of the distance each has come.

Many very pretty bouquets have been received from home people but modesty forbids any vulgar display of these. Also there have been not a few composed of skunk cabbage and similar stink weeds.

"I am glad to have the little copy of Wisconsin Horticulture. My work makes it necessary for me to go through a great many Horticultural publications which becomes rather monotonous, but I always enjoy your paper and as I have said before, I hope you will never let it get any larger. If you keep it condensed the material will always be snappy and to the point. The paper will not be loaded down with "Boiler plate" put in just to fill

up space. The reason I like it so much is because it is condensed. It always provokes me to get a "finger in the pie" and see something about the "subject in discussion."

"A Man From Missouri."

Department of Agriculture,
Sydney, Australia, Dec. 12, 1913.

Sir: I have the honor to acknowledge the receipt of your letter of the 12th ultimo and to thank you for your courtesy in forwarding the missing numbers of Volume II "Wisconsin Horticulture," which have since been received and been added to the file of this department's library.

I would take this opportunity of stating that this Journal is one of our most valued horticultural exchanges, hence the desire to keep the numbers complete.

I have the honor to be, Sir, your obedient servant,

G. Volder.

Acting under secretary and director.

The Secretary,
Wisconsin Horticultural Society,
Madison, Wisconsin, U. S. A.

Cuttings of geraniums and other house plants are not difficult to root if placed in moist sand and kept in a warm place. Geranium cuttings need not be kept as moist as some other kinds but they should not be allowed to dry out.

SALZER'S "Wonder" Vegetable Seeds for 10c



One package each of Earliest Cabbage, Shorthorn Carrot, Earliest Cucumber, Prizehead Lettuce, Flashlight Radish, Onion Mixture, for earliness, quality and yield, seeks an equal. These six packages for 10c contain enough seed to furnish you with rich, juicy vegetables, and lots and lots of them, during early Spring and Summer.

Special Offer

Above vegetable collection, together with one package each of Salzer's Radiant Sweet Peas, Elegant Asters, Gorgeous Eschscholtzias, Blue Cornflower, Brilliant Poppies, Sunny Cosmos, all for 25c, postpaid. Or, remit 25c and get both collections, our big Catalog and our Great Red Riding Hood Tomato Novelty, alone costing 15c.

Another Special

Ten packages Farm Seeds, including \$1,000 Marquis Wheat, 20th Century Alfalfa, etc., for .25c, postpaid. Write today Big 1914 Seed Book Free.

Salzer

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Field of 107 Acres on Farm of Swartz Bros., Waukesha Co., Wis., which yielded in 1912, 535 Tons of Alfalfa Hay, Worth \$20.00 per Ton or a Total of \$10,700.00.

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Swartz Bros. say—"We want to see alfalfa grown on every American farm and fed to all farm animals and not until then will its real value be known." It CAN be grown on every farm if managed right. Don't get the idea that your soil is not suitable.

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Alfalfa hay is worth as much as wheat bran, pound for pound, and three crops can be cut each season. It wonderfully enriches the soil. The U. S. Dept. of Agriculture says "Alfalfa adds \$100.00 to the value of every acre on which it grows."

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The last seed crop was large and fine and prices are reasonable. Everyone can afford seed. We are large dealers, buying in car lots. We offer fancy University tested seed from Montana, South Dakota, Utah, Nebraska and Kansas. Tests as high as 99.8% purity, 98% germination. Ask for samples.

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Wisconsin Horticulture

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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, and pays for two years. Personal checks accepted.

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Save Your Papers

This issue contains part of the papers read at the annual convention and others will be published from month to month. It is possible, even probable, that these will not be printed again in the Annual Report.

Indeed it is not unlikely that the Report for 1914 may contain but the barest facts concerning the work of the Society for the past year, financial matters, etc. quite like part II of the reports for 1910 to 1913.

If, then, you value any of the papers which appear in this magazine and want to preserve them for future reference take care of

your copies of Wisconsin Horticulture.

In this connection notice is here given to all members who are keeping files of this paper that the reserve files in this office of some dates are running very low and orders from members to complete files should be sent in soon. All back numbers 10c each.

Boost a Little

Here are three ways:

(1) Send to the Secretary the names and addresses of 4 or 5 people who OUGHT to be members of our Society. This will cost one cent for a postal card and five minutes time.

(2) Ask for a few sample copies of W. H. and hand these out to your neighbors. Inside of each will be found an 8 page circular telling many things about our work, some of them true, a membership blank and a self addressed envelope. Just hand these to your neighbor or send them to the school teacher.

(3) Get one new member.

Any or all of these will cost but little and prove immensely helpful to our cause.

This magazine is our great drawing card and 99 per cent of those who see it for the first time want it.

We have no advertising department, no general publicity bureau and no means of getting sample copies to people who will be interested **except through members.**

Will you help in one of these three ways?

Notes on the Forty-Ninth Annual Convention

The attendance was very good, one hundred and fifty-three registered from outside points which with local people brought the average attendance up to two hundred.

The fruit exhibit was the best in years both in quantity and quality.

No finer apples were ever shown in Wisconsin than the pecks and

**"We have a Fine Lot of
 Plants for the Garden."**

SEND FOR LIST

J. E. MATHEWSON

SHEBOYGAN, WISCONSIN

FREE An 84-Page Book on
**"How to Plant and
 Improve the Home and Orchard"**

will be mailed free on request to all contemplating planting fruit trees and ornamentals in the spring of 1914, together with our complete catalogue of

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 specialty of Hardy Shade
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Your garden is not complete without a collection of our best
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Send us a \$1.00 bill and we will express you ten good roots of our selection. Get our catalog.

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WHOLESALE GROWER
Of Plants, Seeds and Flowers of
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The NORTHWOOD NURSERIES

KOETHE BROS., Props.,
Coon Valley, Wis.

plates in H. B. Blackman's exhibit from Richland Center.

Mr. Blackman on behalf of Richland Co., evened up the state fair score and took all the honors and most of the 1st premiums away from Baraboo.

Richland Co. Leads

Mr. Blackman won First on: general exhibit, 5 varieties, Gano, Jonathan, McIntosh, N. W. Greening, Patten, Windsor, and First on pecks of: Fameuse, Jonathan, McIntosh and Windsor.

The single plate which attracted most attention was one of four Delicious grown by E. J. Cooley of Wood Co. These were splendid specimens equal in size and color and excelling in quality Pacific coast Delicious.

The vegetable exhibit was small but of superior quality.

The Lake Geneva Gardner's Ass'n staged an excellent exhibit of standard sorts as well as novelties. None of these were entered for premiums.

A Real Farm Garden

N. A. Rasmussen.

The time has come when we must begin to plan for our garden if we want a continuous supply of vegetables throughout the coming season, which is something every tiller of the soil is certainly entitled to and a garden on the farm is not only a necessity but should be the most profitable part of the farm.

I do not mean to say you shall begin to sow your garden seeds just yet, not in Wisconsin, but the seed catalogues are arriving daily and the long evenings and stormy days give us ample time to carefully select a complete list of the vegetables we wish to raise. Do not wait until your plot is ready to sow and then take whatever your dealer happens to have in stock.

I will give what I would consider a good variety, kind and quantity of seeds for a farm garden which with a little modifica-

The Great Northern Nursery Co.

Sells First-Class Wisconsin Grown Trees

Our Trees Live. We have over 50,000 No. 1 apple trees of the late varieties, all of our own growing; and a nice lot of trees was never grown. They are smooth, clean, healthy, hardy and just the kind of trees to plant in a commercial orchard.

Before you place your order, Mr. Planter, for your trees, write us for prices.

We are the largest growers of apple trees in the state, we are confident that we can furnish trees that will please you, and our prices are right.

Every tree and shrub is packed entirely under cover, free from exposure to sun and wind.

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Baraboo, Wis. Write for Catalogue and Price List

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Cumberland Fruit Package Co.

Dept. D, Cumberland, Wis.

Make Your Own Barrels

At a cost of about 25c.

"BARREL MAKING SIMPLIFIED"

Tells How - - - Price \$1.

Send 10c for my little booklet

"THE MODERN BARREL"

IT'S JUST FULL OF "BARREL"

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SIXTIETH YEAR

Specialties.—Apple and Americana plum trees, small fruit plants. Everbearing strawberries. A card will bring our special

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Orchard Land in Dunn County, Wis.

Surface rolling; soil, rich clay loam underlaid with limestone. The orchards of adjoining farms show the adaptability of this part of Wisconsin to apple growing. Near railroads and markets. Prices reasonable. Write for particulars.

William J. Starr

Eau Claire, - - - Wis.

The Hawks Nursery Company

are in a position to furnish high grade Nursery Stock of all kinds and varieties suitable to Wisconsin and other northern districts.

Will be glad to figure on your wants either in large or small quantities.

WAUWATOSA, WISCONSIN

tion should do very well for a city garden.

In places where hotbed plants can be secured it will be cheaper and more satisfactory to buy the plants.

2 dozen early cabbage, 1½ dozen early tomatoes, ½ dozen late tomatoes, ½ dozen peppers, 4 egg plants.

Seeds:

Beet—Detroit Dark Red, 1 oz.

Carrot—Chantenay, ½ oz.

Cauliflower—Ey. Snowball, 1 pkt.

Celery—White Plume, 1 pkt.

Cabbage—Danish Ball Head, 1 pkt.

Cucumber—Long Green ey., 1 pkt.

Cucumber — Chicago Pickling Late, 1 pkt.

Lettuce—Grand Rapids (leaf), ½ oz.

Lettuce—May King, (head), 1 pkt.

Muskmelon—Emerald Gem, ey, pkt.

Muskmelon—Osage, Late, 1 pkt.

Onions—Yellow Globe Danvers, 1 oz.

Parsnips—Guernsey, 1 pkt.

Radish—Ey. Scarlet Turnip, 1 oz.

Spinach—Victoria, 1 pkt.

Squash—Hubbard, 1 pkt.

Turnip—Pin Top Globe, 1 pkt.

Rutabaga—Amer. Pin Top, 1 pkt.

Beans—Refugee Lax, 1 pint.

Peas—Laxtonian Ey, 1 pint.

Peas—Stratagem, Late, 1 pint.

Sweet Corn—Golden Bantam Ey, 1 pint.

Sweet Corn—Evergreen, Stowells Late, 1 pint.

While late cabbage, cauliflower and celery can easily be grown in the garden, it would be advisable to purchase from some nearby gardener if possible. If rhubarb and asparagus are not in your garden, plant 3 rhubarb roots and about 2 dozen asparagus this spring.

If an editor will allow me the space in the next issue, I will try to plan the farm garden for you.

Who deserves **BEAUTIFUL HOMES** more than the Wisconsin farmer? And who has a better opportunity to have them?

We are prepared to help.

White Elm Nursery Co.

Oconomowoc, Wis.

Specialties in

**Ornamental Nursery
Stock and Land-
scape Work**

We raise a large variety of choice trees, shrubs and flowers; also the standard varieties of fruits for Wisconsin.

WISCONSIN APPLE ORCHARDS

Costs less to start and produce more and better apples than elsewhere. Nearness to market great factor in net profits. For information relative to apple orchard lands along the Soo line ask for booklet "Garden of Eden." Address W. H. Killen, Land Commissioner, Soo Line, Minneapolis, Minn.

GRAPE VINES

Gooseberries and Currants. Best varieties and finest grade of stock. Guaranteed true. Prepared to meet the demands of large and small growers and country estates. Largest growers of grape vines and small fruit in the country. Send for Free Book

T. S. HUBBARD

FREDONIA, N. Y.

Door County Fruit Lands For Sale

Also Cottages and Bay Shore Lots
BARGAINS

Write to

C. R. SEAQUIST & SON,
Sister Bay, Wis.

As Others see Us

Mr. F. Craneheld, Secy. W. S. H. S., Madison, Wis.

Dear Sir: * * * I was astonished beyond measure to see such fine apples. A more uniform bright colored lot of fruit is seldom seen. In those favored districts of your state where such apples as I saw can be grown successfully, I can see no reason why winter apples can not be raised that will successfully compete with the Pacific coast apples, especially in color. It is a well known fact that color counts more than any other one factor when it comes to marketing apples, and you surely do have fine color. If your people take advantage of their opportunities, and develop the apple business in those sections favorable to their production (as no doubt they will) I shall expect, in the near future, to see Wisconsin apples in a class alongside of Mich., and second only to the Famous Hood River product.

With best wishes I am,

Truly yours,

J. C. B. Heaton,

Delegate from Ill. Hort. Soc.

Do not fail to write to the Department of Agriculture for the Bulletins that have to do with the use of vegetables in the home. Write now for Farmers Bulletin number 256, The Preparation of Vegetables for the Table, and number 359, Canning Vegetables in the Home. The teachings of the latter might be put into practice with the coming of asparagus and continued throughout the summer and fall. Those who have made use of this bulletin have found the instructions practical and of such a nature as to insure success.

Found: At Horticulture Building U. W. Wednesday afternoon of Convention week one black glove. Owner please send the other one; or his address.

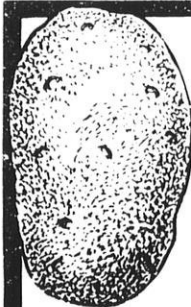


BLOCK of our two-year apple trees as they looked in the nursery last September. Trees of this type are grown for particular planters. We have 75,000 like these to offer. We also have a complete line of other stock. Send us your list of wants and we will quote you promptly.

McKAY NURSERY CO.

Nurseries at
Waterloo, Wis.

General Office
Pardeeville, Wis.



Do you raise early or late potatoes?

There's a difference between early and late varieties that should be considered in fertilizing.

For the early kind use 1,000 pounds per acre of a fertilizer containing 10%

POTASH

5% ammonia and 8% phosphoric acid. Under average conditions, 800 pounds of 3-6-8 is the most profitable for late crops.

Some growers double these amounts, for they are convinced that Potash Pays.

Caution: Be sure your Potash for potatoes on heavy soil is in the form of Sulfate.

Write for Potash prices and for Free books with formulas and directions. We sell any amount of Potash from a 200-pound bag up.

GERMAN KALI WORKS, Inc.
42 Broadway, New York

Chicago, McCormick Block Savannah, Bank & Trust Bldg.
New Orleans, Whitney Central Bank Bldg.
San Francisco, 25 California St. Atlanta, Empire Bldg.



PREMIUMS.

The following premiums were awarded at the Annual Convention held at Madison Jan. 6-8, 1914.

Fruit.

Best Collection apples, not less than 15 varieties: First, H. B. Blackman; second, A. K. Bassett; third, A. N. Kelly; fourth, Robt. Schultz.

Best 5 Plates, (5 varieties) commercial apples for Wisconsin: First, H. B. Blackman; second, A. D. Brown; third, J. E. Baer; fourth, A. N. Kelly.

Best Plate Avista: First, A. D. Brown; second, H. C. Melcher; third, A. N. Kelly.

Best Plate Ben Davis: First, J. E. Baer; second, H. B. Blackman; third, Theo. J. Kurtz; fourth, A. N. Kelly.

Best Plate Dudley: First, A. N. Kelly.

Best Plate Fameuse: First, A. K. Bassett; second, J. W. Roe; third, H. H. Harris; fourth, H. B. Blackman.

Best Plate Gano: First, H. B. Blackman; second, J. E. Baer; third, A. N. Kelly; fourth, Robt. Schultz.

Best Plate Gem: First, A. D. Brown; second, A. K. Bassett; third, Wm. Toole & Sons.

Best Plate Gideon: First, N. A. Rasmussen; second, Geo. J. Jeffrey; third, A. D. Barnes; fourth, A. N. Kelly.

Best Plate Golden Russett: First, Henry Simon; second, A. K. Bassett; third, Theo. J. Kurtz; fourth, A. N. Kelly.

Best Plate Jonathan: First, H. B. Blackman; second, Wm. Toole & Sons; third, A. N. Kelly; fourth, Robt. Schultz.

Best Plate Longfield: First, A. D. Brown; second, A. K. Bassett; third, H. H. Harris; fourth, J. E. Baer.

Best Plate Malinda: First, A. K. Bassett; second, A. D. Barnes; third, A. N. Kelly.

Best Plate McIntosh: First, H.

Cut-Prices ON Apple Trees

While they last, 10 cents per tree. No order accepted for less than 100 trees. If this is more than you want, get your neighbor to order with you. We are offering in this sale the finest block of apple trees we have ever grown. These trees are all grown right here in our nursery as we under no circumstances, deal, traffic or trade in nursery stocks.

Native Plum Trees at 20 cents each. Prof. Hansen's Hybrids at 25 cents each. Send for lists showing grades, count, prices and varieties. Cash with the order at these prices.

Henry Lake Sons Co., Nurserymen

Black River Falls, Wisconsin.

LET us help you make your home grounds "a beauty spot."



(A block of our Norway Maple)

We make plans and offer suggestions. If interested write us. It will cost you nothing.

We have a complete line of the best hardy varieties of Fruit Trees, Small Fruits, Vines, etc., adapted to your needs.

We Offer: *Quality - Service - Price*

The Coe, Converse & Edwards Co.

Catalogue Free

FORT ATKINSON, WIS.

B. Blackman; second, A. N. Kelly.

Best Plate McMahan: First, Henry Simon; second, H. B. Blackman; third, A. K. Bassett; fourth, A. D. Brown.

Best Plate Newell: First, H. H. Harris; second, H. B. Blackman; third, J. E. Baer; fourth, A. D. Brown.

Best Plate Northern Spy: First, Theo. J. Kurtz; second, Geo. J. Jeffrey.

Best Plate Northwestern Greening: First, H. B. Blackman; second, Henry Simon; third, J. E. Baer; fourth, Robt. Schultz.

Best Plate Patten: First, H. B. Blackman; second, H. H. Harris; third, A. N. Kelly.

Best Plate Pewaukee: First, A. D. Brown; second, A. K. Bassett; third, H. B. Blackman; fourth, Theo. J. Kurtz.

Best Plate Plumb Cider: First, A. K. Bassett; second, Henry Simon; third, N. A. Rasmussen.

STARK TREES

AT LOUISIANA, MO.
SINCE 1816

Plant this Fall Sure

Don't let this season go by without getting Stark Trees in your orchard. Right now is the time to get your order in for Fall planting. Fall is the best time to plant. The tree establishes itself and is ready to start growth early in the spring with strength to withstand summer droughts.

Stark Delicious

—the apple masterpiece—exquisite flavor
—makes *top record profits* for growers.
Hardy, thrifty tree—fruit large, brilliant, waxy red—a wonderful keeper. Free Year Book tells all about Stark Delicious.

Write for the **FREE**

Stark Orchard and Spray Book

—best orchard guide, from buying trees to marketing crops. Most modern practical spray book. If you grow fruit don't miss it. Send name today on postal. Ask for tree prices for Fall planting.

Stark Bros. Nurseries and Orchards Co., Box 80, Louisiana, Mo.



Bean Sprayers Big Payers

Originated by John Bean in 1884

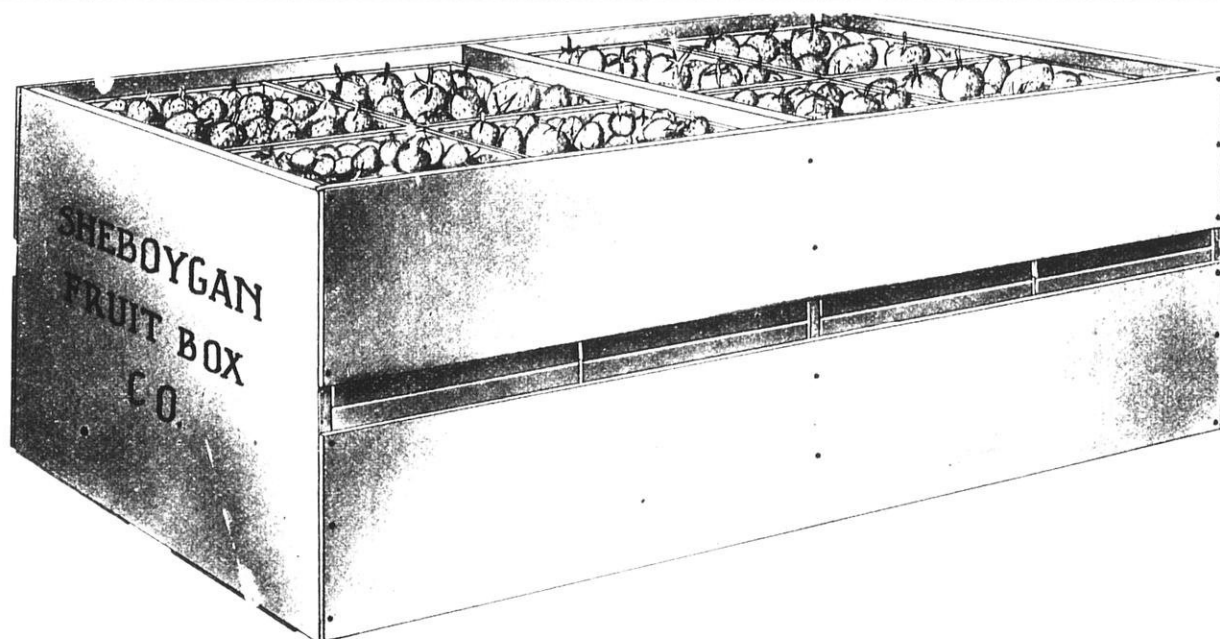
Sprayers that are Different

Our Bean Midget One Man Power Sprayer is a wonderful, high-grade, low cost sprayer. Supplies one line of hose at 200 pounds pressure. Meets every requirement for small orchards, vineyards, truck gardens, etc. With our Midget Outfit one man does all the work, —fills the tank, starts the engine and does the spraying.

Equipped with all the famous Bean features. Can be equipped with larger engine for two lines of hose. Write for new 1914 catalogue, illustrating our large line of hand and power sprayers and spray accessories.

THE BEAN SPRAY PUMP COMPANY

34 First Ave., Berea, Ohio Western Factory, San Jose, Cal.



“SILVER OR WHITE BIRCH” Berry Boxes. None better and none so cheap. Climax Grape and Peach Baskets, Repacking Baskets, Beekeepers' Supplies, Poultry Crates AND WOOD SPECIALTIES

All goods guaranteed to give perfect satisfaction. Write for prices.
SPECIAL DISCOUNTS FOR JANUARY, FEBRUARY, MARCH AND APRIL

SHEBOYGAN FRUIT BOX CO.

Sheboygan, Wisconsin

Best Plate Salome: First, Henry Simon; second, Robt. Schultz; third, A. K. Bassett.

Best Plate Seek-no-Further: First, A. K. Bassett; second, Robt. Schultz; third, H. C. Melcher; fourth, Wm. Toole & Son.

Best Plate Scott Winter: First, A. D. Brown; second, J. E. Baer; third, Henry Simon; fourth, H. H. Harris.

Best Plate Tolman: First, A. K. Bassett; second, Henry Simon; third, H. B. Blackman; fourth, J. E. Baer.

Best Plate Utter: First, A. K. Bassett; second, A. N. Kelly; third, A. D. Barnes.

Best Plate Wealthy: First, H. H. Harris; second, H. B. Blackman; third, J. W. Roe; fourth, Will J. Platten.

Best Plate Windsor: First, H. B. Blackman; second, A. N. Kelly; third, A. D. Barnes; fourth, A. K. Bassett.

Best Plate Wolf River: First, H. H. Harris; second, Henry Simon; third, A. N. Kelly; fourth, J. E. Baer.

Best Peck Dudley: First, A. N. Kelly.

Best Plate Windsor: First, H. B. Blackman; second, A. K. Bassett; third, J. E. Baer.

Best Peck Gano: First, J. E. Baer.

Best Peck Gem: First, A. D. Brown.

Best Peck Golden Russett: First, Henry Simon; second, A. K. Bassett; third, A. N. Kelly.

Best Peck Jonathan: First, H. B. Blackman; second, A. N. Kelly.

Best Peck McIntosh: First, H. B. Blackman.

Best Peck McMahan: First, A. N. Kelly; second, A. D. Brown.

Best Peck Northwestern Greening: First, J. E. Baer; second, Henry Simon; third, H. H. Harris.

Best Peck Tolman: First, A. K. Bassett; second, J. E. Baer; third, Henry Simon.

Best Peck Wealthy: First, J. E. Baer; second, H. H. Harris; third, H. C. Melcher.

Best Peck Windsor: First, H. B. Blackman; second, A. N. Kelly.

Best Peck Wolf River: First, J. E. Baer; second, A. N. Kelly; third, N. A. Rasmussen.

Best Exhibit Pears: First, Geo. J. Jeffrey.

Best Exhibit Crabs: First, A. K. Bassett; second, A. N. Kelly.

Best Seedling Apple: First, A. D. Brown; second, A. D. Brown; third, H. C. Melcher.

Vegetables.

Best Collection: First, A. K. Bassett; second, N. A. Rasmussen; third, Lynn L. Aspinwall.

Six Blood Turnip Beets: First, N. A. Rasmussen; second, A. K. Bassett; third, Albert Gilley.

Three Round Turnips: First, Van W. Cass; second, A. K. Bassett; third, N. A. Rasmussen.

Three Rutabagas: First, A. K. Bassett; second, Lynn L. Aspinwall; third, N. A. Rasmussen.

Six Chantenay Carrots: First, A. K. Bassett; second, Van W. Cass; third, Albert Gilley.

Six Short Horn Carrots: First, A. K. Bassett; second, E. L. Roloff; third, N. A. Rasmussen.

Six Salsify: First, N. A. Rasmussen; second, E. L. Roloff; third, Christensen & Davis.

Three Winter Cabbage: First, N. A. Rasmussen; second, Van W. Cass.

Three Red Cabbage: First, Van W. Cass; second, A. K. Bassett.

Six Ears Pop Corn: First, N. A. Rasmussen; second, A. K. Bassett; third, J. J. Ihrig.

Six Red Onions: First, E. L. Roloff; second, N. A. Rasmussen; third, Van W. Cass.

Six Yellow Danver Onions: First, Wm. Toole, Sr.; second, N. A. Rasmussen; third, W. A. Toole.

Six White Onions: First, Christensen & Davis; second, Lynn L. Aspinwall; third, A. K. Bassett.

Six Gibraltar Onions: First, N. A. Rasmussen.

Six Winter Radishes: First, A. K. Bassett; second, Van W. Cass; third, N. A. Rasmussen.

Six Parsnips: First, N. A. Rasmussen; second, A. K. Bassett; third, E. L. Roloff.

Six Peppers: First, N. A. Rasmussen; second, Lynn L. Aspinwall; third, A. K. Bassett.

Don't go West Young Man

"You also have a dim idea of the feeling of the Western Fruit Growers last year. The results of the season was an awful shock to them. I made a trip through Colorado, Idaho and the Pacific North West in June and in many districts the Fruit cellars and Onion cellars and every other kind of a storage room were full of apples that were unsold and never would be sold. It was an interesting, but severe demonstrations of the fact that the forces which we use to help us succeed, some times turn against us and hurt more than they help.

The Western Growers had effective organizations. There was a fixed idea built in the minds of the individual orchardists that all they had to do was stand pat on their prices and they would get it. This idea was in the minds of the individuals and they thought that anybody offering less than the price of previous years was trying to rob them. The result was that comparatively few apples were sold to the regular buyers, but what were sold went at a high price. A great many of the orchardists held on to their apples and on the first of January 1913 there were more apples available than the market could be made to consume in the allotted time. The result was, many buyers and many orchardists lost money. It will not happen again, at least not for a few years, because FIRST—the orchardists have learned that the buyers who "holler, Wolf! Wolf!" and talk of over-production are occasionally right, and that when there is a large crop they will have to sell at a price that will start the crop

moving to the consumer in November and not hold too large a proportion of it until after the first of the year. SECOND—the methods of distribution have been improved as the result of last season's experience, so that crops of the same size can now be handled to much better advantage."

W. H. Stark.

The Sooty Blotch

This fungus was unusually prevalent last season. Northwestern, Tolman and other light skinned varieties seem to be especially susceptible.

The following is from Prof. G. W. Keitt of the Dept. of Plant Pathology:

"Your letter of December 18th has been referred to me by Dr. Jones.

The specimens accompanying the letter are excellent examples of the "sooty blotch" disease. The blotched appearance is, as you know, induced by a fungus, *Leptothyrium pomi* (Mont. & Fr.) Sacc. It occurs in practically all the apple growing sections of the United States and is usually controlled by the spraying measures necessitated by other diseases. In the case of very susceptible varieties of the type which you mention, under the severe conditions of Wisconsin, I should suggest that you supplement the regular scab treatments with one additional late application of Bordeaux mixture (3-3-50). The time of this application would naturally vary with the season and the variety. It should, of course, be made early enough to avoid marring the appearance of the fruit at harvest time. Thus, it would usually come at some period between the middle and end of August."

Most of the seed and plant catalogs are now out and ready for distribution. I have read or examined quite a number of books on gardening, both for professionals and amateurs and I like

to glance over the articles in the garden magazines, but I find that for real accurate and practical information I can get more out of some of the seed and plant catalogs than any of the books and magazines. I keep three or four of the best of them within easy

reach and I find that I can generally get needed information as to culture or descriptions of varieties of flower plants from one or another of them. It is well worth while writing for these catalogs for the information they contain.

W. A. T.

The average nursery agent knows mighty little about the goods he sells and as a matter of extended observation it is here recorded that he usually cares less. He is out to sell trees and plants and as many as possible—and not to give extension courses in horticulture.

From
"Wisconsin
Horticulture"

—December, 1913

No Agents!

Buy Direct From Nursery

If you want to be sure of the quality of your trees--if you want to save 30% to 50% agents' commissions--if you want trees especially selected for Wisconsin growing conditions, write today to William P. Stark Nurseries, Stark City, Mo., for their new, handsomely illustrated, 120-page catalog. Sent free

Genuine Delicious Apple Trees at Growers' Prices

*William P. Stark
and 2-year-old
Delicious Apple tree*



We now control by exclusive contract all buds, scions and grafts cut from the original delicious apple tree.

This wonderful apple brings from \$1.50 to \$2.00 per box on the average more than any other apple you can grow. Make at least half your planting Delicious and you'll never regret it.

Best Apples for Wisconsin Growers

Tested, dependable varieties that thrive in Wisconsin Orchards are Delicious, Duchess, Wolf River, Wealthy, McIntosh, Northwestern, Jonathan and Hyslop Crab. Healthy, vigorous trees with the reliable William P. Stark quality.

Strong-Rooted Cherry Trees

Our cherry trees are noted for their superior root-systems. We recommend especially Montmorency and Early Richmond. In plums, DeSoto and America. In pears Kieffer and Seckel.

Hardy Roses and Ornamentals

Write for our special collections of field-grown roses, shrubs, and ornamentals. We have some bargains. Fully described in catalog. Send for it.

WILLIAM P. STARK NURSERIES
Box 706 Stark City, Mo.

Helpful Hints for February

Flora Teale, Baraboo, Wis.

Pansy seed sown during the early part of February will give early flowers if well cared for.

Hardy phlox is a very desirable plant for decoration of the farm home grounds. They are perfectly hardy here in Wisconsin, require the minimum of care and they may be had in a great variety of colors and shades. Be careful of one thing when planting out the Phlox. Do not set varieties of a pink shade next to those having a magenta or purple color. The color discord is painful.

If you are getting hungry for fresh green onions, try forcing a few in the cellar, near a window if possible. Put some dirt in a shallow box. Place small onions, larger than ordinary sets however, close together on the dirt. Then cover the onions with more soil and keep them watered. In a few weeks you will be able to gather delicious young onions.

Some of the residences in Baraboo that face to the north and are for that reason too shady for geraniums are given a pretty effect by planting some of our taller growing native ferns along the front of the porch. The cinnamon fern, Clayton fern and ostrich fern are all good for this purpose.

If in doubt as to the disposition in the garden of such flowers as hollyhocks, stocks, verbenas, phlox, pansies, asters, nigonette, larkspur, sweet peas and the many other kinds that may be grown, study the catalogs. Many helpful hints may be gleaned from them by the amateur gardener.

In some countries as in Japan, a species of iris is grown on the thatched roofs of the houses.

Mrs. Hugh Fraser in her book of Japanese Tales gives the following reason for their being grown in such a strange place.

"Once there was a great famine in the land and it was forbidden to plant anything in the ground that could not be used for food. The frivolous Irises only

supply the powder with which the women whiten their faces. But their little ladyships could not be cheated of that. 'Must we then look like frights as well as die of hunger?' So every woman set a tiny plantation of Irises on the roof of her house, where they are growing to this day."



Arsenate of Lead Lime Sulphur Solution

Recognized as standard in principal fruit growing sections of the country. Convenient source of supply

for Wisconsin fruit growers. *For further information write*

The Grasselli Chemical Co., Milwaukee, Wis.

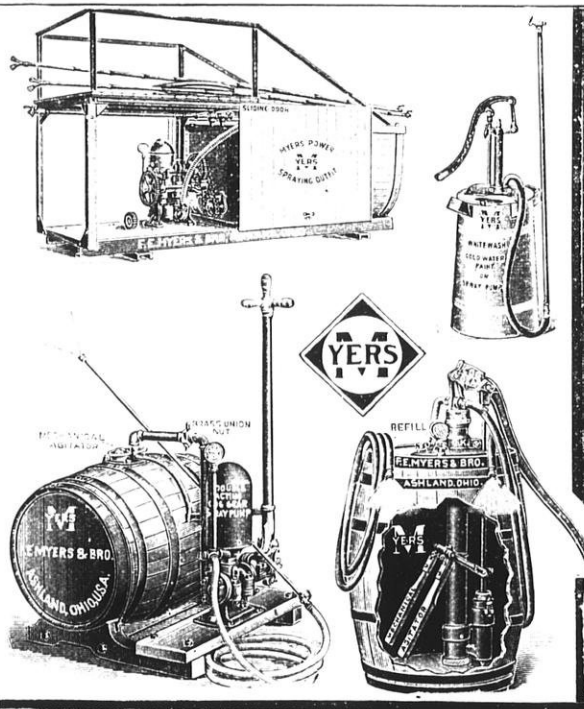
Established 1839

Main Office,

Cleveland, Ohio

MYERS SPRAY PUMPS

BUCKET, BARREL OR POWER OUTFITS
Insure Successful Spraying Operations



Many spray pumps now on the market prove to be failures when the real test comes—the actual spraying operations.

Myers Spray Pumps

are distinctly the result of long experience in pump building—a gradual development rounded out by special patented features and late improvements. They make it easy for the man that sprays and the results are more certain.

You will have no regrets if you make your selection from the Myers Line. It's complete and includes Bucket, Barrel and Power Outfits, Nozzles, Hose, Etc., for every spraying requirement.

Send us your address so that we can mail you our catalog and name of our nearest dealer.

F. E. MYERS & BROTHER 300 ORANGE STREET,
ASHLAND PUMP AND HAY TOOL WORKS ASHLAND, OHIO

ASK QUESTIONS

Write your questions (**not to exceed five**) on this sheet and send to Editor, **Wisconsin Horticulture**, Madison, Wisconsin.

Questions will be answered through the paper as nearly as possible in order received. While no question relating to horticulture is barred, members should keep in mind that recommended lists of varieties are given in the Annual Report.

No Questions will be answered unless Name and Address of sender is given, but neither will be published without the knowledge and consent of the writer.

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

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Volume IV

Madison, Wisconsin, March, 1914

Number 7

Pruning the Home Orchard.

The home orchard may be on the farm, the summer home of the city man or in the back yard of a city lot.

Many of the best of these are of the back lot kind but wherever found usually need pruning.

The best time to prune these or any other fruit trees is in March or April, after zero weather is over and before growth starts.

Tons of books and bulletins have been written on pruning—all of them are good but are mostly for the expert.

The following rough and ready directions are meant for the amateur and deal wholly in the "how" rather than the "why",—in other words "first aid to the injured."

In the home orchard the trees

may be from one to fifty years old but whatever the age it is a safe bet that the trees need pruning. Use a saw, not an ax. The common or barnyard variety of saw will not answer, neither will a carpenter's saw no matter how good it may be for sawing lumber. It's too wide. Also it isn't set right for cutting live wood. Buy a real pruning saw for seventy-five cents, one of the "half-moon" kind pictured elsewhere in this number. It's like a Japanese saw—it cuts only on the pull stroke. That's because most of the branches on trees that need sawing are more than shoulder high and you can pull down easier than push. Quite simple. Keep this saw exclusively for pruning; hand it to your wife when you are through and she will slip in a bottom drawer where it will not rust.

THE VETERANS.

The forty or fifty year old trees will need lots of pruning; first of all cut dead branches (cut close to the trunk) then as many more as needed to let in light and air. Don't fuss with cutting out a lot of little stuff, but take out a big branch, no matter how big, clear down to the base of it and then another. Don't be afraid. In this way you will let

light and air into the top getting the maximum of results with the minimum expenditure of time.



A row or two of McMahon and Jonathan Orchard, John T. Wood, Richland Co.; also a boy and some dogs.

If, after taking out about one-third of the top by this method, you still have time and patience to climb into the tree much more good work can be done by thinning out lots of the small stuff with saw or shears. Next spring give these old-timers the surprise of their lives by a heavy root-pruning using a plow for the purpose. Plow wide, deep and as close to the trunks as ever you can. Don't cry or call me a fool if you cut a few roots, there will be plenty left.

Next year will begin a New Life for these old unproductive trees, new growth both at top and bottom. Lots of so-called "water sprouts" will start from the main branches where the big cuts were made. Be unscientific again and



Mr. John T. Wood's McMahon trees bore like this last year.

leave some near the center of the tree. The books tell you to "remove all water sprouts". Don't do it Jim, you need some of these lusty young shoots for a new top. While the old branches are bearing these "sprouts" will develop into stout bearing wood and your tree is born again.

Now the great trinity in orcharding is cultivation, pruning and spraying. You have attended to the two first—the last will be treated later.

THE YOUNG ORCHARD.

Perhaps it was planted only last year or the year before. No matter if but a year planted the trees need *some* pruning or rather training. Don't cut back the branches in the center of the tree as this will only lead to a multitude of side shoots that must be cut out later. Thin the main branches instead having some regard for the future shape of the tree for you are laying the foundations now. Don't be confused or discouraged by the books and bulletins you have read. These are all of them all right in every particular but are intended for the expert.

In these much stress is laid on "distributing the branches evenly" so as to have a "well balanced head."

Well, take it from me Bill you can't do it. An apple tree isn't a white oak and you can't change nature. The oak will keep a main stem, giving off branches with beautiful regularity but an apple tree is a squatty and round headed critter and no matter how long it lives in 97½ times out of 100 all the branches will come from one spot after 20 or 30 years, just sitting altogether on top of a trunk 2 or 6 or 4 feet from the ground.

It does not follow from this that you should shut your eyes when thinning the branches in the young trees for you can often save bad crotches by just a little forethought. The bad crotches are the sharp V shaped ones and the deuce is to pay when the top

of your young tree consists of two branches forming such a sharp angle. Cut off one even if it takes away half of the top. Also eliminate the worst V's when practical in thinning the branches.

This thinning process applies to trees five to ten years old, the longer neglected the more thinning is needed. The best way is to thin a little each year.

THE MIDDLE SIZE ORCHARD.

These are the trees 8 to 10 years old and never pruned. Such trees have too many branches, too much "brush" in the tops.

The remedy is about the same as in the cure of the fifty year old veterans but we should not cut quite so heavy; better spread it over two or even three years.

Mostly the tops consist of a lot of thin, starved branches so dense that a bird can't get in to build a decent nest.

No fruit buds will form under such conditions and if the tree is ever to pay its board it must be pruned.

Select two or three of the largest branches that fill the center of the tree and cut them out, it may look like murder but it must be done.

That will be about all the first year except cutting out dead and broken branches.

During the summer watch for the sap sprouts that will start from the big cuts and rub them off, we don't need them for renewal of tops in these younger trees. Next year remove more branches until light and air can penetrate.

It is understood in every case that the branches be cut close to the trunk or main limb and no stubs left.

Every cut over an inch in diameter should be painted.

Honest nurserymen and dealers advertise in Wisconsin Horticulture and only that kind. The other kind cannot buy space.

Everybody is Doing It

The most popular topic these days is *taxes* and next to that *co-operation*. Farmers' Institute speakers, University professors, capital commissioners, farm papers and even fruit growers are all preaching co-operation.

A great wave of co-operation talk is sweeping over the state and threatens to drown some of us if we don't watch out.

A great deal of this agitation is political bunk, just bait for the farmers' vote and a great deal more is noise made by employers of various boards in order to justify their existence.

Even so it all helps, for if we do not abandon all our present methods next month and within a year do all of our business on a co-operative basis it will at least give us something to think about.

The trouble with our good friends is that they are not willing to put us on their new diet gradually, in spoonful doses at first until our stomachs get used to it, but prefer instead the methods employed in fattening geese at Watertown, just pry open the goose's beak and crowd down cornmeal pellets until there is no room for more. The fool goose isn't supposed to know how much cornmeal is good for it.

"Why don't you co-operate? Just look at Denmark, everybody is doing it over there."

Very good and we are going to beat the Danes at their own game when we get to it but it will not be tomorrow or next year.

We have been working too long under the present system of allowing the middlemen and retailers to do our business for us to change it all in the twinkling of an eye.

In this state we have three successfully conducted fruit selling associations: the Sparta, the Bayfield and the Sturgeon Bay associations all of which we have been pleased to call co-operative, but when we measure them by the

"state" co-operative yard stick we find that they are all short measure.

Even if none of these associations are strictly co-operative according to the Revised Version they embody the most successful "getting together" of tillers of the soil in the state and each has served and is serving a most useful purpose in its community.

The Sparta association, the pioneer, in the eight years of its existence has supplied a market for all the fruit grown around Sparta at a better price than the members could have secured individually and has pro-rated to its members all profits from sales of fruit.

Because of the association fruit growing is now a well established industry at Sparta while nine years ago the business was rapidly declining.

At Bayfield fruit growing sprung into existence almost overnight with over two hundred small growers scattered over a wide territory and no market in sight.

Here as at Sparta a few men of wide business experience took hold and organized a selling association on lines similar to the one at Sparta. There has been no question of success from the start.

At Sturgeon Bay five or six of the larger growers had been united in a general way for years in selling their crops.

In 1910 the volume of business and number of growers increased to such an extent that organization seemed desirable and the Sturgeon Bay Exchange came into existence organized on corporate or stock control lines.

Now, as before stated, none of these associations measure up to the standard set by our enthusiastic, altruistic and professional brethren who sit in high places and swear by all the gods on high Olympus that there is one and only one true gospel in co-operation and that is the one-man-one-

vote evangel and all who do not subscribe thereto are heretics and should not set foot in the sacred temple of co-operation.

Mebbe so. The theories no doubt are right and it is doubtless true that the best results finally will obtain in co-operative enterprises when men or patronage and not money rule and in time the farmers as well as the fruit growers will be forced to combine on the man-rule basis.

It does not follow, however, that there can be no true co-operation in any organization except the one-man-one-vote kind.

Eighty-five per cent of the citrus fruit grown in California is handled through the California Fruit Growers Exchange. This central exchange acts for hundreds of local associations. The voting power in these associations which handle through the California Fruit Growers Exchange eighty-five per cent of all the oranges and lemons grown in that state, is not one-man-one-vote but one-acre-one-vote.

Our Wisconsin associations are stock-voting but who shall say they are not co-operative?

None of them accumulate any profits nor declare any dividends *from handling the fruit grown by the members.*

The fruit is pooled and the amount received returned pro-rata to the growers less actual cost of handling.

The Sparta and Bayfield associations conduct in addition to fruit handling a mercantile business dealing in flour, mill feeds, etc., on which profits are derived. In this way sufficient money is accumulated to pay a skilled manager through the whole year. The balance of profits if any go to the stock.

The Sturgeon Bay Exchange accumulates no profits and declares no dividends on stock but operates only through the fruit season.

Now there really ought to be

a moral somewhere in this long sermon and it is probably this: Let well enough alone until you are reasonably certain that you have something better. Or this: Don't wring the neck of the bird you have in hand until you can get a little salt on the tail of the one in the bush.

Home-Made vs. Commercial Lime-Sulphur

(Contributed by Prof. J. G. Sanders.)

As the time for spring spraying again approaches, this much discussed question perplexes many horticulturists. Whether it is better to purchase a commercial product of good grade at a fair price, or to prepare a compound of doubtful quality at a doubtful cost of time, labor and materials, is the debatable question.

Commercial lime-sulphurs are generally prepared under the best conditions with care and accuracy as to the quality and proportions of ingredients and thorough steam boiling. Most commercial lime-sulphur is prepared from the best calcium lime (94.98% calcium) obtainable, thus securing almost complete solution and combination with the sulphur.

Homemade lime-sulphurs, on the other hand, are generally made from the most available lime, which may be of low (calcium) quality and may contain a large percentage of magnesium, an element which will not combine with sulphur by boiling. Frequently the boiling is not thorough and the straining is carelessly done so that nozzles become clogged in spraying.

Wisconsin limes (with few exceptions) contain considerable magnesium, and for this reason our horticulturists are advised to use the commercial product. In case they have an analysis of a certain lime and know the percentage of calcium, they can add enough more lime to make up the required amount of calcium for the lime-sulphur formula.

(Continued on page 10)

Dream Gardens

W. A. Toole of Garry-ne-Dule.

There are many more gardens cultivated and grown to perfection in the imagination during the winter time than ever comes to existence in the summer. And what a pleasure it is during the winter evenings to read, perchance, in the Country Gentleman, about the profits from a garden well cultivated. It is all so simple and easy with a warm fire on one side, a bright light on the other, a soft cushion beneath and a plate of Wisconsin apples near at hand. What allurements there is in turning the pages of the beautiful seed catalogs with the enticing pictures, the enthusiastic testimonials and the wonderful descriptions.

What man or woman is there with imagination so dead that these will not bring into life a model garden whatever the wind or weather. With a pencil and paper what fortunes can be made from a few acres. Even discounting the most conservative figures seventy-five per cent will leave a delightful margin of profit.

A prominent man was once asked what book he would take as a third choice besides a Bible and Shakespeare if he was to be marooned on a desert island and he replied, "A good seed catalog". That was a wise answer for what other book could so stimulate the imagination, could while so many lonely hours away. And I venture to guess that the seed catalog would soonest show the signs of constant study.

It is many years since I first enjoyed the pleasures of cultivating the garden of my imagination and the pleasure increases after each summer of mistakes and blunders and failures and partial successes. Last winter I heard Nic. Rasmussen tell of his \$500.00 per acre from Muskmelons and modestly decided that \$250.00 would do me for a start so I only planned on

half an acre. As Rasmussen makes his money from Milwaukee Market melons I decided to follow his example and bought a good supply of seed. Of course I had to try a couple of packages of some kinds that were just too delicious to resist, on paper. I fertilized the ground and planted the seed, fought the bugs and stirred the soil, pulled the weeds and watched the little melons grow. I even had the pleasure of selling some, and hearing their quality praised, but an early September frost left the vines black with hundreds of half ripe melons to perish before their time. And I am still short \$239.23 of the \$250.00 but what matter? I had all the pleasures of spending it last winter with none of the worries and responsibilities.

Jim Milward, *Professor* Milward I mean, told us last winter of the great possibilities in pure seed potatoes and praised the Irish Cobbler variety as a money maker for the seed potato grower. So I bought a half a dozen bushels of seed guaranteed to be pure stock, at \$1.25 a bushel when other potatoes were not worth a quarter of that sum. In the spring I planted them in rich looking black soil but the field is along a little creek and successive floods saturated the ground and most of the Irish Cobblers never opened their eyes on Garry-ne-Dule. There was no need of irrigation with its problems and worries and expenses any way.

Don't think I have the blues, "gentle reader" because as an optimist has said, "cheer up, the worst is yet to come." Some wise old geezer said "Hitch your old gray mule to a star" or something to that effect. I believe in high aims whatever my accomplishments may be, and decided that if others could grow 1,000 bushels of onions on an acre, I would do the same. Later I decided to let it go at 900 for the

first year so as to leave a chance to break a record in the future. While up at the Oshkosh fair I saw some beautiful Yellow Globe Danvers. It didn't need a seed catalog description to persuade me those onions were the best ever and I felt mighty lucky to be able to get some of the seed. The ground was plowed and disced and harrowed and made "as fine as an onion bed." The seeds were sown with greatest care. The rains came and watered them. The weeds sprouted and were made to die. The onions peeped through the ground and some of them soon perished and others grew for a longer time but with little energy. The net result was,—not nine hundred bushels—but nine, only nine with three pecks over for good count, and these all grew in one corner where the cleanings from the henhouse were spread.

beautiful crop of celery that never existed, except in my imagination, and other crops that did not materialize but what is the use. I have learned something of the limitations of a worn out piece of ground, and I know that something besides hard work is required of a truck gardener if he is to attain the results in dollars and cents secured by Rasmussen of Oshkosh or Sullivan of Alma Center. But thank goodness I have not lost the power to enjoy my seed catalog. Perhaps some of my dream gardens will not raise quite such big crops but I assure you they will leave a better margin of profit than I have ever received for any I have yet grown. While I wait for the new crop of joy producers to come to hand I am enjoying the much read seed books of the past year.

Geranium cuttings should be started now for bedding in the summer. The young plants are more satisfactory than old ones that have been kept over.

An Appeal for Help

Green Lake, Wis., Jan. 20, 1914.
My Dear Cranefield:

While I can't think you very orthodox in your notion of how rabbits should be treated in this present evil world, I have nothing to complain of in your attitude to birds. Yes! I want you to help a little and if you don't may all the rabbits in kingdom come gnaw your bark and make free with your tender twigs. Re-publish the enclosed, from "By the Wayside" and Peace like a great river will inundate your soul and every little sparkle thereof will whisper, bully for you.

Always your friend,
Victor Kutchin.

The Wisconsin Audubon society herewith appeals to the public for help in saving the remnant of our vanishing wild life, especially the birds. First of all we wish to correct the false belief, that some way has gone forth, that this society is a Madison affair, connected with the state university, for the scientific study of birds. This does not happen to be true and as a matter of fact the university has shown very little interest in it, always excepting the earnest effort of a few professors and students, who, outside of their regular duties, have done grand work in keeping the society alive.

The Wisconsin Audubon society, as its name indicates, belongs to the whole state and is the only organization in the state having for its sole object a *campaign of education*, on the value of our wild birds and their protection. Of all questions of Conservation there is not another of equal importance to all the people and not another that is receiving so little attention. This country is suffering a billion dollar loss annually from the depredation of noxious insects and our wild birds are nature's check upon the ravages of this awful army of destruction.

Bird life is doomed unless all the people become active in its protection. We want both you and your money. Is your interest worth a dollar? The Wisconsin Audubon society needs fifty thousand new members and needs them now. This is a modern Macedonian cry. Will you come across with your dollar and help us? That amount pays for an annual membership, also, subscription for "By the Wayside", the organ of the society for one year.

Victor Kutchin,
Secretary and Treasurer,
Green Lake, Wis.

The Farmer's Hotbed and Cold-frame

N. A. Rasmussen.

Perhaps some of the readers of Wisconsin Horticulture in planning and preparing their farm garden will want to make a hotbed so I shall endeavor to give some helpful hints.

This is to be an amateur or farmer's hotbed and coldframe combined. First get it located in a convenient place with water easy of access. Take an inch board a foot wide 12 ft. long for back or north side, another inch board 6 in. wide and 12 ft. long for front, then two boards 6 in. wide and 5 ft. 10 in. long for ends; another 6 in. board 5 ft. 10 in. sawed diagonally nailed on top of ends will give necessary slope from back to front. Now put three 2 in. strips three feet apart across the top from back to front for sash to slide on making it easier to handle sash. Now set frame where desired, dig out 10 or 12 in. of dirt, bank this outside of frame even with top. One load of fresh horse manure with plenty of straw or coarse litter should be well packed over entire bottom of pit (8 or 10 inches deep); now add 4 inches of rich garden soil mixed with a little sand or leafmold. We are now ready for the sash of which there

should be four 3 ft. by 6 ft. these will just cover the bed.

In a few days when the soil is nice and warm we will sow a few rows of early cabbage, tomato, cauliflower, celery and peppers also such flowers as are wanted and the balance to radishes and lettuce in rows 2 or 3 inches apart. Keep the soil well stirred and free from weeds also keep it watered and well ventilated, opening windows whenever the weather will permit. Radishes and lettuce should be ready for the table by the time tomatoes, peppers etc. are ready to transplant. This will keep your bed at work until about June 1st. We will now put all our plants out in the garden and get the coldframe—for it is a hotbed no longer, the bottom heat being exhausted and sash put away for next year—ready for another crop. Thoroughly spade and mix dirt and manure and plant to celery, White Plume or some other self-blanching variety in rows 8 inches apart each way. With a little hoeing and plenty of water (for you cannot grow celery without water) you should have a fine crop of choice celery. This method requires little work, no banking, and watering is confined to a very small area.

Delicious in Adams County

Your letter of inquiry as to location, soil, etc., where the Delicious apples I sent you were grown, received.

My orchard is located on the sandstone bluffs in the town of Easton, Adams county.

Elevation, perhaps, 100 feet. soil, sand loam.

The Delicious trees were planted 1901, first fruit 1909.

In hardiness of bud, about equal to Fameuse, in tree, not so good, but then few trees do equal the Fameuse with me.

E. J. Cooley.

A Little of Both Sides

The produce commission merchants, the much talked about "middle-men", handle a very large percentage of all fruits consumed in cities large and small. The bulk of our Wisconsin grown berries, cherries and apples pass thru the hands of these brokers before reaching the retailer who is also a "middle-man."

The commission merchants of our neighboring large cities—Milwaukee, Chicago, Duluth and Minneapolis—not only furnish a ready means of distribution for our own fruits and other produce but provide for this hungry heathen population oranges and lemons, bananas and pineapples and every other of the toothsome products of tree, bush and vine wheresoever grown. In this way he is a public benefactor and absolutely essential to the peace and comfort of both the Sparta berry grower and the laboring man of South side Milwaukee.

Under our present system of distribution and our style of living the fruit and produce broker is an essential factor and all talk about eliminating him is silly twaddle unless coupled with some rational and workable substitute plan.

The people demand this service and until some other plan is devised to furnish it as cheaply as the commission man is furnishing it he will continue to exist.

The following rough outline of the commission business as it relates to Wisconsin fruit is here given for the benefit of the uninitiated.

Mr. Jeremy Jones of Toledo (Wis.) has several acres of strawberries and having but a limited local market and no fruit shippers' association in his neighborhood he may look for a market in nearby cities of 10,000 to 25,000 people but rarely finds a retailer who can handle a carload or even one-half that amount at once nor any feasible means of distributing

this carload among several retailers. There are no commission men there. His only chance then is a big city market, as Milwaukee.

He reasons that there ought to be a chance to shorten the route between producer to consumer by selling direct to the retailer. Nothing doing. The Milwaukee retailer does not propose to burn his fingers. So Mr. Jones sends his carload to the commission man who sells it readily and remits cash for same less five or ten per cent commission.

The C. M. splits up this carload into a dozen pieces, part to the Milwaukee dealer and no doubt part is sent out on telephone order to Madison or other places within 20 miles of where the berries were grown. Good business, the grower gets service the retailer gets what he wants when he wants it and the consumer gets the berries and everybody ought to be happy.

Instead most everybody is miserably unhappy, most of all the political agitator.

Many of our big growers and all of the shipping associations consign car lots of fruit to commission men year after year and with perfect satisfaction. The system is economical and safe when properly conducted and it is going to take a lot of brains, more than is at work just now to find a better one. From "producer to consumer" or anywhere near it is a long way off.

The trouble lies not in the system but in the abuse of it and here are some of the sins laid at the door of the commission man:

He does not confine his business to commissions but also buys outright on his own account and thereby becomes a competitor of his patrons.

This practice is universal and is defended on the ground that no commission merchant can do business on commissions alone. (A mighty poor excuse.)

This one thing probably consti-

tutes the greatest abuse in the business. Commission men have been accused of holding fruit consigned to them until it has completely spoiled, of dumping carloads of fruit and of other horrible and secret practices in order to provide a profitable market for cars of fruit which they have bought.

Commission men remit what they like and when they like for fruit and the consignor is practically compelled to take what he gets and keep quiet.

Unholy combinations are said to exist among commission firms in different cities amounting in some cases to a monopoly which controls the business of the particular city where it exists. This is said to be the case in Minneapolis.

A general understanding or "gentlemen's agreement" in all cities whereby territory and business is divided.

Refusal to sell bananas, oranges, etc. to local retailers who buy Wisconsin berries of co-operative shippers' associations.

Lastly but by no means least the nature of the business is such that it lends itself readily to rascality pure and simple.

Any evilly disposed person might rent an office or desk room and set up as a commission merchant, solicit business, sell from the track, return first shipments more than the produce brought as a bait and when the time seemed right leave between two days to start again in some other city or the same city under a new firm name.

This of course is no better than highway robbery and must not be considered in connection with legitimate commission business. It shows the need of regulation.

This is merely a glance at the commission business as it now exists. Probably what we need most is a proper and reasonable regulation of the commission business, not its elimination. New York requires every commission

merchant to take out a license and file a bond. Why not in Wisconsin?

Every fruit grower in Wisconsin little or big should make it his serious business to acquaint himself with all the different phases of marketing, local markets, commission markets and fruit shippers' associations.

Wisconsin is now in reality a fruit state in the sense of acreage but the mere planting of fruit will not make us great. We must grow *better fruit* than our neighbor states and then find the best way to market it or the more trees we have the worse we will be off.

Viability of Seeds

Viability or the power to grow when placed under favorable conditions is the first although by no means the only characteristic of good seeds. In one respect it is different from the other qualities of seeds, for a comparatively simple test made in a short time before the growing season commences will reveal whether or not the sample in hand possesses viability.

Sprouting tests can be made by placing a counted number of seeds between pieces of damp flannel on an old plate covered with a piece of tin or second plate to keep in the moisture. However, in such a test many seeds will sprout which would never grow long enough in soil to become self-sustaining plants. It is better if possible to sow the seeds in soil under natural conditions and record the percentage which *come up* in ordinary fashion. Either plan is valuable and should be practiced certainly with all old and doubtful samples of seed left over from the previous season if not with new seeds before planting. Possibly before buying large quantities of new seeds samples could be secured from several firms and subjected to a comparative test. G. F. P.

Better Fruit

We need, most of all in Wisconsin *better fruit*. We have planted several thousands of acres of tree fruits in the past ten years enough to set us well in the front rank of apple producing states if the trees now planted are decently cared for.

Orchard planting becomes epidemic at rather irregular intervals and too often after the fever subsides there is a reaction. This happened in western New York fifty years ago in Michigan and Missouri twenty-five years ago and the epidemic is just passing in the far west at the present time.

In these places too many people rushed into the business without any knowledge of its requirements and after a few years, orchards were neglected or abandoned.

We can escape these conditions in Wisconsin if we will make proper use of our wits.

We can also escape an even worse condition,—that which befel Michigan and one from which she is just recovering,—a reputation for the poorest fruit grown anywhere.

In order to do it we must begin at once to practice what we preach.

Let every individual grower and the managers of every orchard company realize and know that his investment will be a failure unless he produces high class fruit and only that kind.

There is too much junk now, too many "barnyard" apples and berries for the good of our reputation and there will surely be lots more unless we wake up.

Co-operation is much talked now especially by our friends at the state house and there is no doubt co-operation in selling and buying will prove a great benefit to fruit growers when it is fully worked out but far greater than co-operation (even the politicians brand) is *quality*.

If any one doubts this ask J. H. Hale the Connecticut peach king. Mr. Hale has co-operated "all by his lonesome" for a quarter of a century and won success purely on the basis of *quality* fruit.

There is one section, and only one, in this state that produces *quality* fruit and that is Door county.

The growers at Bayfield are following close in the footsteps of Sturgeon Bay growers and when their orchards come into bearing there will be the keenest rivalry we have seen in some time for first place.

In the balance of the state there are about a dozen bearing orchards that are properly cultivated, pruned and sprayed. Two or three of these are near Baraboo as many more in Richland county and the balance in odd places.

One of the saddest sights in the state, to a Sturgeon Bay fruit grower, is the fifty acre apple orchard of ——— near Eau Claire.

The trees in the different blocks range from 10 to 20 years; planted 10 to 15 feet in the rows neither pruned nor sprayed and every available foot of ground between the rows planted to bush fruits.

The largest orchard in Chippewa county is cropped for hay, indifferently pruned and never sprayed.

The only possible useful purpose these orchards can serve is that of a horrible object lesson to the young orchardist.

Let us then take heed, study co-operation by all means but first of all study the orchard.

Cions for grafting may be cut any time before sap starts. Store in damp, not wet, sand, leaves, chaff or sawdust beyond the reach of frost. Remember that only new, 1913, growth is fit for grafting.

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Work off that grouch by writing for the paper.

1914 an "off" year for apples in Wisconsin,—in sod orchards only.

The way to learn how not to pack apples,—examine a barrel of Michigan or New York stock, all grocers keep them these days.

Ask Questions

The annual question sheet goes with this number. Of the five hundred or more questions received last year all but five or six

were answered in Wisconsin Horticulture during the year.

Make your questions concise and definite and ask only five this time.

If you have no questions use the sheet to give some of your experience.

Names of correspondents are never published in the paper without the knowledge and consent of the writer.

Postage Stamps

Postage stamps are not legal tender and need not be accepted by any one in payment of any obligation. A postal money order costs only three cents for sums up to \$2.50.

A patron of a bank can usually secure a draft for fifty cents or one dollar without cost.

Finally fifty cents in coin may be sent safely in a letter if well wrapped or glued to a card. Put the half dollar on a piece of cardboard and paste a piece of tough paper over it.

Best of all, send a dollar bill either for two years or a year for yourself and one for your neighbor. Old Bill Dollar comes in every mail and never got lost yet.

The law now requires that all money received by the secretary of this society shall be paid to the state treasurer within one week of receipt. The secretary is obliged to account to the auditor for every membership fee received by him.

The state treasurer will not accept stamps!

There are two ways out of the the scrape; the Secretary can each year convert the forty or fifty dollars worth of stamps to his own use paying cash for them or the Executive Committee can free him from the obligation of accounting for the "stamp" memberships and thus release the accumulated stamps for use by the Society, an irregular proceeding.

As stamped envelopes are used

for letters, no stamps are required on the magazine and only high value stamps used on the report very few 1c and 2c stamps are used. Please, therefore, be considerate and refrain from sending postage stamps for memberships.

Once More

The appeal on p. 8 of the February paper for help in extending our membership resulted in a total of twelve new members, five sent by Wm. Fieldhouse of Dodgeville, a life member, five by E. S. Hildeman and one from a friend of the Society in Richland Co. Also two names for sample copies from a member in Milwaukee.

This helps some but isn't quite enough. Mr. Fieldhouse says: "I believe if each member would tell his neighbors about the Society and the paper we would have ten thousand members at once."

Ask your neighbor for a membership or send his name on a postal. The cause is good, help it along.

With 2500 paid memberships you will get a 24 page magazine every month. We now have less than 2000. Boost it one.

Takes Two Drinks

Oshkosh February 24, 1914.

Editor Horticulture: I am a member of the Oshkosh society, (when we meet. Well something doing all the time). But what I wish to write you about is, would like to have you see to it that I get all the papers this year, failed to get some of them last year.

While I am reading them I don't take any snuff, rather have a glass of cold fresh water near by and take a drink of it occasionally. After I read one of Moyle's letters then I take 2 drinks.

Good luck to all the bunch.

J. B. Noyes.

The Sunny South

Arthur W. Saxe, Loxley, Ala.

Some time ago I wrote you and said that I would later write telling you something of fruit growing in this part of the world.

I am located in the south central part of Baldwin, a large county about seventy miles long and forty miles wide with Mobile Bay on the west and Perdido Bay on the east and on the south washed by the waters of the Gulf of Mexico.

People are mostly northern, the climate is as near ideal as can anywhere be found, with a good rainfall evenly distributed throughout the year. Nearly all crops that are grown north can be successfully raised here besides a large number of crops that cannot be grown farther north.

Now, from a horticultural standpoint; we can have fresh fruit the year around. In Feb. we begin with strawberries, which have a much longer season than they do north, continuing to bear till in June. In April come Dewberries and Blackberries followed by Mulberries. Before they are gone we are having plums also peaches, which last thru June and July. Figs also ripen in July, the yield is always abundant. They are an exceptionally healthy fruit, very good to eat out of hand, delicious served with sugar and cream and preserved there is nothing that can touch them.

These are followed by grapes which grow to perfection, then come pears.

From August to way in the winter we have Japan Persimmons, about the most luscious of all fruits altho many have to learn to like them. About the first of Oct. the Satsuma orange begins to ripen. They will hang on the trees nearly all winter. They are grown on quite a commercial scale. There is no other orange grown anywhere that is equal to the Satsuma in many

ways, they are delicious, sweet, free from seeds and thin rind peeling nearly as easy as a banana. Grapefruit comes on at the same time.

Then we have the papershell pecan, king of all nuts. As yet very few of the nuts reach the general markets, they are all sold at the orchards to the select trade. They bring from fifty cents to a dollar a pound. They are no more like the wild seedling that we see in the northern market than black is like white.

There are thousands of acres being set out to pecans. I know of one man that got one thousand one hundred and fifty pounds last year from a ten acre orchard only seven years old. Mr. Dalmas from seventy acres with trees ten to twenty years old received fifty thousand dollars for his crop last year.

Besides the fruits mentioned there are many others that are very interesting as well as very good, such as guava, loquat, kumquat, feijoa, pomegranates also the banana which is planted more for ornament than fruit altho many years they bear.

Shrubby and flowers grow abundantly. Roses bloom every month in the year, besides other beautiful flowers such as Japonica, azalea, cape jasmine, etc.

In ornamental trees we have the live oak, magnolia, bay, dogwood, camphor and many others too numerous to mention.

Egg plant and peppers are vegetables that must be started early, before anything can be done outside if any success is to be had with them. If a hot bed or greenhouse is not available it may be more satisfactory to buy the young plants from a market gardener or florist when they can be properly cared for. The varying temperature of a house makes it difficult to successfully start many seeds in that way.

"Do You Know Beans?"**"How I Found the Answer to This Question."**

By Lewis Elithorp, Clinton.

As an amateur gardener, it had long been my desire to get acquainted with the Dwarf Bush Lima, particularly "Burpee's Bush Lima." Many of my friends, having had poor luck with them, advised me against going in very heavy on the Bush Lima.

My initial trial with a half-pint of seed was a go, my second with two quarts was a sure success, my third trial was a notorious success with a half-acre.

My field was an old pasture, broken two years previous. It had slope enough, to the south for good drainage and was friable and full of humus.

I prepared some special home-made fertilizer by mixing well-rotted horse manure 2 parts, finely pulverized poultry droppings $\frac{1}{2}$ part, and $\frac{1}{4}$ part of wood-ashes, the latter being mixed with rotten leaves with part fine sand. This fertilizer was spread evenly over the field and plowed under early in the spring, then disked three ways. After that it was dragged every week until planting began about May 18.

"PREPARING THE SEED."

I bought one-half bushel of seed, and hand picked the beans, selecting into three grades and culls. The choicest looking plump beans in (No. 1), the medium sized and well filled in (No. 2), the partly shrunken, green colored, but otherwise round, in (No. 3). The shriveled and broken ones were planted some other place,—a dozen beans in a hill. I marked the field off into rows three feet apart, and made a ridge on each row with a hand plow, planted beans 6 in each hill, eyes down, every eighteen inches in the row covering every hill uniformly and compacting dirt over the hill with back of hoe. The night following we had a regular downpour of

rain, in three days the beans had pushed up through the ground; almost a perfect stand 98% at least, came to maturity.

In cultivating I made use of a rather deep, but wide shovel (single tooth) cultivator; however, I was careful not to run too close to the hill, so as to disturb the root system of the plant. No cultivating was done early in the morning, or after a rain, too soon, but I always followed with fine tooth rake after cultivation, to form a dust mulch. Beans were cultivated often, until in blossom, while setting only a careful use of the hoe was permitted; not even hoed when the dew was on or the ground wet. How the beans run and set pods, until the space between hills was filled completely! No more hoeing could be done later on, because the runners filled between the rows so thickly. I never saw even field or navy beans with so many pods on a plant with the pods filled so well, about 85% filled. When picking began what a sight! One pick only left potato sacks full to the top, on every row over the field. The beans were all shelled in the green state and marketed at 15 cents per quart wholesale and 20 cents retail. It took just a few minutes to shell out a quart measure full, the beans were so large and thick. I had calls for beans when they were all sold.

Those splendid beans, at once gave me the reputation of being a fancy gardener, and below are the results of the seed grading experiment. The (No. 1), gave the largest beans and of course the greatest yield for a single picking. By actual measurement many were $1\frac{1}{4}$ inches long, $\frac{3}{4}$ inches wide, and $\frac{3}{8}$ inches thick. But the (No. 1) grew so rank, only two picks were had, the remainder were cut down by the frost, when too green. The (No. 2) gave very plump, and more even sized beans which yielded for the season double what the (No. 1) produced, in three pickings, qual-

ity fine. (No. 3) beans were very superior quality, more tender, sweeter, and they remained green in color when dry and fully ripe; also furnished 4 pickings; all were matured before frost. Only a few of the (No. 2) were caught by frost. The culls did pretty fair, considering, but half of seed sprouted, and one pick secured, however they were good quality. The number of beans in a pod varied in the three grades from 7 to 2. The No. 1 would average 5 beans in a pod. These results show that I did know beans after all, at any rate Bush Limas, they served me well.

(Continued from page 3)

The following formula leaves the least residue or sediment, and any amount may be boiled at one time using these proportions:

Lime
(fresh)
If 95% calcium 19 lbs.
If 90% calcium 20 lbs.
If 85% calcium 21 lbs.
If 80% calcium 22 lbs.
Sulphur, good quality powdered 40 lbs.
Water (hot preferred) ... 25 gal.

Mix the powdered sulphur with water to a smooth, thin paste without lumps. Add the lime gradually to 10 gallons of hot water in the kettle (or barrel if steam for boiling is available) and pour in the sulphur paste during the slaking process, constantly stirring the mass. When the slaking is completed, add the full amount of water and boil carefully for an hour, preferably with a cover for best results, occasionally adding a little water to compensate for the loss in steam.

Carefully strain the hot solution to remove all sediment and store in air-tight barrels or other containers. When ready to use, test with a hydrometer and dilute according to the above table. If any sediment has formed, strain the solution before diluting.

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Will be glad to figure on your wants either in large or small quantities.

WAUWATOSA, WISCONSIN

Creation Dawns

The annual crop of catalogues has again blossomed out with a brilliant display of highly colored fruits and vegetables, vividly described by an array of breezy adjectives calculated to arouse even the lethargic to instant action, but do not let us get over excited. Vegetables will have about the same color and flavor as in former years, and it will take something stronger than high sounding adjectives to destroy the beauty and fragrance of the flowers.

In planting your garden do not over reach yourself. Select such varieties of fruit and vegetables as your location and the tastes and needs of your family seem to direct. The amount of time you can spend on the garden should be a factor in determining the amount of space used, for unless the garden be well cultivated it will be neither a pleasant or profitable investment.

There should be successive plantings of lettuce and radishes, late beans, tomatoes, cucumbers, and potatoes can follow early peas and potatoes. Celery can follow lettuce, radishes, and snap beans, thus keeping the ground in a continuous state of production.

Keep a little space for flowers to feast your eyes and rest your nerves in watching the lovely plants develop and sending out blossoms so beautiful and fragrant that you wonder that the dark, damp, seemingly lifeless soil can produce such loveliness.

Mrs. L. H. Palmer,
Baraboo, Wis.

That Farm Garden

N. A. Rasmussen.

Asparagus and rhubarb are two vegetables which should be grown in every garden and as these are to remain in the same place for years without transplanting let us take especial care in planting them and put them

where they will not interfere with the plowing, cultivating, etc.

After the land has been thoroughly worked we will dig two trenches 3 ft. apart 12 in. deep and as many inches wide. Mix thoroughly well-rotted manure and earth, about equal parts, and fill trench about one-half full; set asparagus plants about 18 in. apart on a little mound made with a handful of dirt so that the center or crown of plant will be a trifle high, thus giving the roots a downward slope in natural growing position. Now cover plants only 1 in. deep until up, then as you hoe gradually work more dirt in the trench always being careful to leave the heads of the young plants *above* the ground, and by fall you should have a slight raise where the trench was. It should be remembered that covering the plant 4 to 6 in. deep at one time would smother and kill it. Cut no asparagus the first year and very little the second but the third year you should have an abundance of choice stalks. If white stalks are wanted mulch heavily and cut below ground with a long narrow knife or if the green is preferred cut above ground. It is the method of handling not the variety that gives it the color.

At one end of the asparagus bed let us dig the holes for rhubarb and as there are only to be a few of these, dig wide and deep filling with manure and dirt same as asparagus trench. Set plants in these and cover about 2 in. deeper than they were when dug. Keep soil well stirred and free from weeds and you should have considerable rhubarb the first season.

The April issue of Wisconsin Horticulture will reach you in time with plan for sowing seeds in the open ground providing our editor does not over sleep.

Saw handles are made from apple wood. Anybody got any Hi-bernal trees?

Who deserves **BEAUTIFUL HOMES** more than the Wisconsin farmer? And who has a better opportunity to have them?

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Sister Bay, Wis.

Ladies' Auxiliary to "That Farm Garden"

Mrs. N. A. Rasmussen.

It is a known fact that all successful clubs, orders and societies even—Oh no, not yet the Wisconsin Horticultural Society—have at the present time Ladies' Auxiliaries and the time is near at hand when the Ladies' Auxiliary to "That Farm Garden" the Flower Garden is to be planned for the coming season.

I will assume that all our lady readers are horticulturists either in the city or country and more than that are true lovers of flowers. The flower garden of which I shall tell you is perhaps not so picturesque as many you have seen, is not laid out in park fashion but it satisfies the craving for the beautiful blossoms and gives to the busy farmer's wife many a peaceful moment. Choose such perennials as you like, plant in line with the rhubarb and asparagus of the farm garden so they will not be in the way, neither will they be disturbed. I might suggest right here that this garden spot be located at one side of the house, near the main road with flowers at the front, leaving from 20 to 30 feet of green lawn between the house and garden. Then plant or sow your annuals in line with your annual vegetables. If your space is limited drop a poppy seed here and there in the row of onions or any other seeds or plants in other rows of vegetables. The effect will be pleasing.

A particular garden I have in mind has the perennials on one side of the house, the annuals on the other with a spacious lawn between adorned only by trees, thus being easily cared for. This garden includes roses, peonies, phlox, iris, tulips, Shasta daisies, lilies and sweet william. Of annuals there are countless varieties and hues, care being exercised to plant the taller sorts at the back, tapering gradually to

the front. A row of hardy shrubs of various kinds divides the lawn from the gardens. The flowers are planted in rows in line with the vegetables, and the cultivating, also the hoeing is done along with the vegetables. It takes the men only a few minutes longer to care for the flowers while working in the vegetable garden and I do not believe there is any one but who really enjoys this part of the work. It seems to have the same effect as good seasoning in cooking. Your flowers will need very little watering if cultivated often and if you love to work among your flowers pet them a trifle; pick off old blossoms, pull the weeds if any, drive a stake here and there to support some of the taller ones and last but not least *spray* your flowers. You will find aphids on roses and sweet peas, beetles on asters, worms on pansies, and many other pests in your garden.

You will find in this auxiliary in the farm garden both pleasure and profit. You may have flowers for cutting from early spring daffodils to the late cosmos and asters, and if you live near a city of any size, will find early market for your flowers besides having an abundance for your own home and very acceptable gifts to your friends.

How to Cook a Husband

A good many husbands are entirely spoiled by mismanagement in cooking, and so are not tender and good. Some women keep them too long in hot water; some freeze them; some put them in a stew; others roast them and still others keep them constantly in a pickle. It cannot be supposed that any husband will be good and tender managed in this way, but they are really delicious when properly treated. Even the poorer varieties may be made sweet and kind by garnishing them with patience, smiles and

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affection. In selecting a husband be careful not to choose one who is too young and take only such varieties as have been reared in a good moral atmosphere; you should not be guided by the silvery appearance as in buying mackerel, nor by the golden tint as if you wanted salmon. In all cases be sure and select him yourself as tastes differ. Do not go to the market for him as those brought to the door are always best. It is far better to have none than not to learn how to properly cook one. First be sure that all garments he is put into are spotless and nicely mended, with the required number of strings and buttons; then he should be wrapped in a mantle of charity and kept warm with a steady fire of devotion. Don't keep him in the kettle by force as he will stay there himself if proper care is taken. If he splutter or fizz, do not be anxious, some husbands do this. Add a little sugar in the form of what confectioners call "kisses" but no vinegar or pepper on any account. A little spice improves him, but it must be used with judgment. Do not try him with anything sharp to see if he is becoming tender; stir him gently the while lest he stay too long in the kettle and become flat and tasteless. If thus treated you will find him very relishing, agreeing nicely with you, and he will keep for years even improving with age.

Anonymous.

Dirt Bands Superior

In a recent number of *WISCONSIN HORTICULTURE* the writer called attention to some very satisfactory results obtained by the Purdue experiment station in the use of dirt bands or square paper pots in starting early tomato plants. Since that time an article has appeared in the *Market Grower's Journal* recording a sim-

ilar experience by Mr. F. W. Rochelle of New Jersey.

Plants of Langdon's Earliana were grown comparatively in 4" square paper pots and in 4" earthen pots. The earthen pots required a slightly larger amount of bench space hence the plants raised in these received fully as much sunlight as those grown in the dirt bands, but on account of their shape the clay pots hold only about half as much soil as the earthen ones. At three dates in June when the plants were well established in the field actual counts of the blossoms upon 40 plants in each plot showed two to four times as many flowers upon the plants started in dirt bands than upon the others. This lead was maintained throughout at least the early part of the ripening season, the yield of 120 plants in each plot up to Aug. 11, being respectively 33 peach baskets for the paper pot grown plants and 7.5 for the others. Needless to say this earliest fruit of the patch brought highest prices.

Similarly plants of Golden Self-blanching celery set from 2" dirt bands yielded considerable heavier crops than most carefully transplanted plants from solid beds.

G. F. P.

Corn Fodder Bad

In your paper *Wisconsin Horticulture*, Dr. Greenfield gives his plan for protecting tender trees with corn fodder. I would say, don't do it. While fodder makes an ideal protection for the trees it also makes a first class shelter for mice as I found by experience some years ago. I set fodder around some choice peach trees and when spring came there was not a sign of bark left on any of them.

T. C. Tanner,
Palo, Iowa.

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Coon Valley, Wis.

The Cranberry

The following very interesting account of the cranberry was written by the late J. A. Lapham in 1875 and now published for the first time by courtesy of his daughter, Miss Julia A. Lapham, Oconomowoc:

"This plant is represented in late botanical works as of two species, *Vaccinium oxycoccus* Linn. and *V. Macrocarpon* Ait; the former being the small cranberry common to this country and northern Europe, while the latter, the common cranberry is only found in North America. Cultivators and dealers have named several varieties, all of which belong to one or the other of these species.

The common or American cranberry extends in the mountain region, as far south as Virginia; is found in northern Ohio, Indiana and Wisconsin, thence westward to the Pacific coast in Oregon but not in Alaska. Its northern limits are not known; probably not beyond 57° north lat. The small cranberry does not reach so far south, as the great fruited (*V. Macrocarpon*) kind but extends northward to the Arctic circle, eastward to Labrador and westward to Oregon and in Alaska, it is reported at Sitka, Oonalaska and Kotzebue Sound.

The Alpine cranberry or Cowberry *V. Vitis-idea* Linn. has not yet been found in Wisconsin, but may be looked for in the unexplored regions about Lake Superior. It occurs on the higher summits of the New England States where it is dry and scarcely edible. According to Richardson this is the *Wi-sa-gu-mina* of the Cree Indians and the cranberry most plentiful and most used in British North America. It is excellent for every purpose to which a cranberry can be applied; and though inferior to the *V. oxycoccus* in flavor in autumn, is far superior to it after the frosts; and as it may be gath-

ered in abundance in a most juicy condition when the snow melts in June, it is then a great resource to the Indians as well as to the immense flocks of water fowl that are migrating to their breeding places at that date. It grows in perfection in the most exposed situations, around a boulder of granite over whose face its branches may be spread and where it can have at one time both moisture and the reflected heat of the sun's rays. In the parallel of Lake Superior it spreads from the Atlantic to the Pacific, except upon the prairies; in the higher latitudes it crosses the continent from Churchill Fort to Sitka and Kotzebue Sound; and in the middle districts it extends to the Arctic Sea in latitude 71°. Doubtless this species might be found worthy of cultivation if it could be obtained from suitable localities.

The cranberries belong to the natural family of *Ericaceae* or heath plants, with which people of the old country are so familiar; though no true *Erica* or heath grows in North America. The many kinds of Huckleberry, Blueberry, Billberry, Bearberry, Wintergreen; the Laurels, Azaleas and Rhododendrons, belong to the same family; as well as the Trailing Arbutus, so much venerated by all New England.

Though as above stated the cranberry extends along the Alleghanies as far south as Virginia, it is not found in the Rocky Mountains region anywhere south of the national boundary or latitude 49°; it is not included in any of the numerous reports made to the government of Hayden and others on that region.

Cranberry doubtless comes from Crane's berry, from some fancied resemblance of the slender stems to the long legs of the crane; or perhaps the shape of the flowers may suggest that of a crane's bill, as in the geraniums.

No one seems to know the origin of the generic name of the

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LAKE CITY, MINN.**

1500 Acres Estab. 1868

Cranberry (*Vaccinium*) or why this ancient Latin name should be thus used; those old folks knew nothing of the true cranberry. The specific names are from the Greek—*oxeus* (sour) and *kakas* (berry) for the small cranberry; and *makros* (great) and *karpos* (fruit). The first name is hardly distinctive as the other kinds are equally sour. A diligent search through all the books to which I have access has failed to reward me with any knowledge as to what particular kind of acid gives sourness to the cranberry. No chemist seems to have given his attention to it; or if he has he has kept the knowledge attained to himself. It is said that when the good qualities of the American cranberry first became known someone sent as a kindly compliment a barrel full to a friend in Liverpool. The compliment was fully appreciated and thanks returned for the friendly act "but—says the recipient—unfortunately they had become sour and consequently were consigned to the pigs!" So the cranberry as well as the potato failed of proper appreciation when first introduced into Europe.

The American Cranberry was first cultivated in England many years ago by Sir Joseph Banks, who seems to have done a great many useful things. The European cranberry is more difficult of cultivation, and has been but seldom attempted. First cultivated in this country by Henry Hall or Dennis Man on Cape Cod in 1812. First cultivated in New Jersey 1843.

The Alpine cranberry (*V. Vitis-idaea*) mentioned above is a very common and well known and fully appreciated plant in Norway and Sweden. The best use of the berry is for making a jelly which is eaten with all kinds of roast meat, and is far preferable to that of the red currant as a sauce for venison; they are also

used for pickling; and the plants are cultivated like box at the south for garden edgings.

Mr. Davenport Fisher informs me that upon applying the proper tests he finds the acid of the American Cranberry (*V. Macrocarpos*) to consist chiefly of the acid found in the lemon (*Citric*) with very little of the malic, and scarcely a trace of either the oxalic or tartaric. Though he finds no full discussion of the matter in any of the books, he thinks it must have been investigated by somebody and if so the results will probably be found in the American General Pharmacy.

We therefore conclude that the sourness of the Cranberry is occasioned by the presence of citric acid, and that the beneficial effects of the lemon are repeated in the cranberry.

If we may judge from the quantity brought to Milwaukee for use or shipment, the produce

TOMATO SEED

A limited amount of the famous

"EARLY BUCKSTAFF"

Earliest and Best

Per P'k'g 25c. Per Ounce 75c

Also Strawberry and Raspberry Plants

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FLOWERS
VINES
SHRUBBERY
WEEDS
ETC.**

MYERS WAY

tion of this fruit varies considerably from year to year—the receipts having been

In 1870	11508	barrels
" 1871	19544	"
" 1872	38803	"
" 1873	8136	"
" 1874	13589	"

During this time the price has also varied—for wild berries from \$6.75 to \$12.00 per barrel. For cultivated berries from \$10.00 to \$15.00 per barrel. The cultivated kinds selling for 25 per cent more than the wild.

PLANT ENEMIES, ETC.

Sage brush—

This is to be destroyed or it will assume the place of the cranberry vines, crowding them out.

Featherfew—

This grows on the margin of the marshes, and will spread over them as they become dry.

Dwarf Willow—

Grows about a foot high—found in all the marshes, and is regarded rather as a benefit to the cranberries by affording a light protection from the sun, thus preventing blight.

Willow, Alder, grass, brakes (ferns) etc., are to be removed.

H. Floyd, Jr.,

Wis. Agr. Soc. 1872-3 P. 396.

When ripening the berries hang upon the slender petioles and we may suppose that to this circumstance is due the drop-like form that gives name to the "bell and bugle" varieties. It is the form that is natural to a soft substance hanging upon the end of a thread.

Are we Overdoing It?

We have planted quite a bunch of apple trees in this state in the past five years, about an even million at a rough estimate.

Now if each of these trees ten years hence bear five bushels of marketable fruit it means five million bushels of apples.

What of it? If they are all good

apples there will be no trouble about the market.

But there will not be five million bushels of apples from the one million trees ten years hence nor one-half that.

Some wise official at Washington has remarked, between drinks, that only twenty-three per cent of the fruit trees planted in these United States ever come into bearing.

Of course we plan to do better than that but it is doubtful if we reach 33 $\frac{1}{3}$ per cent.

For that reason we urge the planting of more orchards, more apples, more cherries.

The fittest will survive and the market will be good for good fruit; the other kind will be grown at a loss.

Barnyard Apples

This term originated somewhere on commission now in Milwaukee, is in general use there from August to November and is applied to stock coming from most points in Wisconsin.

There is a big stretch of coun-

try in Sauk, Richland and Vernon counties that produce barnyard apples in abundance.

It begins not far from Reeds-



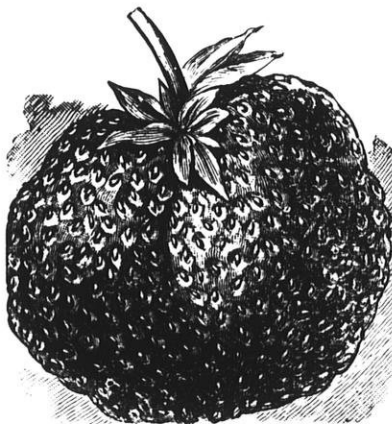
New Potato
Olds' Scotch Rural
350 Bus. Per Acre
A main-crop Rural type potato of new blood. Yields **twice as much** as Rurals and other standard varieties. Not affected by blight, drouth or bugs.

Olds' 1914 Catalog
gives full description and prices, this and other varieties potatoes, field seeds, garden seeds. Ask also for
Free Collection Field Seeds
L. L. OLDS SEED CO., Drawer 65, Madison, Wis.



Pioneer Nursery
New Ulm, Minn.
GROWERS OF HARDY STOCK FOR THE NORTHWEST.
Grapes produce more fruit than any fruit producing plant, occupying the same space.
Our trio of hardy grapes are "Wonders." Bear annual crops without protection. Should be planted as far south as where Concord and others need protection. Late bloomers. Early ripe. Are being tested at Winnipeg, Man., and Indian Head, Canada. Ask for descriptive circulars and our catalog. **W. Plaender, Jr. Prop.**
PIONEER NURSERY, NEW ULM, MINN.
AGENTS WANTED.

THE 8TH WONDER OF THE WORLD



When we began to produce large quantities of strawberries in August, September and October, from the new everbearing kinds, people wondered. This to me is nothing, compared to the fact that you can sow seeds of these everbearing kinds in March or April and pick ripe berries in September and October from the young plants that grow from the seeds. This, mind you, the same year that the seeds are sown, like tomatoes. We have letters from customers in California, Canada and New York State, stating that they have done this. We have saved a quantity of these seeds, and will send any one interested, a nice little packet of 500 seeds, with full instructions for planting and the care of the plants, for only 25c; five packets for \$1.00.

We are the original introducers and are headquarters, for the Plum Farmer, Idaho and Royal strawberries; Hastings and Bull Moose potatoes, and other fruits, etc., too numerous to mention here. Our book, "Farmer on the Strawberry", 100 pages, 40 illustrations, 25c. Our catalogue, 40 pages, with beautiful cover in colors, is brimfull of valuable information. We printed 111,000 this year and they are free. Address

PLUM L. J., Farmer, Box W, PULASKI, N. Y.

burg and stretches south and west to the Mississippi river.

This is the home of the "farm" orchard, miserable little junk heaps of one to five acres every one in sod and not one in fifty pruned or sprayed.

Several hundred more typical "farm" orchards may be found in Manitowoc, Sheboygan and Dodge counties.

There is also a lot of scandalous looking stuff around Oshkosh and Sparta as well as other points in the state.

If you think I am lying about it just take a look for yourself, or ask Kern and E. A. Richardson who bought apples in these places last fall.

That's the worst feature of the case; if we could keep this farm orchard stuff in the family, eat it ourselves it wouldn't be quite so bad but last fall we actually sent car loads of it to Kansas and Pennsylvania.

Travel just one day visiting such orchards and you will be either disgusted and discouraged or else fighting mad. Better get mad and relieve your feelings, it may help some.

Disbudding Strawberry Plants

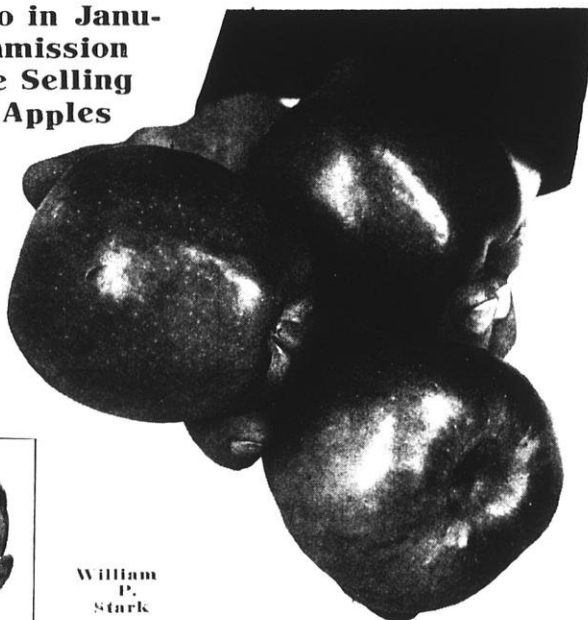
The best strawberry growers have long followed the practice of removing all fruit stems from plants set out to form new strawberry beds. On the contrary there have been eager amateurs to whom a strawberry in the hand seemed preferable to a possible runner or two for next year's crop. To both some observations of Mr. W. H. Chandler of the Missouri station may be of interest. In May 1911, Mr. Chandler removed the fruit stems from fifty plants of the Texas variety leaving as a check a similar number of plants free to flower and fruit as they chose. After a month he found about four times as many runners on the disbudded plant as upon the

others. Two years later he repeated the tests using as representative varieties Fendall, Sample, St. Louis, and Son's Prolific. From the disbudded plants he received 60 runners at the end of

the appointed time in comparison to 26 upon a similar number of fruiting plants. Thus the value of this practice is clearly demonstrated.

G. F. P.

In Chicago in January Commission Men Were Selling Delicious Apples at \$3.25 to \$3.75 per Box



William P. Stark

Last Call for Spring Planting!

Get down and mail your planting orders to William P. Stark Nurseries, Stark City, Missouri, today. The time is short now if you want your trees to make the right start this season. Our big brick packing house and force of tree experts enable us to pack with unusual care and make immediate shipment. Rush orders given especial attention.

Genuine Delicious Apple at 30% to 50% Saving

You can get, at prices you ordinarily pay for common stock, genuine Delicious trees, grown and personally selected by William P. Stark, direct from our big nurseries at Stark City, Missouri. Write for catalog.

Other Good Apples for Wisconsin

We have an exceptional stock of 1 and 2 year old trees in Delicious, Duchess, Wolf River, Wealthy, McIntosh, Northwestern, Jonathan and Hyslop Crab, etc.—all tested varieties especially adapted to Wisconsin growing conditions. You cannot make a mistake with any of these trees. They will thrive and yield like no other varieties will in Wisconsin.

Cherry Trees

Cherries are especially profitable as fillers between apple rows. We recommend Montmorency and Early Richmond for Wisconsin. William P. Stark trees are noted for strong, spreading root-systems, well-balanced and well branched tops.

Parcel Post Orders

We make a specialty of Parcel Post orders and furnish best grade, mailing size plants and trees. They are well developed and make large, thrifty orchard trees and ornamental shrubs. We pay postage. See collections and prices in catalog.

Buy Direct—Lower Prices

Our 120 page catalog is our only salesman. We save you all agents', plate-book men and dealers' commissions and expenses. Buy direct from nursery and get growers' prices. Our catalog is full of bargains for fruit-growers. Write for it today. Address

WILLIAM P. STARK NURSERIES

BOX 786

STARK CITY, MISSOURI

Hardy Grapes for the Northwest

Wm. Pfaender Jr. of New Ulm, Minnesota.

It may be of interest to many of your readers to know, that we now have grapes in Minnesota, that can be successfully grown 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 during winter. Since several years, however, we have a quartette of grapes all of the same parentage,—being a cross of our native white grape *Vitis vulpina* and the Concord—that are perfectly hardy in our severe winters where the thermometer often drops to 20 and 30 degrees below zero.

The wild white grape used as a foundation was very sweet, a late bloomer and matured its fruit very early, which is also true of the cross above mentioned. The vines drop their foliage early and ripen up their wood perfectly, are vigorous growers, and annual bearers of a good sized bunch and berries nearly as large as those of the Concord. They produce a red wine of superior quality. I am certain that these grapes can be successfully grown much farther north than southern Minnesota. They are now being tested near Winnipeg, Manitoba, and Indian Head Sask., Canada.

Cherries in Oconto County

The fact that cherries succeed in Door county is no proof that this fruit can be grown on the west shore of Green Bay in Oconto and Marinette counties.

Anyone contemplating planting cherries in either county mentioned should investigate carefully before investing heavily, then start off with half an acre. Nursery agents tell very pretty stories sometimes but in this case it is well to remember that Door Co. has **two** sides exposed to water.

Cut-Prices ON Apple Trees

While they last, 10 cents per tree. No order accepted for less than 100 trees. If this is more than you want, get your neighbor to order with you. We are offering in this sale the finest block of apple trees we have ever grown. These trees are all grown right here in our nursery as we under no circumstances, deal, traffic or trade in nursery stocks.

Native Plum Trees at 20 cents each. Prof. Hansen's Hybrids at 25 cents each. Send for lists showing grades, count, prices and varieties. Cash with the order at these prices.

Henry Lake Sons Co., Nurserymen

Black River Falls, Wisconsin.



A Block of Our American Elms

—120 Acres—
**QUALITY
SERVICE
PRICE**

The three essentials to be considered in buying

**NURSERY
STOCK**

Our soil is especially adapted to the growing of Healthy, Vigorous Trees, Shrubs and Plants. This, combined with the know-how, assures the first.

With thirty years' experience in digging and handling trees and plants, we can give you the second.

Price! The real bargain is what you receive for your money. Why not talk this over together? We make plans, give suggestions and furnish catalogue free. Let us help you make your home a "beauty spot."

The Coe, Converse & Edwards Co.

FT. ATKINSON, WISCONSIN

The Yahuke Apple

W. J. Moyle.

As a winter apple for Wisconsin, here is something that looks pretty good to the writer. Our grafts top worked on a Wolf river, bore their second crop this season.

The apple has ear marks that would indicate that it belongs to the Seek-no-further family, however the firmness, fineness and delightful refreshing quality of the flesh, and beautiful bloom reminds one of the winter Pearmain.

The wood matures early, and is hard and firm, going through our coldest winters without the slightest injury. The leaf is a little light and fragile for our climate, but is better than McIntosh and on a par with Ben Davis and Fameuse.

We will grow a lot of these for the farmers orchard, for those old hayseeds have got to have something better than Lubsk Queen and Wolf River, to keep the boys on the farm.

Liked it First Time

"I am pleased to report my first attendance at annual meeting. I never saw better apples, in every particular, since I was old enough to shin up a tree, and must say that the fancy apple belt must have shifted from the Wenatchee Valley southeast to Wisconsin. While I am not an apple raiser, only in connection with garden truck raising, I sure appreciate quality in fruit or any other line."

Lewis Elithorp, Clinton.

The four best grapes for market in Wisconsin: Concord, Moore's Early, Worden and Niagara, mostly Concord.

Current fiction: the Country Gentleman.



BLOCK of our two-year apple trees as they looked in the nursery last September. Trees of this type are grown for particular planters. We have 75,000 like these to offer. We also have a complete line of other stock. Send us your list of wants and we will quote you promptly.

McKAY NURSERY CO.Nurseries at
Waterloo, Wis.General Office
Pardeeville, Wis.

Potash for Orchards

They need it. They draw more Potash from the soil than they do of nitrogen and phosphorus. Be sure you use enough

POTASH

to insure the maximum yield of large, well-flavored and good-keeping fruit, and strong buds for next year.

An army of orchardists have proved that **Potash Pays**. They use an orchard fertilizer containing 10% to 12% actual Potash—400 to 600 lbs. of Muriate or of Sulfate of Potash per ton of fertilizer.

Write to us for prices on Potash Salts, any amount from one 200-lb. bag up. Ask, too, for our fertilizer formulas for fruit—apples especially.

GERMAN KALI WORKS, Inc.
42 Broadway, New York
Chicago, McCormick Bldg. Atlanta, Empire Bldg.
New Orleans, Whitney Central Bank Bldg.
Savannah, Bank & Trust Bldg.
San Francisco, 25 California St.

**POTASH
PAYS**

Orchard and Garden Notes

Examine the apple trees for mice or rabbit injury.

Cuttings may be started in water or moist sand placed near the kitchen stove.

Sharpen and repair all garden tools. Purchase any new ones needed so as to have them on hand.

Do not plant many varieties of apples. A few well-chosen trees well cared for, are more satisfactory than many only half cared for.

Cuttings of hardwood plants, such as willow, dogwood, etc., may be made now and put in sawdust or sand until planting time next spring. Cut about eight inches long.

Send for catalogs and make selections early. Some seeds are scarce again this year.

LeRoy Cady, University Farm,
St. Paul, Minn.

BEAN SPRAYERS BIG PAYERS

Originated by John Bean 1884

THE BEAN HANDY JUNIOR SPRAYER

Is a complete self contained barrel sprayer. An ideal outfit for hillside work. Will not tip over. Has positive agitator that will put the heavy solutions on your trees and plants, not leaving them in the barrel, as is the case with most Hand Pumps.

The Junior has all the Bean features. Porcelain lined cylinders; ball valves; threadless valve seats; no stuffing boxes or glands. An ideal sprayer for whitewashing and cold water painting.

We are exclusive manufacturers of Power and Hand Sprayers and Accessories. Write for new 1914 illustrated catalogue. Free.

THE BEAN SPRAY PUMP COMPANY

Berea, Ohio, 34 First Ave.

San Jose, Cal.

STARK TREES AT LOUISIANA, MO. SINCE 1816**Grand New Year Book**

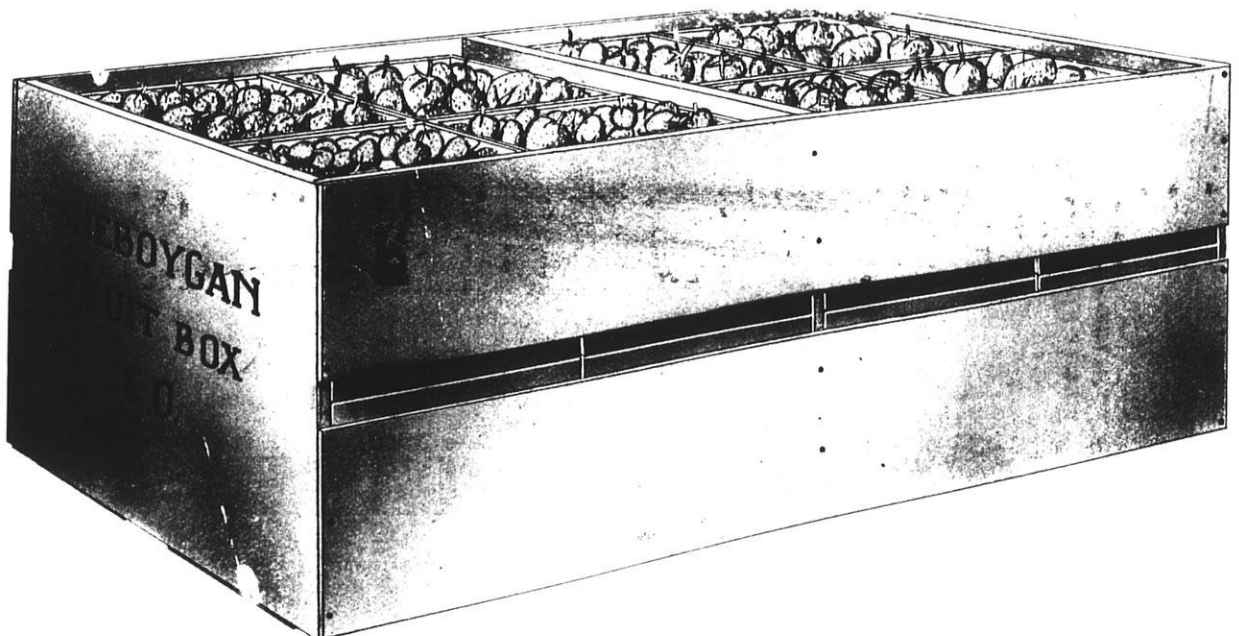
1914—just printed; shows fruits in actual colors and size. Full of valuable orchard information. Tells what, when and how to plant. *Mailed Free.*

STARK DELICIOUS The Most Amazing Apple Production in Two Centuries

(Trade Mark)

is fully described—its glorious record of twenty years in the American orchard is accurately given. No one with room for a single tree can afford to be without this marvelous fruit. Of exquisite flavor—large, brilliant, waxy red. The book is *free*. Write for it.

Stark Bros. Nurseries and Orchards Co., Box 80, Louisiana, Mo.



"SILVER OR WHITE BIRCH" Berry Boxes. None better and none so cheap. Climax Grape and Peach Baskets, Repacking Baskets, Beekeepers' Supplies, Poultry Crates AND WOOD SPECIALTIES

All goods guaranteed to give perfect satisfaction. Write for prices.
SPECIAL DISCOUNTS FOR JANUARY, FEBRUARY, MARCH AND APRIL

SHEBOYGAN FRUIT BOX CO.

Sheboygan, Wisconsin

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

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Volume IV

Madison, Wisconsin, April, 1914

Number 8

A Farmer, A Farm Orchard and Some Experiences.

A Simple Story, simply told.

Mrs. Geo. Fratt Burlington.

Once there was a Farmer who bought a farm on which there was a large orchard. When the apples were ripe the Farmer's wife dried some and tried to sell them. But the grocer said "We have Evaporated apples. I can not buy your home dried ones."

The Farmer also tried to sell apples, but could only sell two loads to the cider mill at 10c a bu. and three barrels of hand picked Russetts at 25c a bu. and take them to the town six miles away.

After some years these trees, being old, commenced to die. The Farmer said "Let them die; They don't pay anyway." But the Farmer's wife said: "If they all die we will have no apples, and the children are just beginning to enjoy them. Let us set out a few new trees." So they ordered four trees. These came from New York and were leaved out when they arrived. But the frost was not yet out of the ground where the Farmer lived, so he could not plant them or heel them in. So he put them into the cellar until he could plant them. But the trees did not grow well and one was broken off by the wind, and

the others by the horses which were pastured in the orchard.

When an agent came again the Farmer bought some more trees, this time from a Wisconsin nursery. While he was planting the

were sun scalded and did not live to bear fruit.

When agents came again the Farmer said: "No, I have no luck planting trees." But one talked a long time. He said "You must



This has been pronounced the "prettiest farm home in Wisconsin." The flower garden is just behind the shrub border at the left.

last tree the sheep came and not plant young trees between gnawed the bark off the others, the old, but must grub out your Later the hogs were turned in to old trees, plow the ground and eat the wormy apples and they set out a new orchard." So the killed the other young tree and Farmer ordered thirty trees, and some of the old ones. So the told his neighbor to grub out the Farmer bought some once more old trees for the wood. But But the sun was very hot when again the Farmer's wife protest- they were set out and the trees ed. She said, "It will be ten

years before these trees will bear and in the meantime we will have no apples." So she plead for some Snow Apple trees that grew on the outer edge of the orchard.

When the trees came in the spring they were not from the Nursery from which the Farmer had ordered and did not look like good trees, and the few apples they bore were not the kind ordered. So when the Snow Apple trees were too old to bear the Farmer bought apples by the barrel.

The Eradication of Weeds.

Much has been said and more has been written on this subject, now let us all join in and lend a helping hand. The time will soon be here when the busy housewife will be puzzled to know what to cook for dinner and the men will think, though not dare to say, "the same old thing in the same old way."

Put on your bonnet, go into the field and gather a mess of dandelions perhaps, also, you are fortunate enough to live near a meadow where cowslips grow. If you have a garden, a real farm garden, pick some tender horse-radish leaves. Even dock our common yellow dock, nettle, purslane or pusley, and pigweed leaves (and I am sure you all have some) are perfectly delicious when cooked and are easily gathered and prepared for the table. Some of these greens may be served raw with French dressing, others may be boiled and seasoned to suit the taste. I have not yet heard of any way of preparing quack grass but mayhap its tender white roots might be rendered palatable by using as a substitute for spaghetti.

At any rate give the weeds a trial; they cost practically nothing, are harmful to the fields, and serve as a spring tonic to the system.

A. R.

A Little from Washington Island.

I, like so many others, like to show off, and try to do things that we can't do. But never mind I am going to scribble a little for Wisconsin Horticulture just the same.

To begin with I am going to tell about a new apple for this part of the country.

Among other trees that I got from Stark Bros. about five years ago was one Wilson Red June. At first we all thought it was a genuine Stark Delicious of which I had bought quite a batch, but of these wonderful apples we hear so much about we will have to wait a spell yet as they are not due to fruit for 4 or 5, maybe 6 years yet. But meanwhile we have this most splendid fall apple, The Wilson Red June.

The tree grew rapidly without any sickness of any kind and when 5 years old gave me a bushel of the finest apples that I ever saw, and the eating part was just as good as the looks. Here surely is a promising apple for Wisconsin. It keeps well with Wealthy, McMahan and Snow.

As to the outlook for fruit raising on this island, it could not be better. We can grow the finest apples you could wish for both in looks and quality. It all depends on getting good stock to plant. But it is up and down with that. Sometimes you get a nice lot of trees and nearly all die, then again nearly all live and actually grow like weeds and still all of the same kind. We have here that has been tried such kinds as: Wealthy, McMahan, Snow, Duchess, Longfield, Pewaukee, Walbridge, Golden Russett, Talman Sweet, Scotts Winter, McIntosh Red, Dudley, Whitney No. 20, Peerless, Red Astrachan, Wolf River, Alexander and many others. These have all proved to be hardy and all that could be wished, and I still believe that Stark Delicious will prove a success.

Cherries both sour and sweet grow here to perfection and in abundance and of course all kinds of small fruits and strawberries. Plums are more uncertain but still large crops can be raised. Moore's Arctic and Burbank seem best.

Last summer was about the first season that any apples and cherries were shipped out of here and all went well, fairly good prices were received and not much kicking was heard and when we all learn how to pack and ship and where to ship, we expect it will go still better.

Here are good chances for any one with a little money to locate, as land can be got at reasonable prices yet and land just as good for fruit as anywhere else.

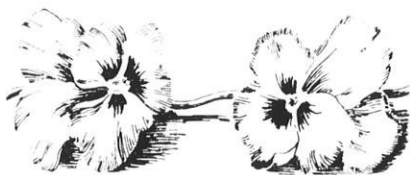
We have lived here for 45 years, came in 1868 when this island was covered with a splendid forest which was recklessly destroyed. If we had it now it would be worth more than all the fruit trees we will have even 10 years from now. I have helped to cut cord wood, "body maple" and haul and deliver same over the rail of the vessel for \$2.00 per cord. I have planted potatoes and dug and hauled them and got 9 cents per bushel.

In 1891 I had a patch of potatoes, 3 men digging 3 days. I must have had about 70 bushels. I hauled down to the harbor one load and got \$1.50 for that and the next night the load in the field froze.

If I can not do better at raising fruit I will go home to the Happy Hunting Ground, a poor sinner.

As I can not think of any more to write about now I will quit for this time so good by until next.

Christian Saabye.



Home-Made vs. Commercial Lime-Sulphur.

(Contributed by Prof. J. G. Sanders.)

(This excellent article was printed, in part, last month but through an error the table of hydrometer readings, the cut and explanation accompanying it was omitted.)

The article is given in full herewith. Editor.)

As the time for spring spraying again approaches, this much discussed question perplexes many horticulturists. Whether it is better to purchase a commercial product of good grade at a fair price, or to prepare a compound of doubtful quality at a doubtful cost of time, labor and materials, is the debatable question.

Commercial lime-sulphurs are generally prepared under the best conditions with care and accuracy as to the **quality and proportions** of ingredients and thorough steam boiling. Most commercial lime-sulphur is prepared from the best calcium lime (94.98% calcium) obtainable, thus securing almost complete solution and combination with the sulphur.

Homemade lime-sulphurs, on the other hand, are generally made from the most available lime, which may be of low (calcium) quality and may contain a large percentage of magnesium, an element which will not combine with sulphur by boiling. Frequently the boiling is not thorough and the straining is carelessly done so that nozzles become clogged in spraying.

Wisconsin limes (with few exceptions) contain considerable magnesium, and for this reason our horticulturists are advised to use the commercial product. In case they have an analysis of a certain lime and know the percentage of calcium, they can add enough more lime to make up the required amount of calcium for the lime-sulphur formula.

The followings formula leaves the least residue or sediment, and

any amount may be boiled at one time using these proportions:

Lime

(Fresh)

If 95% calcium 19 lbs.

If 90% calcium 20 lbs.

If 85% calcium 21 lbs.

If 80% calcium 22 lbs.

Sulphur, good quality pow-

dered 40 lbs.

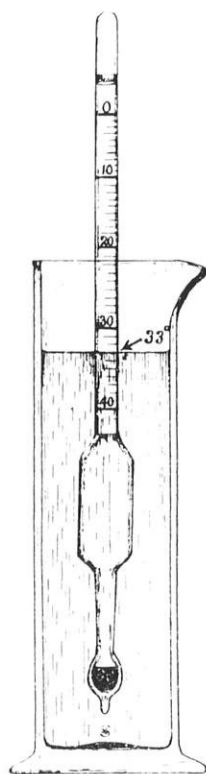
Water (hot preferred) ... 25 gal.

Mix the powdered sulphur with water to a smooth, thin paste without lumps. Add the lime gradually to 10 gallons of hot water in the kettle (or barrel if steam for boiling is available) and pour in the sulphur paste during

according to the following table. If any sediment has formed, strain the solution before diluting.

WHAT IS BEAUME?

This mysterious word usually connected with degrees, is the name of a French chemist who designed and used a hydrometer with a certain graduated scale for measuring the density of liquids,—one scale for liquids lighter than water, and one for denser-than-water liquids. This latter scale we use in determining the density of lime-sulphur, or in other words the amount of sulphur in solution. There is so much variation in lime-sulphurs that everyone using any considerable quantity and wishing to secure the best results should secure a lime-sulphur testing hydrometer at the cost of a dollar, and test all his lime-sulphur solutions before adding water for spraying purposes.



Hydrometer degrees Beaume	Gallons of water to 1 gallon concentrate
35	9
34	8 $\frac{3}{4}$
33	8 $\frac{1}{4}$
32	8
31	7 $\frac{1}{2}$
30	7 $\frac{1}{4}$
29	6 $\frac{3}{4}$
28	6 $\frac{1}{2}$
27	6
26	5 $\frac{3}{4}$
25	5 $\frac{1}{4}$
24	5

For winter or dormant spray only.

the slaking process, constantly stirring the mass. When the slaking is completed, add the full amount of water and boil carefully for an hour, preferably with a cover for best results, occasionally adding a little water to compensate for the loss in steam.

Carefully strain the hot solution to remove all sediment and store in air-tight barrels or other containers. When ready to use, test with a hydrometer and dilute

Schizanthus Wisetonensis or Butterfly Orchid is a most beautiful annual that does not seem to be widely grown by amateurs. The dainty flowers fairly cover the plants with bloom. There is a wide variety of shades and markings but all of them pretty. They soon flower from seed but do not hold in flower long. A succession may be had by sowing seeds at intervals of a couple of weeks during the spring months.

Pruning.

By Prof. J. G. Moore.

Fruit growers no longer argue that pruning is a non-essential practice of fruit growing. While all may not agree to just how a tree should be pruned, all agree that if best results are to be obtained it must be pruned.

Pruning is based upon certain fundamental principles and to prune intelligently these principles must be understood.

Pruning begins at the time of planting the trees and may even have begun before the grower receives the tree. Pruning at planting time will vary with the age and character of the tree. As a rule root pruning at planting should be as slight as possible. From three-fourths to nine-tenths of the roots have been lost in digging and further reductions other than those to give the root system a somewhat symmetrical form, remove badly injured roots and improve the character of wounds is not necessary or desirable.

If the tree is a one year old whip all the pruning necessary is to cut it back to develop the head at the desired height. This will

upright growers the height will be about thirty to thirty-six inches; with those of spreading or drooping habit this amount will need to be increased.

The growing season following the setting of the "whip" is an important one from the standpoint of the formation of the top of the tree. If left to itself the upper buds will ordinarily be the ones to make the most vigorous growth with the result that difficulty may be experienced in getting desirable branches for the head of the tree well distributed

branches of the tree which of course is objectionable from the standpoint of orchard operations.



Some brush. Cut it out.

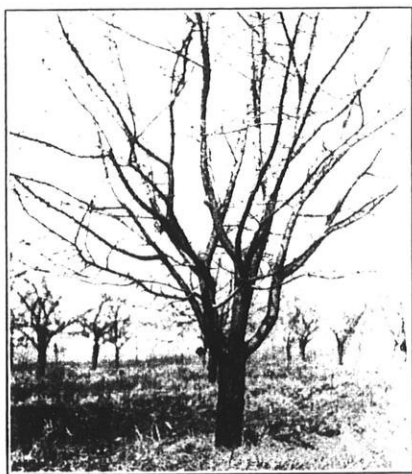


Dudley Wausan. Too much pruning.

Growers differ as to the amount of foundation branch which should be left. The average length is about eight to fifteen inches.

Pruning the third year consists in pruning out superfluous branches arising from the foundation branches, choosing two to three main branches on the foundation and heading them back as for the previous year.

If pruning has been thoroughly done during the early development of the orchard, only slight pruning will be necessary after the tree comes into bearing.



Mahan apple tree Wausan trial orchard. Planted 1897. Top well balanced.

along the trunk. It is desirable therefore to watch the development of branches carefully and encourage the development of buds well distributed around the trunk to give the tree a symmetrical head.

Pruning of a tree two years old when planted would consist in picking out desirable branches distributed as outlined above.

Pruning the one year old whip the second season consists in choosing the foundation branches and cutting them back. Cutting back is desirable because if left to develop naturally the buds near the ends of the past season's growth are the ones to develop which would throw the bearing wood too far from the foundation

Every year novelties are offered in the way of flowers. If one can afford it is always a pleasure to try out something new and watch its growth. In the race to put out novelties there are a great many varieties put out that hardly come up to the introducers descriptions in all respects, or there is some very necessary quality lacking that was not mentioned in the description. Few flower growers are really acquainted with more than a fraction of the good things that are already established as worthy, the list is such a long one. If possible, the amateur gardener should try one or more kinds that are new to him every year as it adds greatly to the joy of gardening.

W. A. T.

differ somewhat with the grower's ideals and the character of the growth of the variety. With

Shrubs Attractive to Birds.

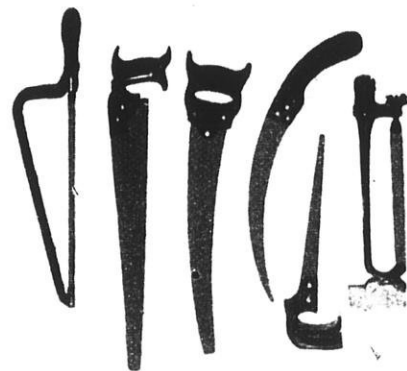
A. C. Burrill.

Several of Wisconsin's nursery-men are growing more shrubbery than formerly, and in a few cases less fruit trees. It is my desire that this recent change in policy may be brought to the attention of horticulturists setting out their own lands that both they and the nurserymen may work together in planting shrubs whose fruits attract our native wild birds, especially those birds useful about the garden in destroying insects and weed seeds. To this end the following notes are compiled from the U. S. Department of Agriculture Year Book 1909, which lists species for the Alleghenian Faunal Area and suggestions original with Professors Dennison, Hepler, L. R. Jones, and J. G. Moore of this University. The periods for ripening are for Madison and signs have been used to indicate the length of time the fruit stays on the plant after ripening, and question marks have been placed wherever the number of plants eaten are in doubt or the plant species may prove non-hardy, or the ripening period not fully ascertained.

In further explanation of the timeliness of this list which could be tripled by copying the list in the appendix of the new revision of E. H. Forbush's *Useful Birds and Their Protection*, dated July 1913, Massachusetts State Board of Agriculture, the attention of horticulturists is called to the National law which went into effect October 31st, protecting all migratory birds both by National and State Deputies. The Government realizes the need of insectivorous birds after eight years of congressional battle over this Migratory Bird Law, and we citizens should do our part to make the sojourn of the insectivorous and weed-seed eating species agreeable. These little birds, mostly the smaller species, are

worthy of their hire and in the words of one of our eldest naturalists, Mr. H. L. Skaylen of Janesville, "We should desire pretty birds about our home as well as pretty flowers with the coming of each spring."

If Forbush's list were included, there are more kinds of woody plants attractive to birds than not, so the criticism that Horticulturists can not get the Landscape effects they desire, if they merely seek to suit birds, has seldom any point to it, except when it is meant that they insist on planting some bush like *Spiraea* without looking about for some bird attraction of the same decorative floral value. Easiest to secure, is some kind of low thicket, as of willows, as a shelter for birds.



A bunch of pruning saws. The third, from right, is the best of the lot. This is listed by dealers as the California Saw.

SHRUBS WHOSE FRUITS ATTRACT BIRDS.

Revised by A. C. Burrill.

U. S. Department of Agriculture Yearbook for 1909 pp. 186-9.

The number preceding is the number of bird species in whose stomachs these fruits have been found:

* = Hold fruit longest
+ = " " into winter
: = " " awhile

We are open to suggestions and if many, will publish a revision; but these notes have been through many hands and must be fairly trustworthy.

Bird Sp.	Plant	Persistence and Ripening Period of Fruit, Madison
67	Elders.....	July and Aug. Sept.
69	Blackberry and Raspberries.....	July 10 Aug. 15 Sept. ?
18	Bulberry.....	June 20 July 30
17	Dogwood.....	Aug. 15 Sept. 15
14	Sunmach.....	Aug. Sept. Summer
10	European Bird Cherry.....	Sept. May Latest Earliest
39	Black Cherry and Choke Cherry.....	Ripen at domestic ch. X Aug. 1 Sept. 15 or Oct. 15 rarely
37	Blueberry.....	July Sept. ?
29	Fox Grape.....	Sept. 15 Oct.
26	Pokeberry.....	Sept. winter ?
25	Red Cedar.....	Sept. Spring
25	Virginia Creeper.....	Aug. 20 Oct. Drops of ten
25	Bayberry.....	Sept. Mar. ?
20	Service or Junberry.....	June July. Next earliest Sept. 10 Dec.
30	My. Ash.....	Sept. 15
32	Blackthorn.....	Sept. 15
30	Bearberry.....	Aug. 25 Oct. or Nov. ?
19	Black Elder.....	Sept. Winter ?
16	Shoeberry.....	Aug. 15 Sept. Summer
14	Strawberry.....	June Oct.
15	Hackberry.....	Sept. 25 Mar.
15	Huckleberry.....	July Aug. Summer
12	Hawthorn.....	Aug. Nov.
11	Rose hips.....	July Spring
11	Spice Bush.....	Sept. Winter ?
10	Black Currant.....	July 1 Sept. 1
10	Sarsaparilla.....	July Aug. ?
10	Snowberry.....	Aug. 15 Spring
10	Sour Gum.....	Sept. ?
3	Am. Beech for quail and prairie hen.....	Sept. Jan. ?

Planting plan for fruit supply throughout the year includes Junberry or Mulberry, cedar, sunmach, raspberries, elders, and dogwood.

State Entomologist's Office,
Madison, Wis.

A Practical Pillow Slip.

While this is not a subject of Horticulture it may be of interest to the lady horticulturists. When making your new supply of pillow slips try sewing them in the shape of a tunnel in place of a sack. Use the regular pillow tubing and put a hem in either end, leaving them open at both ends. The pillow will not slip out if tubing is proper size. This method has several advantages; it does away with turning while in the laundry; it admits of having clothes pins fastened at any point; It allows the wind to blow through freely, thus drying quickly; and when ironing they may be folded so that every part of the slip may in turn be used for a face. You will readily see that the life of the slip is greatly prolonged in this way.

Mrs. N. A. Rasmussen.

"Putting Quality into Celery Plants."

By Lewis Elithorp, Clinton, Wis.

Celery is a very sensitive plant and is inclined to grow a long tap-root and go to seed in a deep heavy coarse-grained soil; in a fine light sandy soil, it will throw out many fine roots, with a flat bushy bottom, and you will have a stocky plant right in the seed-bed; use virgin black, woods dirt which has been sifted thru wire-screen. I get much better results by sowing seed not too thickly in drills 4 inches apart, than broadcast, because you can cultivate between rows and plants will get more air. If using hotbed, don't have more than a foot of compost underneath the top soil. Keep an even, moderate heat in hotbed, and provide sufficient water to keep plants growing without any set back. Ventilate on bright days; on cloudy days keep glass on. Remove glass during middle of the day and substitute a cloth frame. Late plants may be grown in the open ground in a well drained shady spot, where some protection is afforded against the hot winds of summer. Do not transplant until your plants have partly developed the heart leaves; you want a good heart to withstand clipping back. Do not over-water before taking up—better let the seed bed dry off a little. As you take up carefully a bunch at a time, discard all plants not stocky and healthy looking; clip the top down to the inside leaves, also the roots beyond a half inch long. When transplanting into cold-frame, guard against a strong draught and keep the sun off while working. After sprouting in cold-frame perhaps you have noticed the plants seem to stand still, apparently not doing well. If this happens water with liquid horse-manure; this will feed those small root fibres, helping the plant to establish itself. Save the soil from the old seed bed and scatter

among the plants in the new bed.

Prepotency in the animal world is the power to reproduce certain characteristics or qualities in the offspring. So in the vegetable world certain desirable qualities may be bred into a plant, and even intensified. I have found celery to respond in a remarkable degree as to pedigree. Therefore if you desire quality, it begins with the seed but does end there. So procure good strong seed with a record back of it.

There are many varieties of celery—the two best for the home garden or truck farm, for quality—are the originator's (French grown) Paris Golden Self Blanching for early; Dwarf Golden-heart for late, or main crop. The first is so easily grown by the novice and is almost self blanching; the flavor is superb, the texture crisp and tender. The second will sell at top prices, when the large stringy varieties go begging.

"Giant Pascal" is a selection from The Golden Self Blanching, which combines the qualities of its parent with the size and yield of the late celeries and is very satisfactory.

SEA GULLS:

Good or Bad Horticulture.

A. C. Burrill, State Entomologist's Office.

In criticism of my former note "The Fisherman's Friend" is also the Farmer's Friend," attacking the fertilizer method of spreading fish offal without plowing it under, and then shooting the useful sea-gulls for stealing the offal, a Bayfield citizen maintains that the fish offal cannot be plowed under when the ground is frozen. That is the time of year when the offal is available for carting upon the land, the local fishing industry cleaning up rather late in some years.

Barrels of fish fertilizer were standing upon a farm above Sturgeon Bay, early in the winter of

1912, when I passed by on an investigation of the local sea gull situation, in company with Wm. Barnhardt, Deputy Fish and Game Warden. The Warden told me that the gulls fished offal from the open barrels if farmers took no care. I discussed the matter recently with Deputy Game Warden Ed. Fowell, who owns property in the Bayfield region. He suggested that fish offal is hauled to the fields there quite as often in barrels as by the earload. If barrels are that plentiful, let all the farmers adopt the method and keep the barrels headed till plowing time. The very odor may draw the gulls or the sight of the barrels. If pigs and chickens do not consume the home garbage, throw this out for the gulls at some dumping point by the fields, or scatter through the fields or hedgerows to see if you can not tempt the gulls' instinct to catch field mice and similar rodents. This method in the early winter before snow lies over the fields, or in early spring after it melts should rid your lands of the little rascals that burrow under the snow banks to bark your trees. The runways under matted grass along the hedgerows suggests how much grass and grain. Gulls will not do a thorough job, but with attraction of barreled fish offal, may hang around enough to reduce the final expense of trapping and poisoning rodents considerably or make the latter methods impracticable.

Is it true that gulls will bait with old grain that may be spoiled for domestic stock? Honorable Capt. Larsen of Marinette kept a tame gull for months and found it would eat most granivorous products. Experiments have shown that our common sea gull (*Larus argentatus*, note the Latin, for the black-headed gulls or those nesting in fields are different and more scarce in Wisconsin) can easily change its feeding habits, even tho this must mean

for the bird to change its stomach lining as well.

In the Shetland Islands writes Dr. Edmonstone, it lives on grain in the summer and on fish in winter. To do this, the gull has to change the structure of its stomach twice every year, according to its food. While granivorous, its stomach is a hard horny skin like the gizzard of a pigeon, and during the winter, it is soft like other carnivorous birds of prey. Doubting this, Prof. Karl Semper of the University of Würzburg tested the matter out experimentally with German individuals of the same gull species and found this true (1877 Lowell Institute Lectures, Boston, Mass., 1881, Semper, *Animal Life*, N. Y. D. Appleton & Co. Intern. Sci. Series, vol. 30).

So far as reported, Wisconsin gulls do not visit grain fields in seed time or harvest, and to keep them from acquiring this harmful habit, we may encourage them with garbage and with catching rodents so that they will not need to become grain-eaters. By all means, Citizens of the coast-line, reckon up the blessings of Nature, and try to use them understandingly. If you can add aught or detract aught from the observations here recorded, kindly send in your views. The studies of sea-gull habits are by no means ended.

If barrels are not plentiful enough about Bayfield and Sturgeon Bay to let them weather over winter in the fields, make arrangements with the Booth Fish Company, either with the local agent or with the main office at Duluth, Minn., to have plenty another season. The storage of offal in the company's barrels in the fields during freezing weather ought not to hurt the barrels as much as careless handling, especially if the company is paid for all those not returned safe and sound. If it can't be arranged with one company, try another as

the Post Fish Co. of Detroit, Mich.

Letters from the former company tell me they are heartily in favor of gull protection and in cooperating to this end. These are not idle words, for if you will turn to Bird Lore, vol. 14, for Dec., 1912, you will learn that these two fish companies, also the Humane Society, Lea Bros., and the school children cooperated at Sandusky Bay in feeding gulls from Feb. until April, 1912. It was through the activity of the Editor of our own state Audubon Society, R. E. Kremers, that Milwaukee's Mayor came to order the city garbage wagons to dump on the frozen bay in the bitter freeze of Jan.-Feb., 1912, and thus save from starvation thousands of our "gull pensioners."

That Farm Garden.

(Continued from March)

First we will make a heavy application of barnyard manure which unless well-rotted should be applied before plowing; if well-rotted however it may be put on top and disced in. This should be repeated each year and also the droppings from the hen house should be added.

In plowing this garden plow into, say, three beds; and when working be careful not to fill the dead-furrows, as they carry off the surplus water in case of heavy rains, make an ideal place to throw weeds and other waste material, and also serve as a path so there is no waste land.

We will work one of these beds as early as possible—not while sticky and easily packed, better wait until dry and mellow. When this has been worked into fine condition we will sow our early peas in rows 2 feet apart, drop peas an inch apart in the row and cover about an inch and a half deep. In the end of one of the rows of peas set the onion-sets as only a few of these are wanted. Spinach, beets, onions, carrots,

parsnips, salsify, and lettuce should be sown in this bed. While these may be grown in rows 12 to 16 inches apart, better on the farm plant 2 feet or more so that all the cultivating may be done with the horse. Cover these seeds on an average to the depth of $\frac{1}{2}$ inch. In all these seeds except spinach and lettuce mix about one radish seed to twenty of the others or more radish seeds if your appetite for radishes so demands. This we consider of very great importance and it is done for three reasons: first, the radish seed comes up in from 3 to 5 days thus breaking the ground for the more slowly germinating seeds; second, it marks the rows thus enabling us to cultivate very early; lastly, it furnishes a supply of radishes without any extra use of land or labor. If late cabbage and cauliflower plants are to be raised they should also be sown in this bed.

As soon as all danger from frost is over prepare the remainder of the garden. In bed number two we will sow our late peas, covering a trifle deeper than the early varieties, and turnips; we will plant our early and late sweet corn, wax beans, tomatoes, peppers, egg-plant, early cauliflower and cabbage. We will also sow a few radishes and lettuce without interfering with crop or cultivation.

We still have for the last bed our vines including melons, cucumbers, and squashes. These we will plant in the center of the bed dropping the seeds about 10 inches apart in the row, as in this way they can be more easily cultivated than when in hills; enabling us to cultivate close to the plant thus doing away with much hand work. Having removed our spinach, early peas, lettuce and plants we will thoroughly work up the soil again and plant our late cabbage, cauliflower and sow rutabagas again mixing in a little radish and lettuce seed.

N. A. Rasmussen.

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EXTRA

This form was busted at the last minute to make room for a request. Prof. L. R. Jones of the Agr. College, Madison, asks all owners of plum and cherry trees to watch for BLACK KNOT when pruning and to mail specimens to him. He desires to investigate its family affairs, some scandal, no doubt. This is a dangerous, infectious disease. The name describes it: black knots on branches. Prof. Jones will surely help us; let's help him by sending specimens.

Full particulars in May W. H.

In buying fruit plants stick to the list adopted by the State Horticultural Society.

Kickapoo Progress.

The Kickapoo Development Co. is the latest, the very newest thing in the Wisconsin commercial orchard field. Capital stock \$24000. Incorporators: J. A. Hays, O. A. Sherwood of Gays Mills and J. A. Harley of Madison.

The company, organized for the purpose of planting and caring for orchards, has contracts for the care of the 250 acres of apples and cherries owned by five different orchard companies and will plant 160 acres this spring for these and other companies. Mr. Richard Marken, for several years foreman for the Cooperative Orchard Co. of Sturgeon Bay on their 700 acre cherry orchard, has been engaged as Superintendent.

This is good business for all parties concerned. Here were five companies each with 40 to 100 acres of orchard and each dependent on local, Gays Mills help for the care of the orchards and such supervision as a stock company located at a distance can give. The continuance of such a policy could mean nothing but failure for some of the projects.

The development company, well equipped with teams, machinery and competent help will do all that should be done and for a reasonable price.

More Co-Operation.

It seems that the fruit growers of Sturgeon Bay have agreed to disagree and will no longer all sleep in one bed.

A number of the smaller growers representing, it is claimed, forty-five per cent of the acreage have pulled out from the old organization which is conducted on the stock-voting plan and have organized under the 1911 law, one-man-one-vote.

This is the first organization of fruit growers of its kind in the state and the outcome will be a matter of exceeding great interest.

It is quite likely that the move will work out satisfactorily to all parties concerned. The little fellows, or some of them, are in one bunch and the big ones in another and that's about the way it must be.

It will be a long, long time before we will see men who have built up a successful business, whether it be fruit or something different, delegating the control of this business to some one who is just beginning and who may or may not make a success of it. When we get the universal co-operation that we are all hoping for it is a fair guess that the big fellows will co-operate and the little fellows will co-operate but each bunch by itself.

We little fellows need not feel bad about that because we are in the majority and always will be and eventually will control the situation.

Did somebody holler Denmark?

Not long since the writer listened to the story of a co-operative dairy association in Denmark one-man one-vote supplying a large city with all kinds of dairy products, a large distributing depot, dozens of wagons, etc., etc., all owned by one hundred farmers. Here was a well-nigh perfect system of producer-to-consumer but a little questioning brought out the fact that these were all *big* farmers owning about 200 acres each.

The three acre farmer with two cows was not in this big association but in another with some more 3 acre farmers and everybody is satisfied. Such is human nature.

Be it understood that the writer is for co-operation first, last and all the time. Farmers and fruit growers as well as "Big Business" must organize, first in small

associations and then merge these in one district-wide and these again in a larger central association, (The fruit growers of the upper Mississippi valley should all work together) but it must all be done on sound business principles. Just getting together and resolving to help one another won't do it altho it is perfect in spirit. It takes brains to sell fruit to advantage these days and it takes good management and a knowledge of the selling game to insure success for a co-operative association.

It is true that this good management may be had quite as well, if not better, in a co-operative association as in a stock controlled company and we hope to see the day and soon when there will be less distrust and more of mutual confidence and *co-operation* in our selling associations; there certainly is room for it.

While it cannot well be gainsaid that making more money is the primary object of these movements the dollar sign need not obscure all else. Selfishness and greed dominate the world of big business and is often reflected in no small degree in farmers' organizations.

The writer has defended and will continue to defend the fruit selling associations we now have against attacks by theorists who knew nothing of actual conditions with the idea of keeping them in the field until something better is proven.

If the new Sturgeon Bay exchange can point the way to better things, can set us on the right road its promoters will be entitled to everlasting credit.

F. C.

On the basis of five inhabitants to a family Wisconsin has about one-half million families. This paper is known to only one in 250 of these families. Will you tell some of the others about it?

Potato Seed Disinfection.

Some new facts concerning the disinfection of seed potatoes have been brought out in bulletins 369 and 370 of the Geneva Experiment Station, New York. Stewart and Gloyer severely injured some potatoes by using the formaldehyde gas treatment, which has been recommended for disinfecting large quantities of potatoes because of ease and rapidity. The potatoes were in shallow slatted crates in a tight room and the ordinary dosage was used, three pints of 40% formaldehyde for each 1000 cubic feet of space, the gas being generated by pouring the liquid into a pan containing 23 oz. of potassium permanganate. Experimentation led to the discovery of the fact that while the method is perfectly safe when a large quantity of potatoes is stored in the room, if there is only a small quantity injury will result. To assure safety each 1000 cubic feet of space must contain *at least 167 bushels of potatoes.*

In connection with these investigations of injury a test of the efficiency of different methods of disinfection was made. To understand results it is necessary to know that besides the ordinary scab which appears as roughened areas, there is another caused by a different organism, technically known as *Rhizoctonia*. The rhizoctonia scab is seen as small dark brownish or black dots closely adhering to the skin of the tuber. It may easily be mistaken for dirt, from which it can be distinguished in that it cannot be washed off. Potatoes having both diseases were fumigated, dipped in formalin solution at the strength of one pint concentrated formaldehyde in 30 gallons of water, and in corrosive sublimate at the rates of one ounce to 7½ to 15 gallons of water. The diseased spots were then tested by a laboratory method which gave positive evidence as to whether or not the disease had been killed. It was

found that although the formaldehyde treatment kills the ordinary scab, it does not kill rhizoctonia whether used as a gas or in liquid form. The corrosive sublimate at either of the strengths mentioned will kill either or both diseases.

In treating this subject growers should be reminded that the disease may live in the soil as well as on the seed. Clean or thoroughly disinfected potatoes upon uninfected soil is the combination which produces unblemished crops.

G. F. P.

The Best Shrubs.

The list of shrubs that can be grown in Wisconsin is quite a long one as may be seen by looking over the recommended list as given in the annual report of the Wisconsin State Horticultural Society. The best of these are included in the following list. Van Houten's Spiraea, Hydrangea paniculata g. a., Rosa rugosa, Tartarian honeysuckle, Mock orange, Lilac, Thunberg's barberry, Purple leaved barberry. To this list should be added some of our native shrubs such as the winterberry or northern holly, nine bark Spiraea, both the common elder and the scarlet elder and possibly several others. Some of our natives are just as fine as any shrub grown and well worth attention in our gardens. Before ordering any shrubs the "black list" printed in the annual report should be studied also. Many people read of varieties recommended by writers who live in the east where conditions are far different to Wisconsin. It must be remembered that shrubs that are hardy at Philadelphia or New York may be entirely too uncertain to be worth planting in our state.

W. A. T.



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**QUESTIONS AND ANSWERS****Minnetonka?**

Q. Is the Minnetonka apple worthy of propagation? Some have them here but I hear they blight badly.

Wood Co. K. S. E.

This question at once suggests another: Is the Minnetonka identical with the Wealthy? As grown and fruited in the Exp. Station orchard some years ago these varieties were identical.

The two test trees of Minnetonka were purchased from the originator at \$1.00 each.

Q. Are sifted coal ashes (Pocahontas soft) of value to land used as a garden, particularly for strawberries and small fruits?

Ans. Coal ashes contain very little available plant food, merely a trace of potash, and therefore of no particular value as a fertilizer. Very heavy garden soil might be improved by working in coal ashes or sand merely to lighten the soil.

Q. Is it of value to sow ground land plaster (gypsum) on bed of strawberries, particularly when plants are just sprouting?

Ans. Gypsum is an indirect fertilizer making available the plant foods already in the soil which need first to be "converted" for the use of plants, particularly various potash compounds.

Its use on strawberries might be beneficial but it would be safer to use a potash fertilizer such as muriate of potash.

Q. Name latest and best standard works on Horticulture which contain in classified form formulas for spray mixtures.

Also what to spray for and when.

Ans. Bulletin No. 19 W. S. H. S. About 50 copies on hand.

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Surface rolling; soil, rich clay loam underlaid with limestone. The orchards of adjoining farms show the adaptability of this part of Wisconsin to apple growing. Near railroads and markets. Prices reasonable. Write for particulars.

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Eau Claire, - - - - - Wis.



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PIONEER NURSERY, NEW ULM, MINN. AGENTS WANTED.

man, The MacMillan Co., New York.

Q. What is the best fertilizer I can use for my strawberries, raspberries and apples? Would powdered sheep manure at \$20.00 per ton be the thing or would some of the commercial fertilizers be better? If so what kind? Would the last named do where orchard is in sod? I used to raise better apples than I am now doing and I can't see any reason but lack of fertilizer. Have used stable manure but don't have enough without drawing 9 miles.

W. T. S.

Ans. The sheep manure will furnish mainly nitrogen which is all right for the plant bed the first season but is not the best fertilizer for a fruiting bed.

Muriate of potash in combination with rock phosphate or potash alone will be much better. Except on very thin poor soil nitrates make a rank growth of plants at the expense of the fruit.

The orchard will be benefited far more by entire removal of the sod than by any quantity of fertilizer. Flow as shallow as may be and turn the sod and follow with a disk. It can be done. Keep up clean and thorough cultivation until the middle of July and then seed to oats, vetch or buckwheat. Repeat next year. A vigorous pruning will also help.

Q. I would like to start a small orchard on my farm. What fruit trees would do well here? Also the kinds of apple and plum trees that are best suited to this climate and soil?

P. Y. P., Barron Co.

Ans. For apples plant Duchess, Patten, Longfield and Malinda. For plums any of the natives such as DeSoto, Rockford, Hammer, Forest Garden, etc.

Cherries, none; Pears, none. Any kinds of small fruits.

Q. Please let me know through the columns of your paper what I

should do with my plum trees. They are about 15 years old. They have been sprayed a number of times each season. There are very many blossoms on each year but



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We are the largest growers of apple trees in the state, we are confident that we can furnish trees that will please you, and our prices are right.

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Information

LEON MILLER

2012 N. Germantown Ave., Philadelphia, Pa.

very few ever come to ripen, only about a dozen on each tree.

H. S. Sheboygan Co.

Ans. Probably one of two causes, lack of pollination or frost at time of blossoming.

If the trees are all of one variety and no other kinds near, the first named reason is the most likely one. Most kinds of native plums are infertile to their own pollen and for this reason more than one kind should be planted.

Q. Could you tell me if the Loganberry will do well in Wisconsin?

Ans. The Loganberry is not grown to any extent in Wisconsin. One or more growers at Bayfield have tried it but with very poor success. It seems to do very well in some of the far west fruit sections where grown under irrigation. It proved a complete failure at the Experiment Station some years ago.

Q. Would you advise a person wishing to work up a commercial orchard to start with an acre of McIntosh apples?

Ans. One acre of McIntosh is a very small allotment for a commercial orchard in Wisconsin. In some of the large orchards in the Kickapoo one-third of all apples planted are McIntosh.

Q. Is there a selling association in Wisconsin or does each grower have to find his own market?

Ans. There are three large fruit selling associations in Wisconsin, Sturgeon Bay, Bayfield and Sparta and more should be started.

Q. Is the McMahan a good selling apple?

Ans. The McMahan is one of two Wisconsin apples quoted and well known on the Chicago market, the other being Wolf River.

McMahan when well grown is always a good seller and is claimed by many to be the best money maker of all apples grown in Wisconsin.

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1500 Acres Estab. 1868

Q. What do you recommend to prevent fruit trees from starting too early in spring?

Second, is there a sure way, or any way at all to make a tree bear. I have a few trees, they are 5 inches in diameter and are 10 years planted and make nothing but wood and leaves, but no fruit. I would be much obliged to hear from you regarding this matter.

J. V. B.

Ans. I know of no practical method by which the growth of trees can be retarded in the spring. Mulching the roots heavily has been recommended but this is not effective. In Missouri and some other places some success has been had by whitewashing the twigs and buds, especially in the case of peach trees, to prevent early blooming. Aside from this we know of no practical method, nor, as a rule, is any needed except of course in such unusual seasons as that of 1910.

Your second question is not so easy to answer. You do not say what kind of fruit trees you have but I will assume that they are apple. If these trees have been growing ten years without fruiting I will make the guess that they are planted on soil entirely unsuited to apples, probably black rich loam and that you have given them good cultivation, etc. Answering your question more directly there is no certain way to bring them into bearing. A little neglect may help in the case. If the land has been cultivated seed to timothy and clover for a year or two. You may also try girdling some of the larger branches. This consists in cutting out a very narrow circle of bark entirely around some of the branches. This is done in June and will not affect the bearing this season but should make them bear next year. This is not to be recommended on an extensive scale but merely for experiment.

Q. Two years ago I set out one hundred apple trees. On examining them I find that field mice have gnawed the bark almost all away near the base of the tree, but not entirely encircling the tree.

Will my trees grow this spring?

Do you think it advisable to dig these out and set new ones with proper protection, or would you try to save the trees and put wire screens to prevent any more damage?

If the trees do grow, will they not be weak at the base and liable to blow over during a wind storm?

S. M., Milwaukee Co.

Ans. This sort of injury is always serious and very provoking. If the bark has been gnawed for more than half of the circumference the tree is quite certain to die as a result of it unless it is bridge-grafted.

There is always a chance, however, in the case of injury by mice, that the entire bark has not been removed, only the outer layer. It is the inner layer next to the wood which is the important one. Look over your trees again and if you find that only the outer or greenish layer of bark has been gnawed it is likely your trees will live. If, however, the hard wood or trunk of the

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MYERS WAY

tree is exposed you must take active steps soon, by bridge grafting in order to save them.

You ask about putting on wire screens but it is unlikely that there will be further injury this season. It is very easy to avoid injury by mice and this is done by placing a mound or cone of earth at the base of each tree in the fall of the year. Just take a shovel and draw the earth around the tree root.

For the Home Garden.

Miss Blanchard Harper of Madison is a very successful amateur gardener. Her garden is a *quality* garden and she takes exceeding great pains to get the varieties that excel in quality rather than quantity.

Miss Harper's garden is "high and dry," located on a gravelly clay knoll, about the poorest spot near the city for a garden and yet few if any of the gardens in or near the city yield more.

We like to give the experience of those who have "delivered the goods" and for that reason commend herewith without reserve the following list of vegetables for the home garden prepared by Miss Harper:

"My family consists solely of myself, my dog and my chickens hence the variety is not as wide, nor the apportionments in quantities what they should be were there several people to eat of the product.

I am very careful to buy most of my seeds from houses which experience has shown me, furnish seeds which as a rule *come true to name*, have a good uniformity both of varietal points, vitality and generate at the same time. One from whom I have bought at times furnish seed with a good vitality and vigorous growth, but their Swiss chard is mixed with sugar beets, their beets ("Crimson Globe") came long and round and various reds verging into white—I don't buy from them

now, preferring to plant the variety named on the packet.

Beans—for small garden should be dwarf bush beans; Stringless Green Pod for main crop; Early Valentine for August planting for fall crop lengthened in October with cheese cloth screen; Refugee

Wax; Thorburn's Stringless; Thorburn's Dwarf Lima.

Beets — Crosby's Improved Egyptian; Detroit Dark Red; Edmand Blood Turnip; Swiss Chard Lucullus.

Carrots — Half Long Stump Rooted.

LET us
help
you make
your home
grounds "a
beauty
spot."



(A block of our Norway Maple)

We make plans and offer suggestions. If interested write us. It will cost you nothing.

We have a complete line of the best hardy varieties of Fruit Trees, Small Fruits, Vines, etc., adapted to your needs.

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Everbearing Strawberry Plants For Sale

Purchase tested-and-true-to-name everbearing strawberry plants from the most extensive grower in Wisconsin who has made a specialty of raising these plants. No garden complete without them.

Price per 6 plants 60c; per dozen \$1.00—per 100 plants \$5.00. Special price on larger quantities. Plants shipped Parcel Post either C. O. D. or cash with the order. Motto—HONESTY.

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Box 1 1/2.

Ft. Atkinson, Wis.

Cern—Golden Bantam; Portland (Do not miss it); Stowell's Evergreen.

Cucumbers — Arlington White Spine; Thorburn's Nowton Selected.

Endive or chicory—Green curled winter.

Eggplant—Improved New York Spineless.

Lettuce—May King (Northrop King Co., Minn.); Strains purchased elsewhere differ; Mignonette (J. M. Thorburn & Co.); Sterling (N. K. & Co.); Black Seeded Tennisball; Paris White Cos.; Express Cos.

Okra—Long Green; White Velvet (delicious but not prolific).

Onions—White Bermuda; White Portugal.

Onions do not do well on a dry clay hilltop hence I am not prepared to speak with authority or experience.

Peas—I have usually grown Premium Gem and Advance, but this year expect to experiment with English Wonder, Little Marvel, Dwarf Champion, Sutton's Defiance, Stategem and Potlatch.

Parsley — Thorburn's Extra Curled.

Peppers — Thorburn's Upright Sweet Salad (shall try to can for pimentos).

Parsnips — Thorburn's Hollow Crown.

Spinach—I do not plant as chard if planted in spring and continually picked, always taking the large outer leaves, furnishes "greens" until the snow comes—chickens like it.

Squash — Summer crook neck; Hubbard; Vegetable Marrow (in the corn).

Caution: I do not grow much squash, and no melons because they mix with the cucumbers and produce undescribable hybrids.

Tomatoes — Northrop King & Co's "Sterling."

Turnip—(no choice).

Rutabaga—(no choice).

Avoid getting horseradish or mint started in the garden unless

there is some barrier like a cement walk or house to keep them from spreading and killing out everything in their vicinity. Bill and caraway easily become pests because they self sow. I dug down 2 ft. and sifted all roots out of an old mint bed four years ago and we are still trying to clear that space of mint.

Novelties.

One of the novelties of a few years back that has proved a success is the African Daisy (*Dimorphanthea aurantica*). The orange yellow daisy shaped flowers are very showy and it blossoms well most of the summer. The blossoms appear in eight or ten weeks after the seed is sown and the culture is simple as long as it has a sunny position. A year or two ago hybrids of this flower were introduced having various shades of yellow and pink. While not so brilliant in coloring as the original they make a desirable addition to the garden. This year double flowered forms of the above are introduced as a novelty. I doubt if they will be as attractive as the single flowers but that remains to be seen. W. A. T.

A general rule for planting garden seeds: Cover 3 to 4 times the diameter of the seed.

Raspberries are set 3 to 4 ft. apart and rows 6 to 8 ft. Same for blackberries.

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To Get Profit from Melons

feed the soil what melons need for normal growth, prompt ripening, full sugar formation and rich flavor. These cannot be had without plenty of available

POTASH

Avoid low-grade mixtures. Supplement the compost with a half ton to three quarters of a ton, per acre, of 5-6-10 grade.

You'll find, too, that Potash Pays, when used as above on cucumbers, pumpkins, squashes.

We will sell any amount of Potash from one 200-lb. bag up. Write for prices and free books of formulas.

GERMAN KALI WORKS, Inc., 42 Broadway, New York
Chicago, McCormick Block Savannah Bank & Trust Bldg.
New Orleans, Whitney Central Bank Bldg.
San Francisco, 25 California St. Atlanta, Empire Bldg.



Garden A. B. C.'s for the Amateur.

Most beginners plant garden seeds too deep. One-half inch is about the limit for such seeds as radish, spinach, onion, etc. Lettuce seed ought not to be covered over $\frac{1}{4}$ inch. Beet may be put down $\frac{3}{4}$ inch but $\frac{1}{2}$ is better. Peas 2 inches deep for early crop, 4 inches for late. Peas and plants of the grass family such as corn and must lift all the soil over 6 inches of mellow soil. These have a single lance-like seed leaf but beans have two seed leaves will push up through as much as them in order to see daylight. Therefore be careful in planting beans.

Dig deep, the full length of the spade. Throw out the first spadeful so as to keep a narrow trench. In this way lumps can be broken with the spade and the soil thoroughly pulverized.

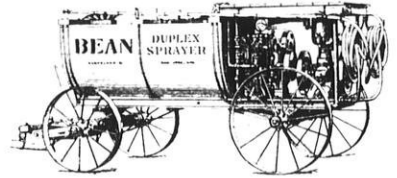
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Our DUPLEX AND TRIPLEX Power Sprayers, are an insurance, not a tax to the grower. They are equipped with our famous Pressure Regulator, rustless and threadless valves, porcelain lined cylinders, undertied suction, direct gear connection, etc. They are light weight and ideal for hillside orchards.

Capacity, 5 to 12 gallons per minute at 250 pounds pressure.

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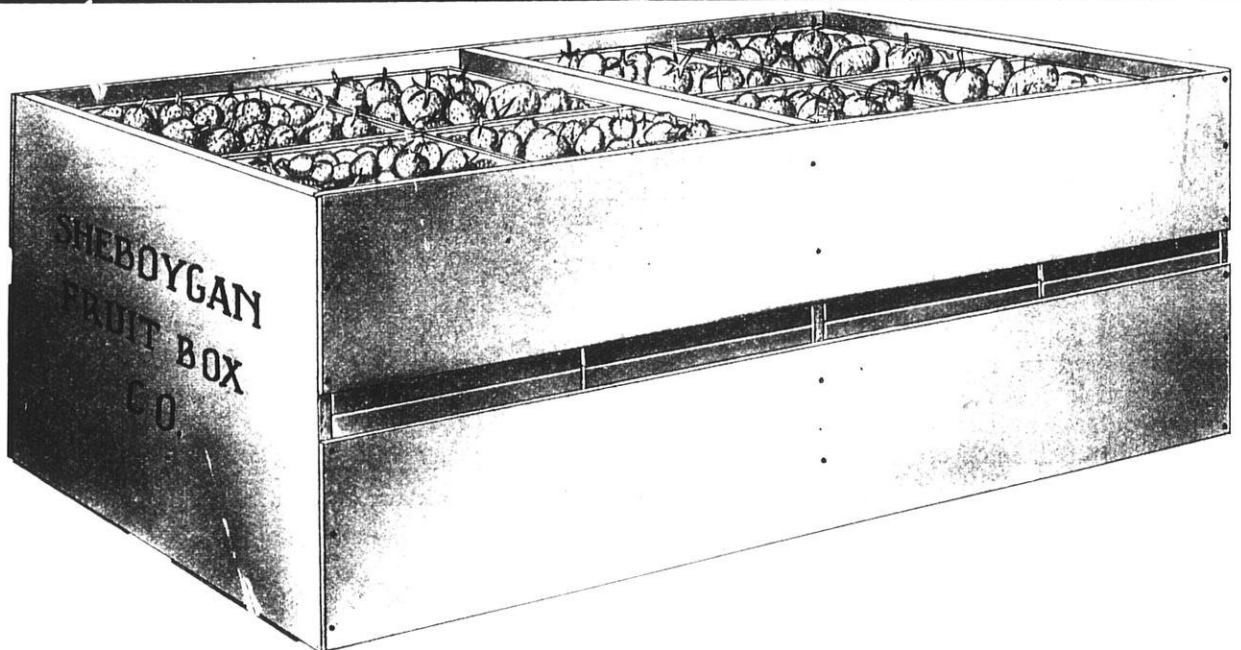
1914—just printed; shows fruits in actual colors and size. Full of valuable orchard information. Tells what, when and how to plant. *Mailed Free.*

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is fully described—its glorious record of twenty years in the American orchard is accurately given. No one with room for a single tree can afford to be without this marvelous fruit. Of exquisite flavor—large, brilliant, waxy red. The book is *free*. Write for it.

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"SILVER OR WHITE BIRCH" Berry Boxes. None better and none so cheap. Climax Grape and Peach Baskets, Repacking Baskets, Beekeepers' Supplies, Poultry Crates AND WOOD SPECIALTIES

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WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

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Volume IV

Madison, Wisconsin, May, 1914

Number 9

The Elements of Spraying for Insects

Prof. J. G. Sanders.

(At annual convention.)

Spraying has been aptly and justly termed "crop insurance."

The annual premiums of this type of insurance are indeed very low in comparison with the annual returns, and under this form of insurance all kinds of policies are available to the agriculturist. So great are the benefits returned by careful and conscientious spraying as demonstrated in innumerable cases and under all conditions, that we wonder why all our horticultural friends do not immediately attempt to secure the benefits derived from this comparatively ample procedure.

In any type of spraying, among the first problems to be determined are those answers to the questions, Why? When? and How? The effect of treatment on the pests and the effect on the plant hosts are factors to be determined. Lying between these two extremes is an intermediate ground on which all spraying operations are based. To further explain this statement, I may state that there is an intermediate position between the point of injury to the host plant and the killing point of an insect brought about by a treatment with chemicals which

must always be considered in the spraying. The result always aimed at is to get the highest efficiency in the spray for controlling the pest without injuring the host plant.

Successful methods for the con-

der insect control methods, namely, *preventive* and *remedial*. Under the former method, namely, the preventive, are included many of the common farm practices generally carried on with reference to insect control such as ro-



This is *not* a picture of a Sunday School picnic but one of Ludwig Bethke of Richland Co., the late Mrs. Bethke and the thirteen Bethke children, taken 9 yrs. ago.

If there is a finer family than this in Wisconsin we want to see it. Thirteen bright-eyed, handsome, healthy sons and daughters all reared on a fruit farm, who says apple raising don't pay?

"We use about thirty barrels of apples every year; last year only twenty-seven barrels."

trol of insect pests are based on the knowledge of at least two fundamental factors,—the feeding habits and the life history of the insect pest, with the former as probably more important. Two great classes may be defined un-

tation of crops, fall plowing and clean cultivation. For the control of horticultural pests the remedial methods are more common and satisfactory in most cases, which include the direct applica-

(Continued on Page 3)

Black Knot on Plum and Cherry.

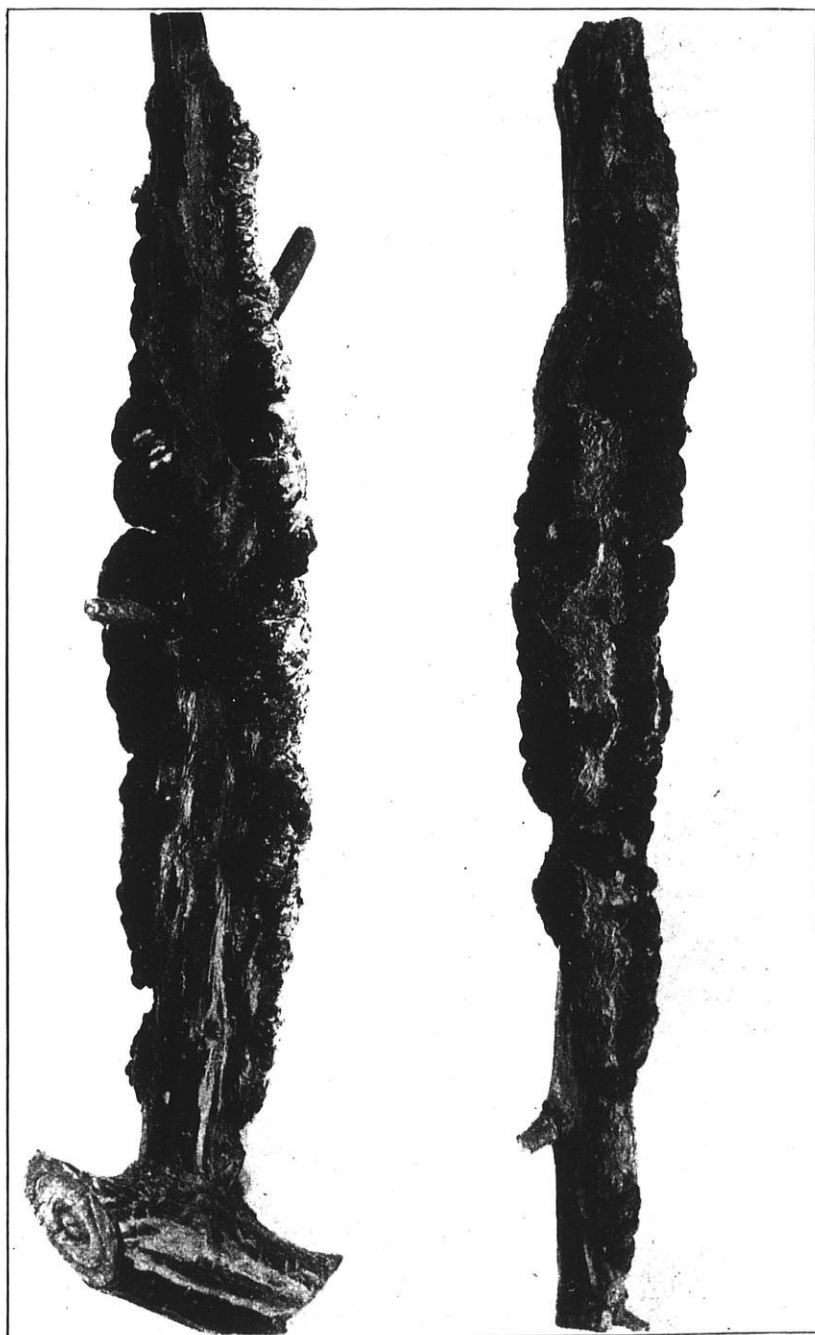
This is the most destructive of plum diseases in the Eastern States. It shows itself as ugly warty black swellings or diseased growths on the branches, which soon girdle and kill them and meanwhile spread from tree to tree. It attacks the cherries as well as plums. It is also common

on the wild plums and cherries, especially the choke cherry, and it has heretofore been the common belief that it passes from these to the cultivated trees. Recent investigations at the University of Wisconsin have led to the decision that it probably does not so pass from the wild choke cherry to the plum, and leave the ques-

tion open as to whether under Wisconsin conditions the disease is communicable from any of the other wild cherries or plums to the orchard fruits. The practical importance of this lies in the fact that altho the disease occurs on the wild trees, it has not heretofore been reported on orchard fruits. This spring, the first specimens on orchard fruits have been found in Wisconsin. These were on plums (European, var. Gueü) secured two years ago from a New York nurseryman. There seems little doubt that the disease was brought in with this stock. In this particular case the diseased branches have been thoroughly pruned out and destroyed and careful attention will be given to insure its eradication. It behooves everyone planting young plum trees, especially if obtained from Eastern nurseries, to watch them carefully for two or three years and guard against this disease. Prune out and burn diseased branches as soon as seen. We should like to get all the evidence we can as to the occurrence of this disease in the state, especially on the cultivated plums and cherries and on the native wild plums. Also any evidence as to whether it does or does not spread readily from any of the wild trees to the cultivated varieties. It will be appreciated if anyone finding specimens in their orchard will mail us a sample. We will gladly, upon request, send addressed shipping tags stamped with the Government "frank" for this purpose which will permit sending us such specimens by mail post free.

L. R. Jones,

Department of Plant Pathology,
University of Wisconsin.



A well developed case of Black Knot. Watch for this, especially on stock from New York or Michigan and send specimens to Prof. L. R. Jones, Madison.

Include in the seed list without fail one package each of Coreopsis, Candytuft, Coxcomb, Larkspur, Marigold, Mignonette, Nasturtium, Petunia, Phlox, Poppy, Snapdragon, Verbena and Zinnia.

(Continued from Page 1)

tion of killing poisons or the employment of mechanical means of control.

Insecticides and Their Application.

As previously stated, the feeding habit of an insect must be determined positively before applying proper treatment for its control. Success or failure depends on an accurate knowledge of this habit and also on the choice of a suitable insecticide to be applied at the proper time. Generally speaking, these factors are fundamental and most important.

For our purpose we can divide the insect class into two great groups with reference to feeding habits and controls as follows:

Chewing Insects.—Those insects with biting mouth parts that partially masticated the food before swallowing it. In this class are placed all of the caterpillars and chewing larval or worm-like stages of many well known insects. The remedies for this group of chewing insects consist generally of stomach poisons, which are usually some form of arsenicals.

Sucking Insects.—This group includes those insects which derive their foods from plants by sucking the juices through a tubular beak or proboscis and have no biting and chewing mouth parts. Controls for this group must consist of materials which kill by contact with the insect's body, since it is manifestly impossible to feed arsenical poison to insects which obtain their food from the deeper tissues of the plant. Variations of the above classification occur but for general purposes these groups are quite sharply distinguished.

Arsenical Poisons.—Only a few of the many arsenical poisons are discussed here but any or all of them must be used intelligently and according to directions to secure the best results. These insecticides may be compounded at

home but more uniform mixtures may generally be purchased in commercial form at little or no advance over the price of the ingredients for home manufacture. Since the passage by our state legislature in 1911 of a bill prepared by the writer requiring certain standards of purity of insecticides manufactured or offered for sale in Wisconsin, satisfactory results should be obtained with our standard commercial insecticides. There are on the market, however, many proprietary remedies, particularly powders, sold at high prices under fancy names which are made up largely of cheap fillers and carriers, such as plaster of paris (gypsum), lime, ashes, etc. It is far better to purchase the pure powder poison and supply the filler or carrier as needed.

Arsenate of Lead.—This chemical combination of arsenic and lead has proved to be the most satisfactory arsenical poison yet produced, and has several advantages over the better known Paris green which it is rapidly replacing. It is prepared either in poison or powdered form, the powdered form being preferable for general use since it does not deteriorate on standing. Arsenate of lead is white and shows plainly where sprayed. It remains in suspension much longer and adheres to the foliage for a longer period than Paris green and is the least caustic of the arsenites in its effect on foliage. Powdered arsenate of lead can be applied to plants without mixing it in water. For general spraying purposes 2 to 3 pounds of arsenate of lead paste or half of this weight of the powdered form is well mixed in 50 gallons of water.

Paris Green.—This much more widely used insecticide is a satisfactory poison but is not so desirable as the arsenate of lead, since it washes off the plants more readily during rainy seasons and is more liable to burn the foliage unless it is used in combination with

lime water. One pound of Paris green in 100 gallons of water to which has been added the milk of lime, made by slacking about 2 pounds of dry lime, has proved a thoroughly practicable insecticide. For general orchard spraying the two arsenical poisons mentioned above are satisfactory for the control of biting and chewing insects.

Contact Poisons for Sucking Insects.

Under this heading we include such insects as plant lice or aphids and scale insects which secure their food by sucking the sap from the tree or plant. As previously stated, for the control of this type of pest a contact spray of an oily or corrosive nature must be used.

Kerosene Emulsion.—One of the commonest and most widely used sprays for plant lice and scale insects is kerosene emulsion, used in summer at a strength of 8 to 12% of oil, and in winter from 15 to 20% of oil on dormant trees. The stock solution of kerosene emulsion is made as follows: Dissolve half a pound of hard soap in one gallon of boiling rain water. To this mixture add two gallons of kerosene, first removing it from the fire and churn or pump this material back upon itself violently for five or ten minutes, until a creamy, white emulsion is secured which on cooling should have the consistency of thick, sour milk. When properly and thoroughly prepared, no separation of the oil and water should occur even after periods of several months. The above preparation is a stock solution which must be diluted before used as a spray.

Dilutions.

					Gals. water
For 8% emulsion add to each gal. of stock	7				
10%	"	"	"	"	5½
12%	"	"	"	"	4½
15%	"	"	"	"	3½
20%	"	"	"	"	2½
25%	"	"	"	"	1½

Tobacco Decoction.—Another very effectual and safe spray for

the control of plant lice particularly, is tobacco decoction or nicotine solutions. These can be purchased in commercial form at a reasonable price, and can also be made at home very satisfactorily. Steep (not boil) 1 pound of tobacco stems in 2 to 3 gallons of water for 2 or 3 hours and strain off the dark liquid which can be used as a spray material. If desirable, this liquid can be mixed with a strong soap suds, thereby making it still more effective. For the control of green and black "aphis" on trees, shrubs or garden or household plants, the tobacco decoction is the most satisfactory insecticide available, since there is practically no danger to the tenderest plants.

I shall not attempt to give you the various formulas or control methods for the different insect pests and fungus diseases of our fruit trees. These can be secured by consulting the Experiment Station Bulletins where the material appears in printed form. My desire in this paper has been to call your attention to some of the fundamental features of spraying, particularly with reference to the application of the proper insecticide for the different types of insects. But above all, I want to encourage our horticulturists to a more thorough study and comprehension of the necessity of proper treatment of pests so that our fruit crops may be not only enlarged but may be of much higher quality, freer from injuries of insect pests and fungus diseases, thereby resulting in a much higher price obtainable on our markets. I hope the time will come when the "GROWN IN WISCONSIN" label will be a widely recognized trade mark, certifying clean fruit of high quality which will demand an unusual market price. I am also desirous of seeing the arrival of the day when every child will have the privilege of eating an apple every time its father consumes a cigar.

A Seed Plat for Potato Seed.

F. Kern.

Having handled potatoes, more or less, for the past fifteen years and having handled practically every variety, shape and color known to the potato family, many times to my sorrow as well as to the sorrow of the grower who offered them for sale it is but natural that some thought has been given to the improvement of this commercial commodity which is turning millions of dollars into the channels of trade, from a crop that can be grown almost without experience in almost any section of the United States.



A well trained apple tree probably about 30 yrs. old. Not Wisconsin grown.

The fact that the potato will produce "something" in almost any kind of soil with almost any kind of care perhaps is largely responsible for the careless methods of planting, spraying and cultivating followed by a great many growers of this crop.

It is one of the easiest crops to improve with proper seed selection in the agricultural list, for the reason that varieties will not mix, planted side by side, but because there is never any weed seed in potatoes, by many a potato is considered a potato at planting time, and that by the way, is after the Mrs. has picked over the potato pile from October to May and picked all the uniform sized potatoes from the pile. We do

not want scabby, nor rough, sun-burned, over grown nor small potatoes for our own use so they are saved during the winter and are about all there is to select from at planting time and our neighbor who has been careful to save good seed stock asks us twenty-five cents a bushel premium and we conclude that with the extra price and the trouble of going after the good seed that we will be money ahead if we plant the refuse.

This is one of the greatest mistakes ever made by our farmers. If we would select a small corner of our potato patch for a seed plat and then select a bushel of perfect potatoes of either Rural, Burbank or some type of early potato, which ever you prefer to grow, and then plant in a well prepared seed bed we would grow good seed and if this plan is followed for three successive seasons, each season selecting only the perfect seed from the perfect hills we could grow two or four times the bushels of marketable potatoes per acre that the average grower harvests from mongrel seed.

Potato diseases are so prevalent and so destructive that the grower cannot afford to take any chances and to guard against any disease in your seed plat cut every potato into the same number of pieces and cut as you plant so that the four or six pieces from each potato will be dropped consecutively; then if any piece of seed does not grow or appears weak you can, by counting from the end of the row discover just which three or five pieces of seed belong to that defective hill and should put the product of those affected hills in your shipping bin, or dispose of them in any manner except for planting. Do not plant them under any consideration.

From the seed grown in this seed plat from selected seed select the very best for your next planting and plant it exactly the same way and after three years if you

follow this plan thoroughly your shipping bin will have practically as good stock as your seed bin your yield will be more than doubled, your potatoes will command the highest market price, the buyer will enjoy doing business with you and you will never again return to the slipshod method of planting any old seed.

If you want to grow the best potatoes to get the best price and the best yield, try the Seed Plat for Potato Seed plan and you will succeed.

To Make One Gallon of Bordeaux.

Reprinted by permission, from
The Garden Magazine.

Take one heaping tablespoonful of copper sulphate; one and a half rounding tablespoonfuls of quicklime.

This is the equivalent of one ounce of the copper sulphate and one and a quarter ounces of the quicklime. If your copper sulphate is in large crystals, break them up with a hammer until there are no pieces larger than one-fourth to one-half inch. The lime must be fresh, not air slaked. It should be pounded up fine with a hammer, unless you buy it already ground up.

Dissolve the copper sulphate in one quart of warm water. Place the lime in a separate vessel, and slake it slowly with a little water. After it stops bubbling add enough water to make one quart in this vessel.

Now pour your quart of copper sulphate solution and your quart of lime solution together into a bucket—but do it this way: pour a little from each into the bucket and then stir, then a little more from each and again stir, and so on. When you've done this, you'll have two quarts of bluish-white mixture in the bucket.

Add to this two quarts of water, making four quarts in all of your mixture.

Garden Flowers.

Wm. Toole Sr., at Iowa State Horticultural Society Convention.

The flower garden may be large or small as benefits the knowledge or convenience of the grower. The inexperienced gardener should be content with limited efforts in the beginning, which may be increased with added experience. Circumstances may permit but limited choice of location, yet the flowers may be just as beautiful as can be, even if they must take a share of the place al-



More object lessons in pruning continued from April number. A well formed head but too thin. Over pruned.

lotted to vegetables, or confined to the old fashioned border on each side of the path from the road or street to the home.

The novice should be content with the old time favorites whose names have become classic, and if no preference has been adopted, perhaps more satisfaction can be had from annuals than from the other classes of plants. We may well advise even the beginner to gain experience with a number of classes.

Flowers are desired for indoor decoration as well as for their beauty in the garden, so we may well, in small collections, give preference to kinds that bear cutting, especially those kinds which to some extent develop some re-

newal after being placed in water. Perhaps the Gladiolus shows this tendency in a more marked degree than any, but we may include with it, a number of the perennials, especially the Delphiniums, and among annuals we may list the following kinds: Aster, Aretotis, Ageratum, Balsam, Centaurea, Cosmos, Dimorphothea, Clarkia, Gailardia, Godetia. The smaller Helianthus, Marigolds, Salpiglossis, Schizanthus, Snapdragon, Scabiosa, Stocks, and others might be mentioned also. For our little garden we have many other favorites to choose from, and among the best are: Celosias, annual Pinks in variety, Coreopsis, annual Chrysanthemums, Calendula, Four-o'clocks, Gillias, annual Larkspur, Lupin, Nicotina, Nasturtium, Poppy, Petunia, annual Phlox, Rudbeckia, Salvia, Verbena and Zinnia. As may be surmised this generous recommendation of varieties is given with the thought of an old fashioned garden. Many of us love to think of the old fashioned gardens of years ago, in which were found the charm of variety and opportunity to study the individual beauty of plants and flowers. And too, we love, occasionally, to see an old fashioned style of bouquet, in which was shown skill of arrangement in that inharmonious shades were not brought together. It would be difficult to select from the present day varieties just the kinds that we used to have in our old time gardens. We could scarcely find "Youth and Old Age" in our present day Zinnias, and how different are the Petunias now to the three kinds we used to grow. What a wonderful change has been made in the pansies from the "None so Pretty" of 50 years ago and longer. The new creations from the flower plant breeders have been given us in profuse variety and remarkable development of beauty. When we think of it all

we marvel that so much ado has been made about the small addition which Burbank has given to the output of the plant breeders work in flowers.

The selection of varieties for the small garden must be a matter of preference, as no one would be likely to care for all of so large a list; and too, there is more work in caring for so many kinds within the same number of plants, than there is with fewer kinds. There is a peculiar pleasure in making a hobby of a few kinds and doing our best with them, even though there may be a change of favorites in different years. Few of us realize the almost endless variety which we may have in Pansies, and still fewer persons have made a study and comparison of the different kinds of Petunias. In annual Phlox there is a wonderful variety of beauty, and who would not delight in having all the best Sweet Peas or Nasturtiums? A lover of Gladiolus might easily be so enraptured with his favorite as to disregard other flowers. Perhaps one may have a preference for perennials; then what joy may be had from a complete collection of Delphiniums with such an opportunity for selection from the choicer varieties. The Chrysanthemum Leucanthemum, of which the Shasta Daisies are a part, have been bred to so many varieties that the whole class furnishes an interesting study, and flowers to nearly cover the whole season. The Aquilegias, or Columbines, give almost too great a variety, in that they cross so readily that it is hard to get just the kinds that we wish for. This is much the case with the long spurred varieties, but they are all so beautiful that we would not willingly be without them. Gail-lardias give increasing variations of their peculiar velvety shades.

Whoever specializes in kinds of flowers misses a great share of the pleasure possible if he neg-

lects to save seeds of the choicest specimens. Many new things brought out are the result of breeding by selection alone, and this phase of plant breeding is possible to any flower lover.

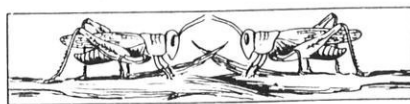
Very few rural residences need confine their flower growing to the kitchen garden or the immediate surroundings of the house. Circumstances are indeed poor which cannot afford a lawn and some space for shrubs, possibly a drive, bordered with shrubs and hardy perennials, with opportunity for bedding for color effect, without cutting up the lawn too much.

But if these plans for growing are expanded what shall be the limits of this paper? The title assigned is short, but the subject is very comprehensive. Perhaps it would have been better to have considered a few things in detail.

I hope that you have room in your plans for some of our native shrubs and have a liking for our native perennials. I have just in my mind where I shall plant some of our native Cornels and Viburnums. Among these shrubs will be grouped New England Asters, Rosin Weed, Cardinal Flower, Butterfly Plant and other Milk-weeds, some of the Eupatoriums, native Phloxes and others. On a shady bank north of the house will be a collection of early spring wild flowers: Hepaticas, Dutchmens-Breeches, Blood-root, some of the Violets, Rattlesnake Plantain, Bellwort, Smilacina, and others, all graced with some of our native ferns.

(To be Continued in June)

Set currants and gooseberries 4 ft. apart. Select the richest spot in the garden and manure heavily every year for best results.



Winterkilling of Apple Buds.

Geo. F. Potter

Are fruit buds of the apple ever winter killed when the wood of the twigs is unharmed? A bulletin issued in 1912 by the Montana station is the first published account of such an occurrence. About March 1, 1911 Director Linfield of that station noticed that many of the fruit buds in their orchard were not developing properly. Upon making microscopic sections the embryo flowers were found brown and shriveled. The varieties upon which this was observed were those which make up Wisconsin's hardiest list. Wealthy, Duchess, Okabena, Gideon, and Hiberna showed injury and subsequently the crop upon these sorts in the Montana station orchards and in other parts of that state proved an almost complete failure.

But Mr. Linfield's most interesting observations were on the behavior of these buds in development. In those stone fruits such as the peach and plum in which the flower buds and leaf buds are separate, a flower bud which has been injured does not open and is a conspicuous object. In the apple, however, in which embryo leaves and flowers are contained in the same bud, development continues even if the flowers are killed. Linfield observed many buds in which some of the flowers were killed and the remaining one or ones grew. In case that all the flower buds were killed the buds opened, *developed an auxiliary growing point*, and continued its growth to all intents and most appearances an *ordinary leaf bud*. None but the keenest observer would detect the difference, and it is therefore possible that such injury may occur commonly but not be noticed.

The weather conditions under which this happened were not those of extreme cold only. The minimum temperature of the win-

ter of 1910-11 at Bozeman Montana was not so low as in either of the two preceding winters when there was no injury. The probable trying circumstances as shown by the weather bureau report were a combination of low temperature with high winds during the thawing process, which it may be said takes place at temperatures somewhat below the freezing point of water. Theoretically the water is drawn out of the cells of the plant tissue upon freezing, and if when thawing it is carried away and does not reenter the cells injury or death to the tissue results.

It has occurred to the writer that possibly the short apple crop of 1912 at Madison and also over much of the southern part of the state may have been a result partially of winter injury to the buds. Reviewing conditions I remember that in 1910 there occurred a disastrous late freeze killing all the blossoms for that season. Having no fruit the trees formed many fruit buds and as a result the 1911 crop was very large. Again in 1912 there was very little fruit. We would naturally expect a smaller crop in the "off" year, but was it not even less than simply reaction after heavy bearing could account for? I recall that during the winter of 1911-12 there occurred some very cold weather with high northwest winds. If the lack of fruit in 1912 was due simply to reaction, we cannot hope for much fruit in the coming season, after the bounteous harvest of 1913. But if the buds of the 1912 crop were destroyed by the winter weather conditions mentioned, we may with no more unfortunate combinations of cold and wind than have thus far occurred look with greater promise to the crop of 1914.

The whole question is one of importance to fruit growers. It has long been taught that cold dry winter winds are dangerous or detrimental to orchards, but if

wind injury during midwinter is often a factor in reducing the crop as it certainly was in Montana in 1911, and possibly in our state in 1912, the exposure of the orchard must be considered a more important factor than it hitherto has been in locating some of our commercial orchards.

Spraying for Apple Rust.

The apple rust is a disease which is too prevalent for comfort in some Wisconsin orchards. It is one of those diseases which has the peculiar habit of growing successively upon two different plants, in this case first upon the red cedar or juniper and then upon the apple or wild crab. The stage upon the apples and crabs is noticed as yellowish or orange spots on the leaves and fruits, while the stage upon the cedar produces galls up an inch or two in diameter. These are commonly called "cedar apples" and many mistake them for the natural fruit of the cedar. So far as is known the rust cannot exist unless it can pass from the cedar to one of the other hosts. The removal of the cedars has been advocated therefore as a most practical method of control. Just how far away the cedars must be destroyed is a question which authorities dodge, but it certainly is not less than half a mile and is possibly much more.

The rust shows decided preference for different varieties, attacking some but scarcely affecting others, hence the removal of the affected sorts is another method of escaping from the trouble. Unfortunately in Wisconsin one of our best varieties, the Wealthy, is most susceptible and the growers are loath to give it up. In some situations the removal of the cedars is also impractical and control by other methods such as spraying is much to be desired.

Experiments conducted by Mr.

E. T. Bartholomew at Baraboo, Wisconsin, are probably among the most successful thus far reported in preventing the rust by spraying. Recognizing that infection comes from the cedars in the spring, it is necessary to protect the apples just at the time when the spores, which are tiny invisible bodies carrying the disease, are given off by the cedars. This occurs in early spring usually during May and is accompanied by the appearance of jelly like masses upon the cedar galls. Close watch was kept and at the first appearance of the gelatinous masses upon the galls the trees were sprayed with bordeaux mixture of the 4-4-50 formula. A week later a second application was made and a third was put on one week after the second. Mr. Bartholomew's observations indicate that most of the infection occurs during the two or three weeks following the first appearance of the jelly like material on the cedar galls. As a result of these treatments the disease was greatly reduced, although not completely controlled. Since the trees were of the Wealthy variety which is very susceptible the results are very encouraging.

The experiments also shew that extremely close attention must be given to the matter of *making the applications at the proper time* or else little or no results can be expected.

G. F. P.

Blackheart.

"Every Nurseryman knows blackheart is a winter injury. Some times a two year old tree that was injured when it was one year old will make a good orchard tree. But, there are less chances for it's success than a normal tree and a good Nurseryman will not knowingly send out one that is blackened at the center. Of course, a little browning at the tender tips of the branches will not hurt as it will be cut off in pruning."

W. H. Stark.

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Set quality first this year. Every buyer in the land is looking for quality and is willing to pay.

Spray for oyster shell bark louse, just before buds start, with lime sulphur one part commercial solution to six of water.

Do not start to dig in the garden until the soil crumbles. If dug when the soil packs or is putty-like the garden will be hard and lumpy all season.

The condition of the school grounds, the school house, out-buildings and school yard fence reflect pretty accurately the character of the people of the district.

Plant 2 rows of strawberries, one Dunlap, the other Warfield. Trim off all dead leaves and cut back roots to 2 or 3 inches. Set the plants 2 ft. apart in the row and the rows 4 ft. Use a spade for setting, just drive it down 6 or 8 inches to make a narrow opening, spread the roots fan-shape and set so that the crown is just level with the surface soil when it is packed down.

Spray Dope.

Spray apple trees the first time when the buds show pink, just as they are poking their noses out.

Use Bordeaux mixture 5, 5, 50. (See formula.)

Spray second time just after the blossoms have fallen, Bordeaux and add arsenate of lead 3 lbs. to 50 gallons of Bordeaux.

Spray third time about 10 days after second spray, the exact time is not important but it must be done before the calyx cups turn down. Use Bordeaux, arsenate of lead and force. Sprinkling will help some but the very best results come from using at least 100 lbs. pressure and forcing the spray into the calyx cups and to cover every bit of leaf and embryo fruit surface.

The very high pressure, 250 lbs. or more from power pumps is responsible for much of the "russetting" of apples.

Spray cherry trees with Bordeaux as soon as blossoms fall; second spray a few days later adding arsenate of lead.

For plums spray early, before buds start with arsenate of lead, 3 lbs. to 50 gallons of water for cureulio.

Second spray with Bordeaux when first blossoms fall, or when in full bloom, for plum rot.

The Truth is Mighty and Will Prevail.

By W. H. Hanchett.

The April W. H. is at hand and the spirit moves me to express my pleasure at the way F. C. handles the subject of "Co-Operation." His article just bristles with common horse sense even though it doesn't smack very loudly of the expert on this subject.

By the way, perhaps your readers may be interested in my definition of an expert so here it is: An expert is a *big meerscham pipe* with a downy lipped student from the U. W. attached to one end, puffing forth such a dense cloud of theory that all things practical are lost sight of in the murk.

And what a murk our experts have stirred up over this "one man one vote" question by telling us this is the way "she" is done in Denmark and therefore it is the only way. Why haven't they given us the Truth, the whole Truth, and nothing but the Truth, instead of trying to make us American farmers believe that the 200 acre farmer in Denmark was willing to be dictated to by the 3 acre farmer. Why haven't they told us that many of these European co-operative associations were made up entirely of petty farmers over whom as supreme dictator stood a landlord who while allowing each a vote in certain matters pertaining to the government of the organization dictated to them absolutely in all matters pertaining to business management, and that the success of these associations was founded on this dictation rather than to any voice the peasants constituting the membership had in the matter?

Why haven't they pictured to us the littleness and narrowness of those three acre farmers in depriving themselves of the benefits they might have derived from association with the greater interests of the 200 acre farmers in an

organization which would carry with it the greater weight both financially and in business experience instead of trying to make us believe that the 200 acre farmer had so far departed his reason that he would submit to being dictated to by a majority of three acre farmers. We American farmers have listened with interest to these fanciful word pictures but we have intuitively known that there was a colored gentleman in the woodpile somewhere and we are mighty glad that he is being driven out to the open.

Now here is a charge for our expert pipe which I hope all our downy lipped U. W. students of the subject will take a puff at to the end that they may get a vision of something that is practical. "The American farmer is intelligent enough to be told the whole truth. He is not a peasant and he is not going to submit to dictation from any power of less magnitude than that of Almighty God or his own voluntary pledge to his fellows. Under the stock voting plan if the big fellow uses his superior voting power to force something over the little fellow the little fellows get out from under. Under the man voting plan if the overpowering numbers of the little fellows try to force something over the protest of the big fellows the big fellows get out from under. Even under our wasteful system of independent marketing here in America there is still enough in it for the producer to tempt even the co-operative Dane with all his boasted success to covet our markets. This being the case we American farmers are wondering if the Danes are really worthy of being a copy for us to pattern after, or whether we had better build up another tariff wall to keep them out with their poor business methods by which the benefit of their co-operation all seems to go to the consumer."

Now from this pipeful can our

so called experts evolve something that is practical for Wisconsin farmers to work from?

If they cannot the Wisconsin farmers will for they are already doing it in many places but that is another story of which I may write sometime in the future if the spirit moves.

Yours for an American system of co-operation by which the big fellow and the little fellow work in the same team in perfect harmony.

Rust Resistant Asparagus.

In the issue of *Wisconsin Horticulture* for July 1913 the writer called attention to progress being made in breeding rust resistant strains of asparagus. According to Prof. L. R. Jones this disease is common in Wisconsin, and it is possible, therefore, that some gardener may wish to raise plants from seed of the resistant strains mentioned. Unfortunately, the seed selected by government experts is not yet available to the public. So far as I know the only seed of resistant strains now on the market is offered by Mr. C. W. Prescott of Concord, Massachusetts, a grower who has selected seed from the same stock and in a somewhat similar manner to that practiced by the agricultural department workers. It is probably not so good as the strains produced by the government men, but is said to be the best available in the East.

G. F. P.

The After Care.

The time of setting out plants, trees, etc., is at hand. No matter how fine condition the stock may be in when you get it from the nursery much depends on the care and cultivation the first summer.

Where a small assortment of fruit trees are purchased we have found it best to advise our cus-

tomers to set the trees out in the kitchen garden in good rich soil close together in a row. Here they can be hoed and watered if necessary. By this means they will better withstand the shock of transplanting as conditions will be nearer those of the nursery where the trees formerly grew. Let the trees grow here for one or two seasons then lift them and set in orchard at the most convenient time. By this means you will have a perfect stand of trees in the orchard with no gaps.

W. J. Moyle.

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BORDEAUX MIXTURE.

The control of fungous diseases is accomplished by the use of some form of copper salts, usually copper sulfate, known also as blue-stone, blue vitrol, etc.

Copper sulphate in combination with fresh lime forms the standard and well known fungicide Bordeaux mixture.

Various formulas are quoted, but the following is now accepted as safe and reliable:

Copper sulfate	4 lbs.
Fresh lime	5 lbs.
Water	50 gallons

In general terms, the copper sulfate should be dissolved in one-half of the water, the lime slaked in the remainder and the two solutions poured together.

Bordeaux mixture is used as a preventive of apple scab, asparagus rust, mildew on grapes, roses and other plants, potato blight and rot, shot-hole fungus on plum and cherry and other fungous diseases.

Helpful Hints in Making Bordeaux Mixture.

- (1) Have on hand three barrels and two pails (wood or fiber).
- (2) Twenty-five gallons of water in each of two of the barrels.
- (3) Dissolve 4 pounds of copper sulfate in one barrel by suspending in a coarse burlap as near the surface of the water as possible; in this way it will dissolve in a few minutes, while if allowed to settle to the bottom it would require several hours to dissolve.
- (4) Place the lime in a pail and slake by adding water slowly until a paste is formed. (The lime for Bordeaux mixture should be slaked exactly as for building purposes.)
- (5) Pour this lime paste into the second barrel and stir thoroughly.
- (6) Add the required amount of arsenate of lead to the lime water.
- (7) Now pour into the third (empty) barrel first a pailful of the copper sulfate solution, then a pailful of the lime water, or better, let two persons work at the job, pouring together.
- (8) The resultant mixture should be of an intense blue color. If any tinge of green appears it is not good Bordeaux mixture.
- (9) The lime-water should be strained to remove the coarse particles which serve to clog the nozzles in spraying.
- (10) Sufficient lime must be used to combine with all of the sulfate or harm will result. The formula given above provides an excess, but such excess is preferable to a slight deficiency. Use all of the lime water.
- (11) Test the mixture. It is always advisable to test every barrel of the mixture before using to detect the presence of any free or uncombined copper which might injure foliage.

Test No. I.

Dip a bright, clean, steel knife blade into the prepared Bordeaux mixture; if any, even the slightest, deposit of copper appears on the blade after a few moments' exposure to the air it is an indication that more lime is needed.

The knife blade should be thoroughly whetted before using for a second test. While this is simple and fairly reliable,

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Test No. II,

or the ferro-cyanide of potassium test is more accurate.

Ferro-cyanide of potassium may be purchased at any drug store.

Place a small quantity (1 oz.) in a bottle and add water slowly until nearly all of the yellow crystals are dissolved. Stir the Bordeaux thoroughly and dip out a few ounces in a saucer. Add a few drops of the ferro-cyanide solution; if any brown discoloration appears it is an indication that more lime is needed. This is a delicate and reliable test.

The ferro-cyanide is a violent poison and should be labeled as such.

Three Things to Avoid in Making Bordeaux Mixture.

(1) Do not use iron or steel vessels for the sulfate or Bordeaux. Not only will these be corroded but the chemical action resulting from continued contact may injuriously affect the mixture. Tinned or galvanized pails are unsafe, as the zinc or tin coating is apt to be imperfect. Use only wood, copper, earthenware or glass.

(2) Do not dissolve the sulfate and lime each in 2 to 4 gallons of water and then mix the concentrated solutions; curdling will result and after dilution difficulty will be experienced in keeping the Bordeaux in suspension.

(Do not fail to stir the ingredients while mixing and the resultant mixture when spraying. If allowed to settle the only portion possessing fungicidal value quickly settles.

The Use of Stock Solutions in Preparing Bordeaux Mixture.

If more than one barrel of Bordeaux is required much time may be saved by using stock solutions.

Dissolve 100 pounds, for example of copper sulfate in 50 gallons of water by suspending in a coarse sack as advised above; slake 100 pounds of lime in another vessel and dilute to 50 gallons; two gallons from the sulfate solution and two and one-half gallons from the lime solution will then contain the requisite amount of ingredients for one barrel of Bordeaux.

Such a stock solution may be kept indefinitely if covered, otherwise the evaporation of water from the sulfate solution would result in a more concentrated mixture and the lime would deteriorate. The lime may be covered with water.

The Bordeaux should be tested when made from stock solutions as when made direct.

This method of using stock solutions is now employed in all extensive spraying operations. In cases where large quantities of spray material is used elevated tanks should be employed from which the solution may be drawn directly into the spray barrel or tank.

Combining insecticides and fungicides.

Either arsenate of lead or Paris green may be safely combined with Bordeaux mixture. In fact, in orchard spraying operations it has come to be a common practice to add either Paris green or arsenate of lead to Bordeaux at every application. By this means biting insects and fungi are controlled at a single operation. No other fact is more important than this in spraying.

When using arsenate of lead with Bordeaux always add the arsen-

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on the

**"Frost-Proof" Bayfield
Peninsula**

where bloom never is killed by spring frosts. Our cooperative association markets the crop. Lands are yet low in price. Terms are easy. For information address, Dept. 1

THE DENISTON COMPANY
Bayfield, Wis.

ate to the lime water, instead of pouring it into the combined copper sulfate and lime; this is important.

KEROSENE EMULSION.

(For plant lice.)

It must be applied to the insects and cannot be used as a preventive.

This is the standard remedy for sucking insects, such as, apple aphid, plum aphid, oyster shell bark louse, etc.

Formula.

Dissolve $\frac{1}{2}$ lb. hard soap in 1 gallon of boiling water.

While hot add 2 gallons kerosene.

Churn or shake the mixture while hot for 5 to 10 minutes or until it assumes a creamy consistency.

See p. 3 for table of dilutions.

Another plan consists in using sour milk instead of the soap water, the object in either case being to hold the kerosene in suspension while it is applied to the insects.

Girls and Pocket Money on the Farm.

Money is one of the many things of which we seldom get too much. Although we choose and follow a certain occupation because we like it, still we are striving for the position which gives us the greatest compensation in dollars and cents,—not that we love the coin itself, but the countless luxuries it will buy.

Every man or woman, boy or girl who really amounts to something in this world is constantly on the lookout for opportunities; opportunities whereby something may be gained, either socially, intellectually, or financially. Therefore the farmer's wife and daughter are ready to grasp any opportunity offered them, for they too love and enjoy good literature, fine clothes, and modern conveniences in the home.

The farm papers are filled with articles on "How to keep the boys on the farm" and some have suggested this solution "Keep the girls there too." Now Mrs. Farmer it rests with us to keep the girls there. Let us unite our efforts

and see what we can accomplish. First we will make the home as attractive, pleasant, and modern as possible. We can accomplish a great deal toward this end by being cheerful, loving, patient, and sociable. Go back to your "teens" (for really women of forty-five are young now a days) join in the games, help to make the fudges, invite the young people to your home and dress the girls tastily, so they won't be pointed out as *farmers* when they go to town. Give them an education and also encourage them to have cultivated any talent they may possess. As for conveniences, the modern farm now affords furnace, bath, running water, in many instances electric light, power washing-machines, gasoline flatirons, oil stoves, vacuum cleaners, bread mixers, and in fact everything that the city can boast of.

To buy all these luxuries (?) considerable cash is required and I will describe to you one of several methods by which I have helped to acquire neat sums. I have found this work not only profitable but interesting and pleasurable as well. I begin with

McKay Nursery Company

PARDEEVILLE, WIS.

Offer a Complete line of

HARDY NURSERY STOCK

FOR SPRING 1914

If interested in planting **FRUIT TREES, SMALL FRUITS** or **ORNAMENTALS**, write us for **CATALOGUE** and **PRICES**. You will find our prices consistent with quality of stock offered.

**NURSERIES AT
WATERLOO, WISCONSIN**

JEWELL MINNESOTA GROWN Nursery Stock

Complete assortment of Fruit and Ornamental stock in all varieties suited to northern culture. A specialty of Hardy Shade Trees, Windbreak Stock, Evergreens (Coniferous), Deciduous Shrubs, Apples and Native Plums.

AGENTS WANTED

**THE JEWELL NURSERY CO.
LAKE CITY, MINN.**

1500 Acres Estab. 1868

the first fruits of the season to do home canning using very simple inexpensive tools. A large kitchen range, several large granite pans and kettles, granite spoons, stone jars, food chopper, cherry pitter, fruit press, strainer, and paring knife, etc., complete the outfit. This seems like a great deal but really you have most of the utensils already in your kitchen. Everything from rhubarb jelly to tomato catsup may be included in the list, but as per 'Home Economics' those things which cost little or nothing or are likely to be wasted, are most profitable. Jellies made from thorn apples, wild crab apples, wild grapes, elderberries and native plums are better than those made from most cultivated fruits and the fruit costs you nothing. The apple jelly is made from apples which are picked to thin out the fruit on the trees thus being almost useless for other purposes. I might say right here that the trees which were relieved of the jelly apples were the ones which sent fruit to the Wisconsin state fair. Utilize all the leftovers. If you have a basket full of crab apples, small beets, beans, cucumbers, tomatoes, or in fact any kind of fruit or vegetables, call the girls; get them interested, let them help to do the work and also to share the profit. Bring out your tools and a book on canning fruits and vegetables, if you are inexperienced, and can, pickle and preserve. Use glass jars for fruits, vegetables and pickles; tumblers for jams and jellies; bottles for juices and catsups; be sure you use only one kind of each and properly label each individual package.

You will find ready market for your goods, either at the grocers' or among private families in the city. Advertise to some extent if you wish. The cheapest and most effective method of advertising I have found was to take especial pains to make one can of each variety look and taste exception-

ally fine and exhibit at our local County fair.

Try home canning on a small scale this year, you may want a new library table or Alice may want a set of furs. Even though you do not dispose of all your goods, do not be discouraged, it will keep in good condition on your cupboard shelves or it will help to supply your table. Try again next summer.

Mrs. N. A. Rasmussen.

Quarter Century With Raspberries.

W. H. Hanchett, in Northwest Farmstead.

At the commencement of my experience 25 years ago among the red raspberries the Turner was something of a standard, presenting as its claim for favor delicious flavor and healthfulness of cane and foliage. It was too soft and unproductive, however, for a profitable market sort, and as about this time Cuthbert was coming to the front as a standard of quality combined with great productiveness and healthfulness of cane, a position which it has retained to the present day, its only fault being that it is rather too tender for distant market, the Turner was discarded. A few years later Marlboro was introduced and won a place as a market sort of extraordinary shipping quality and fine appearance, combined with productiveness and hardiness, although of poor flavor.

Early King is bidding for a place with fine appearance, productiveness, fair flavor, hardiness and vigorous, healthy cane and foliage. Other varieties tried and discarded are: Brandywine—unproductive; Loudon—cane subject to fungi and fruit adheres to stem too closely, making it a hard picker; Hansel—unproductive; Eton—fine appearing and productive, but like Loudon, adheres to stem too much for picking on an extensive market scale.

The Great Northern Nursery Co.

Sells First-Class Wisconsin Grown Trees

Our Trees Live. We have over 50,000 No. 1 apple trees of the late varieties, all of our own growing; and a nicer lot of trees was never grown. They are smooth, clean, healthy, hardy and just the kind of trees to plant in a commercial orchard.

Before you place your order, Mr. Planter, for your trees, write us for prices.

We are the largest growers of apple trees in the state, we are confident that we can furnish trees that will please you, and our prices are right.

Every tree and shrub is packed entirely under cover, free from exposure to sun and wind.

Great Northern Nursery Company
Baraboo, Wis. Write for Catalogue and Price List

BERRY BOXES

Crates, Bushel Boxes and Climax Baskets

As You Like Them

We manufacture the Ewald Patent Folding Berry Boxes of wood veneer that give satisfaction. Berry box and crate material in the K. D. in carload lots our specialty. We constantly carry in stock 16 quart crates all made up ready for use, either for strawberries or blueberries. No order too small or too large for us to handle. We can ship the folding boxes and crates in K. D. from Milwaukee. Promptness is essential in handling fruit, and we aim to do our part well. A large discount for early orders. A postal brings our price list.

Cumberland Fruit Package Co.

Dept. D, Cumberland, Wis.

Make Your Own Barrels

At a cost of about 20c.

"BARREL MAKING SIMPLIFIED"

Tells How - - - Price \$1.

Send 10c for my little booklet

"THE MODERN BARREL"

IT'S JUST FULL OF "BARREL" information

LEON MILLER

2012 N. Germantown Ave., Philadelphia, Pa.

QUESTIONS AND ANSWERS

1. Is red lead as good as white lead to paint wounds on trees? Is the cost about the same?

2. How thin should lead be to apply and which is the best oil, with which to thin, boiled or raw linseed?

3. Is ready mixed house paint harmful?

4. (a) Will painting wounds made a month ago (b) and some as long as a year do any good?

Is the Delicious apple hardy around Green Bay? I live only one mile from water. How long does it keep?

6. Would using dynamite be good to loosen ground for tree planting and if so how should it be used and what per cent? How near can it be used to a cement sidewalk, a large tree, or a building with safety.

Brown Co.

D. P. W.

1. White lead is better than red lead for painting wounds on trees for the same reasons that it is better for buildings. In addition white lead acts as an antiseptic, a property not possessed by red lead.

White lead is more expensive than red but for the quantity required on trees the difference in cost need not be considered.

2. Thicker or "heavier" than house paint by one-fourth.

Boiled oil will probably be a little better but there is not much difference.

3. Ready mixed paint is apt to contain substances which would injure trees.

4. (a) Yes. (a) No.

5. We do not know that the Delicious apple will prove fully hardy at Green Bay but we hope so. Five years hence this question can be answered positively. It is not a long keeper being at its best about Jan. 1st.

6. Dynamite has been used suc-

cessfully in tree planting. The benefits will naturally depend on the character of soil, the heavier the soil the better the results. The brand known as "40 per cent" is commonly used one-half stick for each hole.

Q. We have quite a few growers here who want to use lime in some form or other and I am unable to locate any ground lime or any air slaked except the refuse lime from tanneries. This would naturally contain salt and should contain a little nitrogen from the blood and slime in tanning, and some hair, whatever the content might be.

Now, what I want to know is, will this answer the same purpose or has the acid destroying properties been used up and will the salt work any injury by applying the lime at the rate of 500 lbs. per acre?

Ans. Refuse lime from tanneries usually contains considerable water and other refuse material. The water content sometimes runs as high as 70 per cent. Some of the material in the tannery dump piles contains mostly refuse other than lime. The refuse lime material can be used to advantage only where the cost of transportation is small. It is often very sticky, lumpy and can be handled

SPRAY

YOU ARE GOING TO SPRAY THIS SPRING

NO matter how small or extensive your operations there is a proven MYERS OUT-FIT—Bucket, Barrel or Power, that will just fit your requirements and do the work rapidly and effectively.

Don't take a chance on an outfit that you are not familiar with. Cut out failures by spraying MYERS WAY. It pays big returns in better crops and high market prices.

Write today for Catalog showing all styles
F. E. MYERS & BRO.
 303 Orange Street
 ASHLAND, OHIO

**APPLES
 PEACHES
 PEARS
 PLUMS
 CHERRIES
 GRAPES
 BERRIES
 POTATOES
 MELONS
 VEGETABLES
 FLOWERS
 VINES
 SHRUBBERY
 WEEDS
 ETC.**

MYERS WAY

only with difficulty. If this material is applied to the soil in a wet condition it will cake in the same manner as water-slaked lime does when not immediately worked into the soil. To facilitate application, this material may first be dumped into piles and worked over to reduce the moisture content and to break up the lumps. About two tons per acre of partially dried material may be considered a fair rate of application if it can be dried sufficiently so as to enable it to be spread evenly. The application should be made to the land and then worked into the soil before planting.

Pulverized limestone is fast becoming the favorite agricultural lime. Any form of lime that will give the buyer the most carbonates for his money may be considered the cheaper and best for him to use, provided the material is finely pulverized. The cost should include the initial cost, freight, and cost of getting it applied to the land.

Pulverized limestone can be hauled in car load lots 200 miles for \$.77; 150 miles for \$.68; and 100 miles for \$.58 per ton. The following firms have Agricultural lime for sale:

Lake Shore Lime and Stone Co., Milwaukee, Wis.

Union Lime Co., Pabst Bldg., Milwaukee, Wis.

Waukesha Lime and Stone Co., Waukesha, Wis.

Biesaz Lime & Stone Co., Winona, Minn.

Wisconsin Bulletin No. 236 gives full information on the subject of liming for acid soils.

Prof. C. W. Weir,
Agr. College.

WISCONSIN HORTICULTURE is a great medium for selling things. Try it.



Beans in the Pot.

After much experiment, I have discovered the ideal way to cook "Bush Limas". Stand in cold water till ready to cook. Put them in a good sized saucepan with plenty of cold water, bring steadily to a boil, then add a good pinch of salaratus (or soda). Cook right along until tender, but *do not* pour off the water. When tender the skins will curl; put in a good piece of butter, then salt and pepper to taste. Set on back of stove and cover for a minute, then add either a 5c can of condensed milk or $\frac{1}{4}$ pint of fresh thick cream. Lastly add a teaspoon full of granulated sugar, keep covered until ready to serve on the table. Try this next summer and learn a dish which the King would declare prime.

L. E.

Cost of Spraying.

The cost of spraying apple trees will vary somewhat with the conditions under which it is done. The convenience of the water supply for mixing the spray materials, the size of the orchard, kind of sprayer, price of labor, and the quantity in which the materials are bought are varying factors which determine what the cost of spraying will be under a given set of conditions. The cost of spraying apple trees that are fifteen years old, or older, will be about 20 to 25 cents per tree for the season. This includes the four applications that are usually recommended for the control of codling moth worm and the apple scab fungus, and takes into account the cost of application as well as the cost of material.

Prof. J. G. Moore.

ESTABLISHED 1875
INCORPORATED 1902

LIBERAL COMMISSION
TO GOOD SALESMEN

THE COE, CONVERSE & EDWARDS COMPANY

NURSEYRMEN

120 ACRES DEVOTED TO THE GROWING OF
CHOICE, HARDY NURSERY STOCK

Fort Atkinson, Wis., April 11, 1914.

Mr. Wm. C. Converse,
Fort Atkinson, Wis.

Dear Mr. Converse:-

Please don't ask me for a copy. I am working it. I am a layman getting on my feet. I am full of ideas to build a large nursery. I have a stock of trees and plants and I will be able to handle anything that you want.

Truly yours,

E. G. Kierula.

Kerosene Emulsion in Small Lots.*(From The Garden Magazine.)*

Cut from a cake of common hard soap a cube about one inch square. Take one-half pint of soft water; one pint of common kerosene, or coal-oil.

Pour the half pint of water into any convenient vessel holding a quart or more in which you can boil it. Shave the soap up fine and drop it into the water. Place the vessel on the fire, and bring the water to a boil, stirring to see that the soap is all dissolved.

Remove the vessel from the fire and, while the soapy water is still hot, add the pint of kerosene. At once churn the mixture violently. For this purpose you may use a common egg-beater. It won't hurt the egg-beater in the least; you can easily wash it clean afterward with soap and hot water. Keep on churning the mixture for several minutes until you have

a creamy mass of even consistency throughout.

This is your stock solution. For ordinary summer use you will take one part of this and add to it fifteen or twenty parts of water.

Practical Experience.

"I am pleased to give our experience in spraying apple trees. Several years ago the trees were covered with bark louse and a blight; apples all fell off when half grown. Through the instruction of the Horticultural Society we began spraying, first in March with kerosene emulsion for the louse, later in May when the blossoms were out and again when the apples were well formed and blossom end up. Last year we sent a sample of our fruit to a packing firm in Reedsburg where they grow the "barnyard" apples and they sent a packer down as they were the best they had seen.

Through their delay we lost half the crop or 250 bushels. The 250 we sold netted us nearly \$100.00 from 75 trees.

I neglected to state we used arsenate of lead in the Bordeaux for the May spraying."

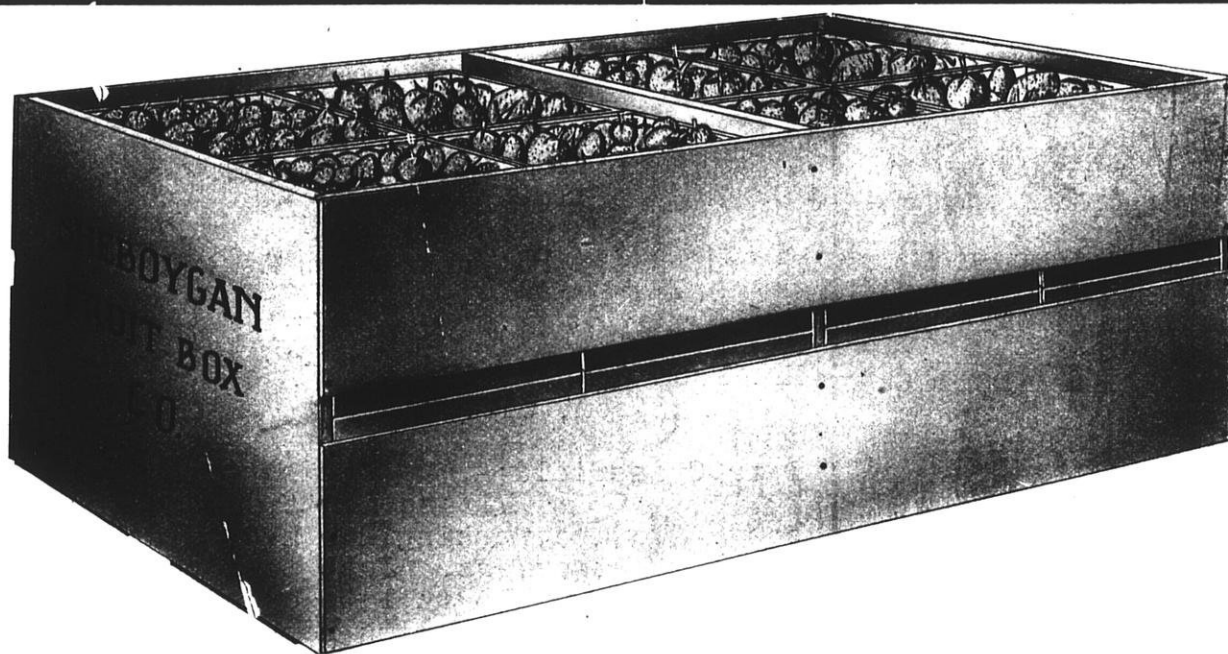
Dodgeville, Wis.

K. A.

Get Only the Good Kind.

Speaking of planting and seeds, reminds me that our folks should be getting seeds in. Don't go to the nearest store and take whatever they have. Get the very best seed to be had. The price should be the last thing to consider. The difference, or the whole price, will be paid several times over by the difference in crop from good or poor seed. The poor kind gives a poor crop of inferior quality. The good a full crop good quality is the rule.

Irving Smith.



"SILVER OR WHITE BIRCH" Berry Boxes. None better and none so cheap. Climax Grape and Peach Baskets, Repacking Baskets, Beekeepers' Supplies, Poultry Crates AND WOOD SPECIALTIES

All goods guaranteed to give perfect satisfaction. Write for prices.
SPECIAL DISCOUNTS FOR JANUARY, FEBRUARY, MARCH AND APRIL

SHEBOYGAN FRUIT BOX CO.

Sheboygan, Wisconsin

WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

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Volume IV

Madison, Wisconsin, June, 1914

Number 10

The Selection of a Camera.

J. C. Elsom, M. D.,
University of Wisconsin.

The growth of amateur photography, especially in the past twenty-five years, has been phenomenal. This result has been brought about by several factors. The manufacturers in this country and abroad have done much to simplify the various photographic processes, placing in everybody's hands a variety of apparatus and an assortment of materials which are admirably designed to meet the demands of the amateur. Cameras are cheaper than formerly, smaller and more convenient to carry; films are light and portable; the daylight loading developing boxes and tanks are certain and efficient, and have rendered the dark room certainly not the necessity which it was in former days. Plates of varying speeds and color values are everywhere on the market at reasonable prices. Developing papers, because of their speed and ease of manipulation, have superseded the old and slow sunlight process of a decade or so ago.

Another cause of the almost universal use of photography is our advancing civilization which seems to demand the photograph and the illustration. Photography is an indispensable adjunct

to all of the sciences, arts and crafts, to say nothing of its use for recreational and personal purposes. One has but to glance

ways makes itself useful and valuable. It is for the horticulturist particularly, that this article is here presented.



Photo by Blanchard Harper.

Asplenium thelypteroides, the Dells, Kilbourn, Wis.

at the newspapers and magazines and scientific journals to be convinced of the prevalence of the photographic illustration.

In horticulture and agriculture the camera plays its part. It is a very necessary piece of apparatus for the recording of horticultural operations, processes, materials, etc., and in scores of

The Size of the Camera.

The question "What is the best size?" is frequently asked. The answer, of course, must be modified according to the needs of the camera user, and the purpose for which he desires his outfit. It is a significant fact that most advanced amateurs are making use of cameras which seem continu-

ally decreasing in size. The old 8x10 outfit, or larger, which used to be in demand, is fast passing away. Such cameras are cumbersome, heavy and expensive, and the necessary equipment of plates, paper, etc., correspondingly costly. Even the 5x7 camera, so popular some years ago, is being superseded by smaller instruments. It seems to the writer, whose experience has been somewhat varied, that for practical, all around uses, the 4x5 camera is admirably adapted to meet all demands; and for most work, the 3¼x4¼ will be found amply large. Indeed, some of the miniature cameras on the market today, especially those of European manufacture, with fine lens and shutter equipment, are capable of doing the most critical work, and enlargements may be made from small negatives with very satisfactory results. These small cameras are well adapted for the making of lantern slides; and indeed for this purpose, are really better than the 4x5 size, because the slides may be made from the small negatives by contact printing, instead of by reduction, which is a somewhat more troublesome process.

Films, or Plates?

The answer to this question again depends on several things. Films are light, portable, convenient to use, and unbreakable. These points are certainly in their favor. For traveling, they are practically a necessity. On the other hand, they cost about twice as much as plates, cannot be obtained in such a variety of speeds, and from the nature of their construction, they do not lie entirely flat, and present an absolutely plane surface in the camera, as is necessary for critically sharp definition. These defects are not very noticeable, however, in the smaller cameras, but the trouble increases in pro-

portion to the area of the film surface.

Lenses.

Of the general types of lenses in common use, there are three which may be briefly described. The first is the single, achromatic, or meniscus lens, which is found on most cheap box cameras, such as the Brownie, Buster Brown, Scout, etc., and on some of the folding and pocket Kodaks and Ansco's and others. These lenses are generally placed on the "fixed focus" type of cameras, the camera box so arranged that the distance between lens and plate (or film) is such that all objects are practically in focus, from eight or ten feet from the camera to very distant objects. Lenses of this type will do good work in bright sunlight, but are considerably limited in their efficiency. They are "slow" lenses; that is, the aperture through which the light passes is small. The ratio of the aperture of the lenses to the focal distance (i. e., between lens and film,) is about 1 to 16. These lenses are not absolutely rectilinear—that is, they are not corrected so that straight lines are rendered as such. The definition given by such lenses is not as critically sharp as in other types of lenses which are of different construction. For the more serious forms of photography, the achromatic single lens should not be selected.

The second, and more efficient type of lens is the "Rapid Rectilinear." This is composed of a double system of lenses, corrected so that straight lines are rendered straight, and the aperture of the lens is so large that it admits much more light than the single achromatic, perhaps twice as much, or more. Hence the lens is called "rapid;" its working aperture is in proportion to the focal distance as about 1 to 8. A lens is "rapid," or "slow," in proportion as it admits more, or less light, just as a large win-

dow lets more light into the room than a small window. But it must be remembered that the larger the aperture of the lens, the less the "depth of focus." Therefore a rapid rectilinear is not usually a "fixed focus" lens. If we focus on an object ten feet away, the distant objects will be out of focus, and blurred, and vice versa. So with lenses of this type, there is a focussing scale on the camera bed, indicating distances of 100, 50, 25, 10, 6 feet, etc., and we have to estimate the distance between the principal object we desire to photograph and the camera. If the opening in the lens, (or diaphragm,) is reduced in size, there will be greater depth of focus, but the lens is thus rendered slower, and a longer exposure must be given. Most cameras fitted with rectilinear lenses have a ground glass attachment, and when the camera is set up on a tripod, the object to be photographed may be clearly seen on the ground glass, and focussing may be accurately done. This is a more certain way than using a focussing scale, and guessing at the distance. Many of the folding Kodaks and other cameras, which ordinarily use films, are also equipped with a plate attachment, and ground glass focussing arrangement, which allows the use of plates as well as films. Such a camera is very satisfactory, and is worth its extra cost. With these plate attachments, single plate-holders are generally used, and the 3¼x4¼ is perhaps the most desirable size.

The third, and most efficient type of lens is the Anastigmat, which works at a very large aperture, and is consequently much faster than the Rectilinear. In fact, it is from two to five times as fast, depending on its construction. Its manufacture is difficult, the peculiar type of glass is expensive, and the workmanship required on such a lens must be of the most skillful or-

der; hence anastigmats are high in price, but of the highest efficiency. Their fine definition and speed are a long way ahead of the Rectilinear, and if cost is no object, they should always be selected. Their speed is so great that snap-shots may be taken on cloudy days. When used at their full opening, however, the focusing must be accurately done, since the large aperture makes the depth of focus very slight.

Shutters.

Much of the success of the amateur photographer depends on his shutter. This necessary equipment to his lens should be capable of such adjustment as will allow a wide range of speeds, such as one one-hundredth, (or less,) one fiftieth, one twenty-fifth, one tenth, one fifth, one half, etc. besides "bulb" and time exposures. One is handicapped with a cheap shutter, which has but one length of so-called "instantaneous" exposure. If the shutter allows a delicate variation in the exposure, it means all the difference between success and failure. The T I B shutter, (Time, Instantaneous and Bulb,) is not so efficient as other makes which allow the greater variation of which we have spoken.

Space forbids but a brief mention of the reflecting camera, with its focal plane shutter. In this type of camera, which is generally of box shape, and somewhat heavy and bulky, the top of the camera opens up, a mirror set at an angle reflects the image on a ground glass at the top of the camera, and we have the advantage of seeing, right side up, and up to the moment of exposure, the full sized object as it will appear in the picture. Exact focussing may be done, and when the focal plane shutter is tripped, the mirror flies up out of the way, the shutter flies down, and the plate is exposed. Cameras of this type are always

fitted with the fast anastigmats, and are very expensive, the 4x5, with a good lens, costing a hundred dollars or more. But for extra rapid work, (the shutter works up to 1/1000 of a second,) and for newspaper work, the camera is invaluable. It is greatly to be desired, also for general purposes, and perhaps gives a greater percentage of successes than any other camera. For an all-around machine, this type of camera, (such as the Graflex, Reflex, etc.,) fitted with

rapid Rectilinear lens, and good shutter. Fitted for plates. (b) A 3 1/4x4 1/4 folding camera, R. R. lens, plates or film. Cost from \$15 to \$30.

3. A fixed focus camera, 3 1/4x4 1/4, or smaller, for films. Cost from \$2 to \$10.

A good steady tripod should be included with any of the above outfits. The variety of cameras on the market is so great, that one may readily select an outfit that suits his taste and his purse; but it is recommended



This is the kind of place city folks dream about.

a fast anastigmat, would be the writer's first choice. Few amateurs, however, desire to invest so much in apparatus. For the general use of the horticulturist the following equipment is recommended, in the order of its desirability:

1. (a) A 4/5 folding type of camera, using plates, (or fitted also for film packs) with an anastigmat lens, and shutter allowing wide variations of speed, (such as the Compound, Volute, Optimo, Hex, and others.)

(b) If a smaller size is wanted, the same equipment as above, but in 3 1/4x4 1/4 size, fitted with plate attachment, and capable of using either plates or roll film. Cost, from \$35 to \$60.

2. (a) A 4x5 folding camera,

that a really good outfit be purchased as an initial outlay, both on account of the wider range of usefulness of such an outfit, as well as the personal pride and satisfaction which the owner may feel in his equipment. At any rate, photography is a most interesting pursuit and of great educational and practical value, and for the horticulturist especially, it seems that a camera or two might be classed as a necessary portion of his equipment.

Cut worms will soon begin to be troublesome. A bran mash to which Paris green and a very little syrup have been added, scattered near the plants, will usually get rid of them.

A Few Remarks on Co-operation.

(1) The prime object in all farmers' co-operative associations is to make more money. We may lug in the brotherhood of man, the fatherhood of God and downy wings of angels if it makes us feel any better but the making of more money is what we are here for.

(2) The successful marketing of farm produce (fruit) demands a knowledge and special training not possessed by the average farmer nor likely to be acquired by him.

(3) In any and every form of co-operative effort in marketing the average farmer must delegate the business of selling to others. He must show confidence both in his fellows and in those employed by him or delegated by him to do business for him.

Upon the honesty and integrity of those so employed or delegated will depend the success or failure of the enterprise. Aside from these three things all else is detail.

While our present system of distribution is faulty and expensive the remedy does not lie in demolishing that system but in improving it. We must have "middlemen" and if all middlemen (fruit commission merchants) were honest, or even approximately honest, we would need no better system. We would not be striving to replace them by other middlemen, the co-operative associations.

In the conduct of co-operative associations the one-man-one-vote rule is the *ideal* one and is the one that we should all strive to attain just as we should strive to attain equality, fraternity and brotherhood throughout life.

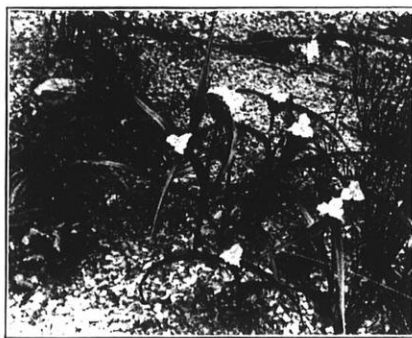
The system is ideal and sometimes it will work. It is a good thing and we should all help to push it along but it is not necessarily the only thing.

It is a good thing but will suc-

ceed only when the property interests of the members are nearly equal.

It is unfair and unreasonable to expect a man of judgment and long experience who sells produce to the amount of \$10,000 to consent to the dictations of ten men who have been in business an equal length of time but who produce but \$500 each.

You wouldn't do it, dear reader, and I wouldn't do it. I might go around carrying a banner "Each for All and All for Each" but when berries were ripe I would look out for my own best interests. So would



Spiderwort.

you or if you didn't I would cease to respect you. So let us preach what we practice.

We should all strive to have our doctrines and teachings conform to certain elementary and basic facts; we will accomplish more. It's a tremendous task to unmake human nature. Let's rather aim to guide and shape it. The one-man-one-vote rule may not always fit into existing conditions. When it does not try something else.

I have encountered but few man-made doctrines that I am willing to accept as infallible.

The Application: We have, in Wisconsin, few purely co-operative enterprises. We have several modified forms of co-operation that are highly successful. Shall we aim to destroy these to make room for the idealistic or shall we give such aid and com-

fort as we may to them while hoping for something better?

F. C.

Apple Culture Among the Hills and Valleys Around Baraboo.

The Fruit-Grower and Farmer, of May 15, contains a letter from Verne S. Pease, in which he makes some rather startling statements. It was with considerable amazement mixed with some amusement, that we read that up to within the past dozen years, the apple industry was a failure around Baraboo. He names a half dozen men who have been responsible for the success of the business. All honor to these men, but they would be the first to give out the statement that the apple orchards of which they are the present owners, have been notable successes since before the present owners were born, and that fine fruit was shown last fall at the State Fair from trees of a number of varieties of apples that have borne bounteously for over fifty years. It is amazing that one who resided in Baraboo, for many years, and still makes it his headquarters, should be ignorant of the fact that from 150 to 175 cars of apples are shipped out of Baraboo annually to say nothing of those handled by nearby towns.

With regard to varieties, the list is too long to be given but it is sufficient to say that beginning with Early Schampagne which ripens in early July, and is followed in rapid succession by many desirable varieties through the summer and fall to such winter varieties as the well known Golden Russet, Talman Sweet and the very much to be desired Baldwin and Northern Spy. Wisconsin is well to the front in the acreage and yield of apples and when it comes to quality and flavor there are none to surpass her.

Mrs. L. H. Palmer,

Baraboo, Wis.

(Having read the article in the F. & F. referred to by Mrs. Palmer the editor most heartily endorses all of the above statements and desires to add his opinion that this Pease person is long on imagination but woefully short on facts. One who writes as he does is designated by youths of the present day as a bonehead but as the facts are not in our possession we will not pass final opinion.

Listen: "The dry atmosphere incident to this section in winter seems to work ruin to fruit trees that are the least bit sensitive to cold."

How about this list from one Baraboo orchard? Alexander, Astrachan, Fall Orange, Grimes, Fameuse, McIntosh, R. I. Greening, Baldwin, Utter, Seek-No-Further, Willow Twig, Bellflower, Spy, Pewaukee and a few others? Many of these kinds from trees 50 years old.

And a little later: "For winter fruit the Northwestern Greening, Golden Russett, Talman Sweet, Walbridge and Salome do well."

How about Newell, Fallawater, Gano, Spy, Pewaukee, Willow Twig, Baldwin, Bellflower and a few more standard winter kinds all grown within ten miles of Baraboo? (Editor.)

Pumping Water Into Strawberries.

The more water we can get into strawberries the better the fruit, so why not use the pump as its water in the berries may bring us 15c per quart. We are surrounded by water above, below and on all sides. Of that above we have no control but all the rest is at our disposal; surely there can be no reason why we should not make use of it. It costs about \$25.00 per acre to irrigate, more or less according to the season, while it costs several times that sum to cultivate and prepare for market, which

sum might be almost entirely lost for the want of water.

I have tried both ways, running water on the ground, also sprinkling but I prefer the latter method so I shall tell you about that.

We pump the water with gasoline engine into a tank elevated 18 ft. We run from the tank an inch and a half pipe to nearest corner of the berry patch then also across the end. From there we run one inch pipes about 60 ft. apart down between the rows placing a hose bib on every 3rd length of pipe, then use com-



Blue Flag; fleur-de-lis.

mon garden hose and sprinklers. Four lengths of hose 50 ft. each and four sprinklers will take care of an acre, watering half the patch each day—which should be the half just picked as the vines are sure to droop from the handling and a little sprinkling of water freshens the leaves and shades the fruit again.

Last year people said we had plenty of rain in our section and I should have been of the same opinion but experiment proved to me we had only about half enough. Strawberry plants want rain almost every day through the picking season, at least they will stand it and improve their fruit if they get it.

We also found that sprinkling entirely controls leaf rollers as they can not work unless given at least 48 hours of dry weather and we give them only half that time. Then again when the picking season is over the soil is

in perfect condition for plowing and preparing for a second crop which without irrigation is oft-times impossible.

N. A. Rasmussen.

Mulching the Garden.

Lewis Elithorp, Clinton, Wis.

Good yields and quality concern us mostly in the garden. Without rich soil and irrigation there is no insurance against crop failure, unless we employ the mulch system in some form. Mulching conserves the rainfall in the dry year, and therefore saves the crop. Ground that is mulched needs drainage to aerate the soil underneath, around the roots of the plants. The most practical is the dust mulch; disadvantage is, that it requires rebuilding after every shower. Whereas the straw mulch needs laying but once; it is not always available, or costs too much. When a supply of straw is handy—it pays to spread it on those dry spots in the garden. In the potato field it means clean, extra fine tubers at digging time. The "Straw Rurals" have the preference in the markets at an advance in price over the others every year. Extra labor in applying mulch is more than offset in the saving on cultivating and weed killing. Straw-horse manure is a double advantage—mulch and fertilizer combined. Should there be heavy rainfall, the liquid manure leeches into the ground slowly, stimulating growth, at a time when needed most. In disintegrating, it eliminates itself, so cultivating can be done later if desired. The best place to apply commercial fertilizers is right on top of the mulch, as none of the chemical elements escape, and plants will take up the juice gradually after every shower. Leaves better be plowed under than used as a mulch, as they pack down, get sour and exclude the air. Baled shavings are good for potatoes and corn,

but not for celery, cabbage or tomatoes. Everyone should make use of whatever mulch material is at hand or reasonable in cost, but by all means give the mulch method a fair trial; you will find it profitable and a labor-saver.

The Purchase and Use of Commercial Fertilizers.

(Contributed)

A matter of increasing interest to Wisconsin farmers is the use of Commercial Fertilizers. In many parts of the state commercial fertilizers are used successfully and no doubt their use would pay in many other parts of the state. There is a reluctance on the part of the average farmer in taking up the use of commercial fertilizers and in most cases this reluctance is justly founded. Generally speaking fertilizers are very little known in Wisconsin owing to the fact that heretofore their use has not been considered necessary. In many parts of the state at the present time, however, the soils are depleted of their original fertility and the careful use of certain fertilizers would pay.

There are a few fundamental considerations that should always be borne in mind. In the first place it should be borne in mind that the term "commercial fertilizers" is a very broad term and includes a great many different materials, hence we should never speak of commercial fertilizers without qualifying our statement in some way.

Of the 14 elements that are necessary to plant growth 3 are considered most important and are more likely to be lacking in our soils than any of the others. These three are nitrogen, phosphorus and potassium, and most commercial fertilizers contain one or all of these elements.

Before buying fertilizer of any kind the farmer should make an effort to arrive at some sort of a conclusion as to what element or

elements are particularly deficient in his soil in order not to waste money in purchasing some material that is not needed in his particular case. The chances are that all of the three so called controlling elements will *not* be lacking and even so there is almost a certainty that one or two will be present in reasonable quantities while others will be relatively scarce.

Thus in system of grain growing phosphorus is most likely to be deficient as relatively large amounts of phosphorus are sold off the farm every year and in such cases a high phosphorus fertilizer should be purchased or available phosphorus alone applied.

On the other hand on the muck soils so common in Wisconsin potash is known to be deficient and in such cases heavy applications of nitrogen and phosphorus would not pay, but potash alone or a relatively high potash fertilizer should be applied. In truck growing on a rather light sandy soil heavier applications of nitrogen will probably be found profitable.

The business farmer must realize that each of these elements has an important part to play in the growth of all our plants. In other words each element has a particular function to perform in the growth of the plant and there can be no substitution. For example phosphorus has an important part to play in the formation of the seeds of all plants and in the absence of phosphorus immature seeds or no seeds at all will be formed no matter how much nitrogen or potash might be present. On the other hand phosphorus will not do the work of nitrogen or potassium. We see that the excess of or lack of any of these three controlling elements will show in some way or other in the growth of the plant. We must learn to know evidences of nitrogen starvation as well as the evidences of too

much nitrogen and also the effects of the other elements as they make themselves manifest in the growth of the plant.

It is well known that too heavy applications of manure will cause a rank weak growth, retard maturity and lessen the proportion of grain to straw. This is simply the effect of too much nitrogen or in other words the effect of an unbalanced ration. The nitrogen in manure is readily available and acts quickly, while the potash and phosphorus are less available and therefore act more slowly. Effects of this sort may be overcome by the application of available phosphorus and potash to the soil.

Excessive amounts of nitrogen in the form of barnyard manure or in the form of commercial fertilizers will show itself very readily in the growth of the plant while excessive amounts of phosphorus or potash will not become so readily apparent. As a matter of fact excessive amounts of potash and phosphorus or more of these elements than the plant needs for its present uses have no effect that we may recognize but the *lack* of these elements is readily apparent. Lack of phosphorus is apparent in a tendency toward late maturity, poorly formed grains or small ears. A large proportion of stalks or straw to corn or grain is another evidence of a lack of phosphorus.

A lack of potash is evidenced by a lack of quality in the grain or fruit and by a weak spindling stem or poorly formed wood. Late maturity is another evidence of a lack of potash and it should be remembered that potash is necessary in the formation of starch in wood, stem or grain. Plenty of potash will cause a plumpness of grain and fruit and a good color in all cases.

Lack of nitrogen will be evidenced by a general poor color in leaves and a poor vegetative or leaf growth. Weak spindling

stems and a general sick look are pretty sure evidences of a lack of this important element. An excess of nitrogen on the other hand will be noticed in a very rank vegetative growth and in the latter part of the season a continuation of this sort of growth when the plant under normal conditions should be making toward maturity. Of course this sort of growth is desirable in some cases such as some of the truck crops but in general farm practice such a growth is a decided detriment.

These functions thus briefly outlined should be constantly borne in mind by the progressive farmer and the action of his crops should be interpreted in terms of nitrogen, phosphorous and potash.

With these functions in mind and with a general idea of the amounts of plant food material removed by the different processes a farmer should be able to pretty accurately diagnose his case and prescribe what is necessary. It is a simple matter to figure out the removal of plant food element in the different crops when we may refer to a table for that purpose. By calculating the amounts of nitrogen phosphoric acid and potash supplied in an application of manure and the amounts removed by the crop we can gain a pretty close idea as to what is needed in the line of commercial fertilizers.

Much nowadays is being written and spoken about soil analysis and what may I ask do you learn from a soil analysis? We learn that the first 6 inches of a certain soil contains so many hundred pounds of nitrogen and so many hundred pounds of phosphorous and so many thousand pounds of potash. Knowing that each crop removes only a comparatively small quantity of the three essential elements we easily calculate from our soil analysis that the particular soil in

question contains enough plant food to last for several hundreds or thousands of years. But are we correct in drawing such a conclusion? Of course not! While the total quantities of plant foods as they were given were probably approximately correct we have no way of knowing what proportion of each of these elements is available for immediate use for the plant nor can we tell how much will be available for the plant next year or the year following. Soil analysis is only a rough guide as to the contents or rather possibilities of our soil. We have an idea as to the potential fertility of our soil but as yet we have no method of making available this large quantity of at present insoluble material.

If we understand our business as we should we can tell more from the character of the crops growing on that particular soil than we can from a soil analysis.

Another way to tell the plant food requirements of our soils and a very good way if carefully carried out is by a little fertilizer experiment as outlined below.

Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7
O check	KP	KN	PN	KPN	KPN Lime	O

K Potash. P Phosphorus. N Nitrogen.

If plots 2 and 3 show up particularly we conclude that potash is one of the elements deficient in the soil. If 2 and 4 should show up well we should arrive at the conclusion that phosphoric acid is the most needed element. If plots 3 and 4 show up particularly well we conclude that nitrogen is the element lacking in that particular soil, etc., etc.

Little plots of this sort are not difficult to handle and much may be learned from them if the experiment is carefully watched and the results tabulated.

Above all things do not buy a fertilizer without having some idea as to the needs of your particular soil. Before any purchase is made try to come to some conclusion as to what your soil needs and then see that you get it. If from your observations phosphorous seems lacking buy a high phosphate fertilizer, one containing 10% or more of available phosphorus and so with the Nitrogen and Potash.

It is a poor practice to buy anything with no clear idea of what we are buying and this applies to fertilizers more than anything else. This practice of buying something in the line of fertilizers of which we know nothing at all has given rise to more discontent and disappointment among farmers than any element of the fertilizer trade.

Beans Oshkosh Baked.

In the fall of 1912 there seemed to be many so-called leftovers on a patch of wax beans. These when ripe were harvested and finally, during that winter, got into a grain sack. One day upon finding the supply of navy beans exhausted we decided to bake some wax beans. In the evening they were thoroughly washed but their complexion was natural. Having been soaked in water over night, they were again thoroughly washed in the morning; this time some of their color vanished. Upon boiling them they faded still more and were then put into the bean jar with a liberal sprinkling of salt, a small handful of brown sugar, two table spoonfuls of vinegar, and a layer of sliced salt pork over the top. The beans were then covered with water and baked about 3 hours.

We have baked no other variety of beans since then; they can not be equalled. No local Horticulture supper is complete without them; ask Mr. Coe, he has been a guest at our meetings.

A. R.

Wisconsin Horticulture

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Announcement.

The Summer Meeting will be held at Gays Mills in August, probably Aug. 18th and 19th.

Six years ago there were no orchards at Gays Mills except a few patches of trees that might by courtesy have been called "farm" orchards. Now there are over four hundred acres of apples on the ridges just east of the village, one continuous strip two miles in length, and good prospects that 400 acres more will be planted within a year or two.

These figures will seem insignificant to Illinois or Missouri fruit growers but it is a pretty

fair record for Wisconsin. Almost everyone in Wisconsin has heard about the Kickapoo country and its apple trees and the Board of Managers concluded to give all an opportunity to see it.

The Kickapoo people didn't ask for the meeting, in fact were not consulted until five minutes before action was taken. In fact they didn't really want us for a year or two.

It's not easy to get to Gays Mills by water but it can be done. The Kickapoo river is navigable as far as the mill dam at Gays Mills but only for short craft. The width is not of as much importance as the length. On account of the curves the boats should be under 6 feet in length. The railroad follows the river.

However we need not be concerned about the river, there are two perfectly good trains up the valley each day and the same number back.

The scenery from Wauzeka to Gays Mills is magnificent, the view from Lookout Point, just at the corner of our Trial orchard, can be described only by a word painter.

For natural beauties the Kickapoo is unexcelled by any other point in the state.

It is also one of the sections of Wisconsin that helped put us on the map as a fruit state. When you have seen it you will know why. Will you go?

Something Everybody Ought to Know.

Everybody ought to know that the columns of this paper are open at all times to anyone for contributions and discussions of any topic relating to horticulture or any matter whatsoever which directly affects the horticulturists of the state either professionals or amateurs.

Many do know it and for the benefit of others the fact is here proclaimed.

The restrictions will be few. The discussions must lead somewhere. Mere personal controversies or the discussion of a subject of interest only to one or two people may best be carried on by personal correspondence.

What is wanted is a free, frank expression of opinion on horticultural topics. The mere fact that the opinion expressed is not in agreement with that of the editor is of no consequence whatever.

Come on, do your worst,—or your best.

Another Notice.

All unsigned articles which appear in this paper are written by the editor and also most of the "little ones," paragraphs of 2 to 6 lines each. They are all harmless as a rule and are always shaped, so far as possible, in accordance with the policy of the Society.

Articles signed "F. C." or as below are personal opinions of the editor for which no one else is to be held responsible.

Frederic Cranefield,
 Editor.

A Protest.

As a member of the Wisconsin State Horticultural Society I respect Mr. Hanchett for his many years' experience as a practical fruit-grower, but as a student at the College of Agriculture in our State University I feel called upon to deprecate his illogical and narrow-minded slander of University students. Mr. Hanchett may know a whole lot about fruit trees, but he has proved very neatly that he has no knowledge at all of a certain class of his fellow beings. His definition of an expert is absolutely absurd and childish; University students do not pretend to be experts while they are in college, and it takes many years

of experience after they have graduated before they become any sort of experts. University students, at least those studying Agriculture, do not make a practice of smoking meerschaum pipes, or any other kind of pipe as far as that is concerned, and less than ten per cent boast "downy lips." Beside, does our friend think that smoking a meerschaum pipe is a crime? One of the greatest races of the world, the Germans, smoke such pipes. And let us hope he will not forget that he was downy lip-ped himself at one time.

George A. Chandler, U. W., 1917

Much Marketing Talk.

To most of our readers it will perhaps seem unfair to take up so much space with discussions in marketing as but a small percentage of the members are directly interested.

It is in a way an injustice but these are days of readjustment and the member who has no fruit to sell must remember that he is nevertheless affected. These are critical times in the business world and for the fruit grower as well. The State Horticultural Society has a part to play and the amateur member must not be impatient if there seems to be just now too much marketing talk.

Control of "Damping Off."

The results of several years experiment and experience in the control of damping off disease in plant beds has just been published by Mr. J. Johnson of the Horticultural Department. The work has been done largely with tobacco plants, but the principles established apply to other plants as well. The readers of this magazine are probably familiar with the disease which rots off young plants just at the surface of the soil. As has been previously reported (Wis. Horticulture April

1913) the disease attacks the plants when they are thickly planted and when the air and soil are warm and moist. Thin sowing of seed, plenty of ventilation, and careful watering tend to hold it in check.

Most of us are chiefly interested in Mr. Johnson's conclusions in regard to sterilizing the soil to kill the fungi and assure the prevention of the trouble. Formaldehyde has been recommended by other writers at comparatively weak strengths. These investigations, however, show that each square foot of soil must be watered with two quarts of a solution of of formaldehyde made by mixing one part of the commercial 46% formaldehyde with 50 parts of water. This is equivalent to four quarts of concentrated solution in a 50 gallon barrel of water. It is a good plan to cover the surface of the soil after treatment to keep the fumes from escaping immediately. Seed cannot be sown for five to seven days following such a treatment.

Steam sterilization has been found most satisfactory especially with tobacco. In outdoor beds such as coldframes or hotbeds what is known as the "inverted pan" method of steaming is most practical. A pan of galvanized iron six feet wide and up to ten feet in length and six or eight inches deep is inverted over the bed to be treated and pressed down until the edges penetrate the soil to a depth of about an inch. Steam is introduced from some source such as a traction engine or the heating system of a greenhouse for a period of 30 to 60 minutes depending upon the character of the soil. Clay soils require longest treatment and sandy soils shortest. The superiority of the steam process lies largely in the fact that it not only kills the fungi but in addition it kills seeds of weeds and by its effect upon the soil stimulates the growth of plants.

G. F. P.

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Garden Flowers.

Wm. Toole Sr., at Iowa State Horticultural Society Convention.

(Continued from May)

I must get back to my inexperienced amateur, and say that few of our flowering plants need a very rich soil. Pansies, Asters for an extra surface enrichment, but most kinds do well in any good garden soil, and some of them, like Petunias, bloom more freely in soil of moderate fertility than where it is very rich. I do not think that a very luxuriant growth of perennials in the fall is at all helpful to hardiness.

If we have a flower garden we must have plants and these may be bought from those who make a business of furnishing them, or we may raise our own seedlings and transplant. Many good things cannot be bought in young plants, and so they must be started from seed. The seed bed should be of a mellow friable soil, reasonably fertile, and not much infested with weed seeds. After the bed is prepared with a smooth surface carefully pressed down, it is well to give a thin covering of sifted woods earth, but this is not an absolute necessity. Seeds should be planted in rows that they may be readily weeded. The depth of covering should be varied according to the size of seeds. Very small seeds like those of Petunia and Snapdragon should receive only the faintest amount of soil covering. Larger seeds may be covered to a depth equal to three or four times their diameter. Our seed bed must retain moisture sufficiently to prevent the tender rootlets from drying before they have gone down far enough to carry them through first emergencies. Shading must be given until the young seed leaves are out of the ground. Any cheap grade of sheeting, new or old, will answer

the purpose. If the shading is tacked to a frame and supported by a box like surrounding to the bed it can be more conveniently handled than if laid directly on the ground. Direct contact will answer the purpose, and if the covering is laid on the bed, watering can be done without its removal. As soon as the young plants have broken ground they must be accustomed to full light and handled according to weather conditions. Leave the covering off at night and as late as is safe in the morning, and if it is cloudy, continue the exposure to light through the day. A fair amount of common sense will note what is a safe amount of exposure without too much drying. If the seeds have been sown far enough apart no thinning will be necessary, but the young plants must not be allowed to become drawn or slender before transplanting. In the meantime, while the little plants are growing in with a mellowed texture and smooth surface which has at all times been kept from crusting over after rains. We may then with water and shading, safely move our plants even in a dry spell. Cultivation is as necessary to flowering plants as to field crops or to the vegetable garden, and oft times it would be better to stir the surface more, with less application of water.

In some parts of this paper more should have been said about the best of the perennials. A separate paper might well be given to Peonies; as much might be said of the Iris and the Perennial Phlox are indispensable in any fair sized collection. In addition to some of the kinds which have been previously mentioned we might add perennial Sunflowers, Hollyhocks and Foxglove for the background, with Coreopsis, Lychnis, Campanulas, Chinese Bell Flower, the hardy Penstemon, Sweet Williams, hardy Pinks, Lupins, Veronicas, and

others. Too much emphasis cannot be placed on the practice of letting seeds ripen when seed saving is not intended, thus lessening continued blooming of all kinds and longevity of the plants.

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QUESTIONS AND ANSWERS**Spraying Currants.**

Q. Can you give me any data regarding the spraying of currants as to what to use and when to use it. Also have you any data as to what is necessary for manuring or fertilizing the soil so as to get the proper yield. I have in mind to drill clover between the rows after the crop is gathered and plow under in the fall. Will this be sufficient plant food or shall I use commercial fertilizers. The three thousand currant bushes I planted last spring are loaded with bloom, and I have planted five thousand more bushes this spring. My ten acres of apple trees are doing fine. Did not lose any this winter. I sowed peas and oats last summer and plowed it under this spring. I protected the trees with wood veneer and was not bothered by mice which were very numerous the past winter.

M. W. C., Milwaukee Co.

Ans. Few operations in horticulture give more satisfaction than spraying currants. If unsprayed currants are quite likely to be completely defoliated shortly after midsummer by rust, (septoria) and other fungi while a single thorough application of bordeaux will usually serve to preserve the foliage until frost. This spray should be given as soon as the leaves are fully developed and by adding 2 to 3 lbs. of arsenate of lead (paste) to each barrel of bordeaux the currant worm will be taken care of at the same time.

Q. I have recently purchased a place on which there are some apple trees—probably six or eight years old—but which are evidently being choked out with quack grass about the roots (at least it looks to me that way) and I have placed tarred paper about the base of each tree; with

a view to killing out the quack grass—my remedy may be the death of the trees. The paper covers about four feet square of the surface.

Can your advise me if the paper is liable to kill the trees?

M. N. Wood Co.

Ans. The tarred paper will not kill nor injure the trees and should be effective in killing the quack grass. This plan was tried with excellent success in our Poplar trial orchard.

For four years we tried digging out the roots but enough were left each time for a good crop the following year. Two years ago several rolls of the heaviest grade of tarred paper were purchased and spread over the quack and in many cases close to the trees. The quack was killed completely in one season except in spots where careless pedestrians stepped through the paper admitting the light.

F. C.

Q. Only about one-half of the apple trees in my orchard have blossoms. Is it necessary to spray the whole orchard.

A. N.

Ans. Not necessary but advisable. The effects are cumulative and one or more applications of bordeaux with arsenate of lead will insure clean foliage on the non-bearing trees aiding them to mature fruit buds for next year. Scab frequently attacks the foliage of apple trees with no distinction between bearing trees and others.

Beautify the Waste Places.

There is nothing that detracts more from the appearances of a community than to have roadsides and fence corners allowed to grow up to weeds. It is much too common a practice to throw the loose stones into the highway and if brush is cut, to pile it up to be burned in the future.

Everything that can be burned should be, and if the stones cannot

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1500 Acres Estab. 1868

be moved away, they should be piled and a few morning glory seed scattered at the base of the pile, and in a short time the unsightly heap will be covered by a graceful mass of beauty.

The child's welfare clubs of the city are doing a noble work and should receive all the encouragement and help possible. It is a much needed education among the city young people as very few of them can tell pansy from pitchforks (Spanish Needles) and for that reason take no interest in plant life. There are many vacant lots and odd places in the suburbs of the cities and small towns that could be converted into productive places, and the work could all be done by children in their otherwise idle hours, if some one who was interested would supervise the work giving a little interesting talk as the work is being done.

Giving the children a few packages of seeds and telling them how to plant them is only a small part of the teaching necessary, to get the child's interest sufficiently aroused so that he will put real heart into the work. Every normal child wants results from his work, and when he goes into his little garden and finds a mass of plants of which he knows little of how to distinguish the weeds from the useful plants, he gets discouraged in a short time and thinks it is more fun to play with the boy in the alley. Just then is the time to catch his interest and a little practical help prompted by personal interest, and the boy will be transformed from an idle street urchin to an interested worker. Personal influence must be maintained throughout the season, and wholesome praise be given for work well done, and when the little crop is gathered, the boy should be encouraged to plant a larger plot the following season.

He should be given pleasant stories of garden and farm life and work to stimulate his interest, and shown results that have been

achieved from greater efforts, that he may see that it is worth while to try for bigger things.

Mrs. L. H. Palmer,
Baraboo, Wis.

Why Cultivate.

Geo. F. Potter.

The system of orchard soil management usually advocated by careful horticulturists is what is known as the clean-culture cover-crop system. By this plan the orchard is plowed in the spring and cultivated until about July 15 or Aug. 1, when a crop of some rank growing plant is sown. This crop remains on the ground over winter and is turned under the following spring when cultivation is begun again. Some, however, have advocated the sod-mulch system, by which the orchard is sodded and the grass which grows is mowed and allowed to rot on the ground.

From the experience of practical orchardists we know that good orchards can be produced by faithfully following out either plan, but in the final analysis as to which is the better our interest centers about experiments which have been carried at the Ohio and New York stations and in which the two systems have been tried side by side upon similar trees under otherwise similar conditions. The Ohio experiment gave results favorable to the sod-mulch system and is referred to as authority by sod-mulch advocates. On the other hand the New York experimenters found the clean-culture cover crop system to give the best results to the delight of all who favor the cultivation of the orchard.

This difference in results may be explained as being due to differences in the conditions of the experiments. The trees used in the Ohio trial were newly set, and because their root systems did not permeate all the soil the grass which grew between the rows was cut and piled about the bases of

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LEON MILLER

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the trees. In the New York experiment large trees of bearing age were used, and since the roots permeated all the soil the grass was allowed to rot where it fell upon cutting. Therefore the mulch in the first case must have been about three times as thick as in the latter and it is probable that all the sod immediately over the roots of the trees was smothered or nearly so. This thick mulch is much more favorable to the development of trees than the covering resulting from the cutting of such vegetation as will grow under the trees and is possibly even more favorable than cultivation. But it is expensive and impractical to maintain and we have no data to show that it is worth while. True the Ohio experimenters received larger yields from the mulched trees, but the total crop was only about four bushels and conclusions drawn from such meagre data are not reliable.

In the New York experiment, as an average of five year's crops totaling over 4000 barrels of fruit, it was found that the trees under the clean-culture cover-crop management were yielding over 50% more fruit than an equal number of trees in the sod plat. The fruit was larger and of better quality, although slightly less highly colored, and the trees themselves gave evidence of greater health. These results are corroborated by the results obtained in a similar experiment at the New Hampshire station. Further careful records of the cost of maintenance, receipts, and profits of the different parts of the orchard showed a slightly greater cost, but fully a third larger profits per acre from that portion where cultivation and cover crops were used.

Conclusions drawn from experiments carried on through a long period and on a large scale as were these are worthy of broad application. And the lesson is that where the character and slope of the soil are such that the washing or erosion of soil does not present grave

dangers, the cultivation of the orchard with suitable cover-crops will give better results and more profit than keeping the trees under a sod mulch such as it is ordinarily practical to maintain.

Fighting the Rose Aphis.

Rose growers who allow the flowers to be damaged by the ravages of the rose aphis, have only themselves to blame, according to the United States Department of Agriculture. Although the aphis is widespread over the entire country, as well as abroad, it is easily controlled. Careful spraying of the plants with solutions of nicotine will remove all danger and neither the expense nor the trouble involved is sufficiently great to be a real obstacle.

The rose aphis is a small insect with a body about one-twelfth of an inch long. The young and some adult forms are wingless but certain adults develop wings from time to time. The color varies from green to pink. By

means of its slender beak the aphis sucks out the juices of the plant on whose buds and unfolding leaves it feeds. These, prevented from attaining their perfect form, become curled and dis-

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FORT ATKINSON, WIS.

torted and the beauty of the flowers is in large measure ruined. Moreover, the aphid secretes a sweet sticky liquid called honeydew which spoils the appearances of the foliage on which it is deposited.

Under favorable conditions it propagates rapidly throughout the year. For example, some recent investigations conducted in California by the Department of Agriculture showed that one female gave birth to 48 young in 6 days. At the end of that time, the mother aphid was knocked from the rose and perished.

This is not at all an uncommon fate. A heavy rain, which washes the insect away is one of its most natural checks, though birds and other insects prey upon the aphid to a considerable extent. Extreme heat is also unfavorable to the aphid.

The rose lover should not, however, depend upon nature to rid his garden of the pest. A 40 per cent solution of nicotine is much surer and not much more trouble. One part of the solution to from 1,000 to 2,000 parts of water with the addition of one pound of whale-oil soap to every 50 gallons of the mixture is recommended in Bulletin 90, "The Rose Aphid," which the United States Department of Agriculture has just issued. A more convenient recipe, when there are only a few bushes to be treated, is a teaspoonful of 40 per cent nicotine solution to 2 gallons of water and one-half ounce of whale-oil soap. The soap should be shaved fine and dissolved in hot water.

Mixtures of this character should be applied as a fine, penetrating spray by means of a compressed air sprayer or bucket pump. Such a pump costs from \$3.50 to \$15.00. Together with nicotine solutions it can usually be obtained at seed stores. If no pump is to be had, however, the infested twigs should be dipped in a pail of the solution. Care should be taken to use these so-

lutions at strengths no greater than those mentioned above, since injury to the foliage may result through the use of too much soap, or mildew be favored by too strong a nicotine solution.

Application of insecticides should be made on the first appearance of the pest which varies from the time that the leaves are put forth until the buds begin to form. Applications should be repeated as found necessary.

A Chance for Consumers.

Mr. J. P. Enright, who lives near Lyndon which is in Juneau Co., has a fine apple orchard of several hundred bearing trees.

Mr. Enright's success in making this orchard his principal source of income instead of a side-line; his experience in pruning, cultivating and spraying this orchard all make a most interesting story that will be told some time in W. H.

Mr. Enright's experiences in marketing are no less interesting than his producing story. Here is one:

"In looking over my returns for last year's crop of apples I find that on 250 barrels shipped to one commission house in Chicago in seven different shipments I paid

SPRAY

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SHRUBBERY
WEEDS
ETC.**

MYERS WAY

Freight charges	\$79.70
Cartage	15.02
Commission	77.42
Cold storage	30.50

\$202.64

You will note the commission alone was nearly as much as freight charges and the cartage, commission and storage cost very nearly 50c per barrel, and with freight charges added it amounted to 81c per barrel. During the time I was making these shipments I was filling orders to the consumer direct at a price f. o. b. Lyndon eliminating this 81c per bbl. This proves that it is up to us to get in touch with the consumer."

J. P. Enright.

Eighty-one cents a barrel is too much. Thousands of consumers in the cities of Wisconsin are ready and willing to buy direct from the growers if by so doing they can feel reasonably certain of getting good apples at a reasonable price. No "barnyard" apples wanted.

It is quite likely that twenty thousand barrels of apples could be sold direct from grower to consumer next September and October.

If a sufficient number of people of either class express an interest in this work a few pages of Horticulture will be devoted each month, beginning with July, to an exchange Dept. Write the editor about it.

Write J. P. Campbell, Jacksonville, Florida, for copy of booklet Modern Irrigation which describes the Campbell Automatic Sprinkling System of Irrigation.

Ants may be destroyed by punching holes in the hills with a fork handle and saturating cotton batting with carbon bisulphide. Put this in the hole and cover it with earth.

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For Spring 1915 delivery we have a fine assortment of piece-root grafted apples, including the reliable Wisconsin varieties:

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These are "CHASE QUALITY TREES", Western New York grown, the kind that bring results.

Ask for catalogue 58W and booklet on planting.

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STURGEON, BAY, WIS.

The Boutonniere.

It is supposed to be in best taste for gentlemen to wear for personal ornament only short stemmed flowers in moderate quantity.

This is an advantage as such arrangements are more easily kept fresh than the more massive affairs which the ladies wear. To keep such flowers as pansies fresh while wearing them procure a small homeopathic vial. Wind around the neck a couple of turns of ordinary cotton twine and tie tightly. Fill with water and pin to the back of the coat lapel so that the mouth is even with the lower edge of the button hole. When lapel is in natural position the vial is out of sight. Insert the flower stems in the vial with such arrangement as your taste approves and you can wear the flowers all day and give them to some lady friend in the evening.

W. T.

We Should Worry About Germany.

"Enclosed please find one dollar for renewal of membership. Have been away since the 8th of December till the 19th of March on a trip over in Europe. Had not been there for the last 35 years. Most of the trees I saw in my younger years have disappeared, but new trees are taking their places. Every roadside is lined with trees mostly pears, prunes and sour cherries. Apples have been a very poor crop for the last 3 years. The only good apples I saw in Germany and that was in Berlin, were our American Delicious, Roman Beauty and Winesaps which sold there per pound for 68 pfennig or 16 cents in our American money. Had a fine time over there and gained about 20 pounds in these 3 months and feel 10 years younger."

H. Kaufmann.

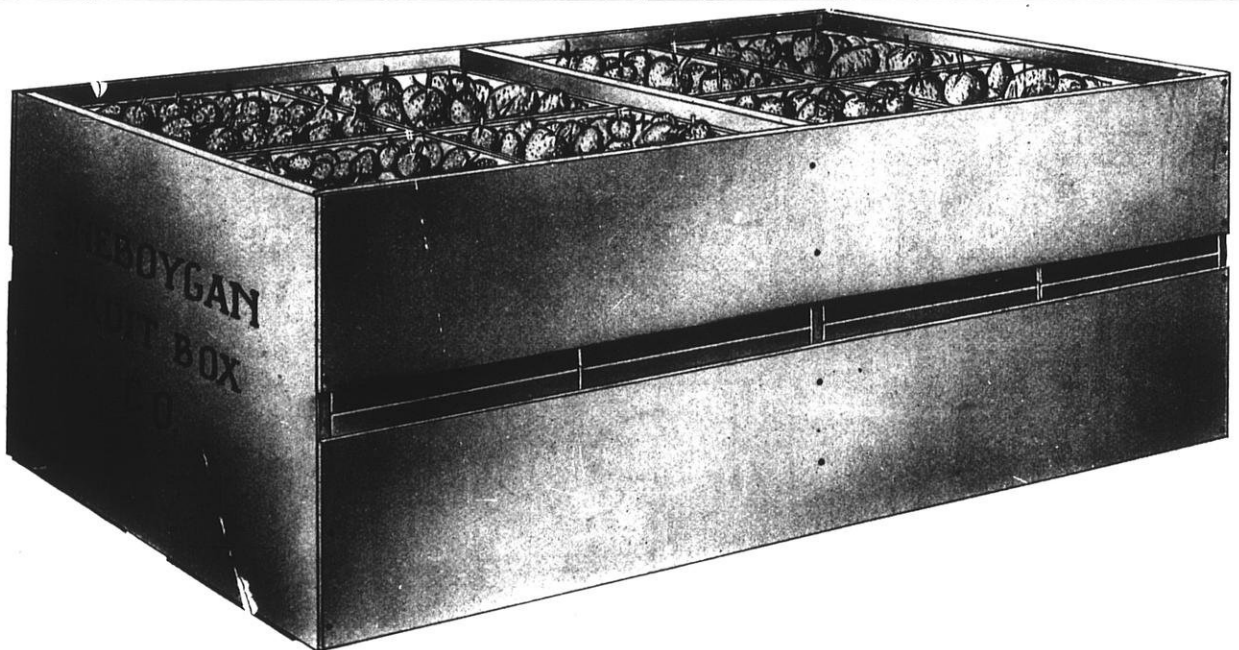
Cheerful Words.

* * * "By the way, I certainly want to congratulate you on the quality of some of the fruit which I saw coming out of Wisconsin this year. I saw a great many barrels of it on the Chicago market and it certainly was fine stuff and unusually well packed. If your growers generally can and will keep up this practice, I do not think they will ever be lacking a market. Moreover it will take only a year or two of such kind of packing and growing to place Wisconsin right up in the front rank. It is not going to be the quantity produced that is going to cut the figure in the next few years, but rather the quality.

R. G. Phillips,

Sec. International Apple Shippers' Association.

Keep the cultivator going.



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WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

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Madison, Wisconsin, July, 1914

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School Days.

It's hot and worse than uncomfortable here in the office this afternoon. The windows are open, the trolley car bells are pounding out seven different brands of madness and that fine powdery grit from the asphalt is over everything. The typewriter in the next room is furnishing a few minor chords, another in the back room lacks an eighth-note of being in time, seventeen thousand autos and motorcycles are passing at once; I'm tired and I am sick of my task and I want to,—No, Gus I do *not* want to go fishing; Nor to go home and work in the garden. You have one more guess which will make three, which is all the law of guesses allows. Give it up? Well I knew you wouldn't guess it in a thousand years. I want to go to school this afternoon.

Nothing easier, you say? The high school only two blocks away and the Hennepin school on B. avenue?

Oh, you bonehead! Do you suppose I want to go wholly mad? The high school, a steel and brick factory costing half a million dollars where a thousand poor luckless kids that never harmed a living soul are being "finished", trimmed and smoothed and sandpapered until all act alike and talk alike and

are alike; all finished off for the university.

No August I will say, with all the emphasis that these enervating conditions permit that it is not the high school that calls

Even so, dear Gus I want to go back there today, just a little while. Have old Daddy Time swing back the hands of his faultless, never-stopping clock about 37 years so that I can go



This is *not* the Duck Creek School. It's a 1914 country school-house, well built with modern heating and ventilation and a "modern" teacher within. It is very much better in every way than a city school.

me this afternoon but another school one that you never saw and alas, will never see for it's gone now; the old unpainted, weather beaten school-house set on a steep slope back in the corner of a triangular half-acre is now serving as a granary half a mile down the road and the yard a tangle of brush and weeds.

to the old Duck Creek school again. Can't be done? and you wouldn't if you could because you would be 17 years worse off than nothing? No matter, I have the memory anyway and if you ask no more fool questions I will take you back there.

The steep path from the road to the farthest corner where

stood the schoolhouse, winding between poplar, maple and oak with ever fragrant hazel and sumac on either hand, the noble old burr-oak near the top of the hill with deep soft grass beneath, almost deep enough to hide you by midsummer and wherein we rolled in delicious coolness at recess; the rail fence on two sides that afforded many things good to eat; No Augustus dear we didn't eat the rail fence but we nibbled the dark red and green leaves and stems of peppermint that grew in the shaded angles of that old rail fence; and the wood sorrel so delightfully sour and also raspberry shoots. Raspberry shoots are really very good to eat if you catch them young. Just break a stem off close to the ground, peel off the bark and eat it with sorrel and peppermint for seasoning.

The fence ran quite close to the schoolhouse on one side, the top level with the windows and this was the worst thing about going to school in the summer time for the chipmunks invariably established a race course along the top rail, a nursery and playground on the second rail and various other forms of amusement in the remaining odd places in that fence.

Those cussed chipmunks actually *played* all day long while we worked and if you watched them too long or shied a pebble at them which you had carefully provided for that purpose, something disagreeable would happen.

Chipmunks are cute and quite harmless but I can never really love them. It's because they tormented me too much when I was very young.

Bumble bees were very much better. This humble and industrious insect quite frequently afforded us boys our only diversion. A big yellow-bellied fellow would come sailing lazily in, I can hear him droning now, and

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AUGUST 19th AND 20th

teacher and about half the girls would immediately throw a fit while the boys, brave fellows, were permitted unrestricted freedom until Mr. Bee was killed or driven out.

We learned many things in that old school-house Gussie dear, but I know now, we boys at least, learned much more outdoors. We got our bird lore at first hand and we learned all about bumble bees nest, grass snakes, gophers, wood-chucks, squirrels and a million other things all bounteously provided by our best teacher of all old Mother Nature.

We couldn't very well help learning a little in school because there were only about a dozen of us altogether in the summer term and the teacher could give us individual attention. Quite frequently she did so.

We had all kinds of teachers in these days, pretty ones and homely ones but I never fell in love with any of them. I think I hated each and every individual one of them. I hated some of them less than others and one came very near arousing in my stony breast a gentle spark of affection. It was on account of that red-headed pest Jack Lawton and the just and righteous

retribution which befell him at the hands of this particular teacher. If you want me to I'll tell you that yarn another time.

This school, Augustus, beat any you will ever know for developing individual enterprise, ingenuity and resourcefulness. The desks and seats were all in one piece, solid backs, the whole of rough pine. The distance from where Dear Teacher sat to the back of the room was only about twenty feet and if you had all these before mentioned faculties and most any kind of a knife you could, in the course of a week, bore a hole through the back of the seat in front of you and low down. You then inserted a pin in a short stick and thrust it through said hole and about four inches into a soft part of the boy occupying said front seat aforesaid.

I say, to do all this without being caught, to drop the pin down a crack in the floor, conceal the stick and keep on studying very hard also to refrain from mirth, required abilities which will never be developed in our "finishing" schools. I never read these absorbing descriptions of legal electrocutions but I think of the pin victims in the old schoolhouse on the hill. You

may read how the condemned murderer surged forward straining at the straps as the current was switched on. That's just the way this pin-stuck victim acted,—just surged forward until he met the desk in front.

You didn't very often get caught at it because nobody was ever known to squeal on anybody else. When teacher asked him to explain these apparently inexplicable confertions he said he had a "stitch in his side."

Bless you Billie boy wherever you may be and may you ever prosper. You may not be rich nor even in politics but I'll bet you a big brown cookie like the ones Lizzie Hayes used to bring in her dinner pail that you have some good and loyal friends that would cut off a good right hand if it would save yours because you were good and loyal yourself in these old days I am running on about and I'm sure you are yet.

There are many, many other things Gus that I could tell you about the old Duck Creek school but it would take hours and hours and hours to tell.

I know the old school-house has been moved, the rail fence gone and the poplars whereon we carved our names, dead and fallen. Perchance the big burr-oak remains and the smaller ones but all the boys and girls, Joe and Jim and Billie and Lizzie, Beezie and Alice, and Tommie who died, none of them are out there at recess playing two-old-cat or pom-pom-pull-away.

I know that all these things happened years, ages, ago August but its very hot here and I do most grievously want to go back to school again today.

The Russian Olive has been an especially showy tree this spring. Its white foliage among the green, and the sweet odor of its blossoms make it a good plant to have on the lawn.

Amelia Graveraux.

Amelia Graveraux one of the new Hybrid rosa rugosa roses, has been stopping at our nurseries for the last two years, and so thoroughly has she emplanated herself in the affections of every member of the family that we are continually singing her praises to all of our friends. When she first came we were a little shy of her as her French name indicated that she might

We have a lot of other hardy hybrid rosa rugosas on trial but as most of them bloom in clusters they cannot be used as a cut flower but are fine for bedding or lawn planting.

W. J. Moyle.

The Carrie Gooseberry.

Our Minnesota friends have certainly conferred a favor on the people of the northwest in presenting them with the Carrie



This school-house is in the same county as the one shown on p. 1 and is very much like the Duck Creek school. It's a disgrace to the community. Just shows the difference in the people of the two communities: one wants the best and gets it.

not take kindly to our Wisconsin ways. However, she has proved herself to be of robust constitution going through our Wisconsin winters without an injured bud. And then when she came to throw her bouquets of flowers in June, such splendor, such beauty, and such generosity Great big beautiful sweet scented glowing balls of orange scarlet carried on long stems with a single flower to the stem making it an ideal rose for cutting; so attractive is the shape and color of the flower that we were never tired of cutting them and bestowing upon our friends.

Amelia has come to stay at our house and we advise all lovers of beautiful roses to make her a member of their family.

gooseberry. For while the fruit is no larger than the Houghton we find the bush to be more productive and practically free from spines and thorns, making it a pleasure to gather the fruit. The berries often hang from three to five in a cluster, and a branch loaded down with fruit is one of the most remarkable sights the writer has ever seen. The foliage of the Carrie is similar to our native gooseberry, one of its parents; dark green, thick and leathery, and practically free from mildew and other diseases of the gooseberry. When there is a commercial market for gooseberries plant the Carrie and every private garden should have a few bushes.

W. J. Moyle.

Benefits of Organization.

One might talk on this subject for hours and still leave something unsaid as the benefits resulting from organization are certainly very numerous and yet they might all be summed up in these few words "Creation of brotherly feeling."

This in a Horticultural Society should lead to the growing of better fruit, more of it at a reasonable price to consumer and greater profit to the grower. How? By holding meetings monthly and discussing methods of planting, cultivating, spraying, packing and marketing.

Years ago when a gardener discovered a better method of doing things or found a fruit or vegetable superior to any ever grown in his locality he "kept it to himself" and tried to reap a harvest before any one else should discover it and do likewise. This is a sad mistake. When you get a good thing pass it around.

The man who raises fancy fruit and sells at the top price is not a bad competitor but the one who brings inferior fruit to market and is forced to sell at reduced prices is the one who ruins the market. But what should be done in this case? Organize a Horticulture Society, get this inferior grower to attend the meetings, have him if you can discuss his methods, place him on your program and enter into discussion. A meeting without a program is a failure, there seems to be little or no interest; therefore a program should always be arranged at the previous meeting.

At Oshkosh we held our meetings during the months of December, January and February at a hall in the city convenient to all members. During the other nine months we hold field meetings at the homes of the various members of the society. These meetings are held in the afternoon, followed by a picnic supper and are proving very interesting and in-

structive. Any one who does not get his time well paid for by what he sees and learns by discussions thus brought about, is not a true horticulturist and might better embark in some other line of business.

Shut yourself in on a small farm, fence it so that you can not see what your neighbors are doing, cut off all literature, bar your friends and neighbors, raise your own seeds and plants so far as possible and see what the outcome would be. In a short time you would be so far behind the times you could not even enter the race.

Now if we had no Experiment Stations, Agricultural Schools nor trial orchards, all of which are brought about through organization, what progress would we make in Horticulture. I do not think there would be any balance on the credit side.

What we need today is more and stronger local societies, regular meetings and joint meetings of neighboring societies. We should discuss what we want done at the state meet and attend those meetings. Help to prepare the soil if you expect a share of the fruit.

N. A. R.

Direct to the Consumer.

As to the direct marketing, the difficulty lays more with the inherent laziness and ignorance of the consumer and his desire for a charge account, rather than with the producer. The "35 cent dollar" "listens good," but applies only to perishable stuff, and the overcharge is in the nature of an insurance charge for the stuff that is a total loss or goes off grade.

Of course it affects fruits, fresh vegetables and eggs more than any other class of stuff. Practically every grocer will tell you that his fruits and fresh vegetables net him a loss instead of a profit, year in and year out, and

that these goods are carried partly as bait, i. e., as a leader to secure the trade in other lines on which there is a high profit. I know of no retail grocer who has amassed a fortune but I have assisted at any number of financial funerals in the same trade.

Nor does the average farmer know how to pack for the market, to say nothing of packing to meet the whims of individual customers. I received this year from relatives two barrels of nice apples grown in — County and shipped to me by freight. No sorting, loose packing and possibly carelessness in picking made these apples worth about \$1.00 per bbl. to retail (if desired) on their arrival here. The shippers had a farm orchard and fed apples to the stock. At the same time my neighbors and I willingly paid . . . \$2.50 to \$3.50 per barrel for apples properly picked, graded and packed. "It is all in the know how!"

G. C.

Cut Flowers.

Wm. Toole Sr.

The length of time during which flowers will keep fresh after being gathered depends on selection and after care. Some kinds at best are but ephemeral, and no kind of care will give them endurance. All have a limit to their time of freshness, so it is well to gather them in early stages of development. Pansies if picked when they have attained their fullest size can last but a short time longer. The fertilization of the flowers hastens the time of withering yet it would not be possible to prevent pollination without injuring the flowers in most cases. Flowers should if convenient be gathered at some other time than during the heat of the day and be placed in water in a cool place as soon as possible. After this treatment, they will keep

much better than they would if not induced to fill up with water. Most flowers keep and look better if gathered when in bud just before opening. This is true of roses, poppies, peonies and others. Double flowers as a rule keep longer than single kinds. This is especially true of the compositae as what we call flowers are really a succession of circles of flowers which are being developed from the outside towards the center of the cluster.

For cut flowers in the house it is very desirable to have kinds which will continue to develop the succession of buds into flowers after being placed in water. Perhaps no kind has this quality in a more marked degree than the gladiolus. During parching hot winds it is possible to have such in their greatest beauty in the house when the weather will not permit such conditions out of doors. Before storms it is well to secure a supply of flowers for indoor use that their beauty may be enjoyed while those out of doors are recovering.

Some kinds which have a milky juice like the poppies and some others, as the dahlia will keep much better if the tips of the stems are dipped in very hot water before they are cared for in the ordinary way. Searing the ends of the stems with the flame from a match will answer the same purpose.

It is well nigh impossible to have the oriental poppies hold up fresh without such treatment. Poppies should always be gathered in the bud just before they are ready to push through the calyx. With kinds which last well in water it is desirable to renew the water often, otherwise the smell of decay at the base of the stems sometimes becomes quite offensive which is surely not healthful. I have never placed any kind of chemicals in water to prolong the freshness of flowers as is recommended by

some persons. It seems as if such treatment might be helpful. We know a very small amount of copper sulphate in water will prevent the growth of Algae in the water tanks without injuring animals and a very small amount of formalin will prevent the growth of some of the lower vegetable organisms so why may they not have some value in keeping the water fresh in the flower vases. Why not experiment and report results in WISCONSIN HORTICULTURE.

When, What and Why We Spray.

We open the season with the dormant spray of lime and sulphur. This is applied to all kinds of fruit trees at the rate of 1 to 6 before growth has started, principally for the oyster shell bark louse.

Our second application is bordeaux mixture at the rate of 4-5 to 40 with 2 pounds of arsenate of lead and is made just as the buds spread and the color shows a trifle. We then cover all fruit trees including apple, cherry, plum and pear, also red and black raspberries, currants and gooseberries. It is also well to hit the roses and other flowering shrubs. We also go to the hot beds and cold frames and spray melons, cucumbers and tomatoes for blight and flea beetles; pepper and egg plants for aphids and cabbage and cauliflower for the flea beetle. If the strawberry leaves are well advanced we also cover them at this time.

About ten days later when the petals fall and before the calyx closes the same mixture is administered, this time using a little more arsenate of lead about $2\frac{1}{2}$ to 3 pounds, covering everything except strawberries should they be in full bloom.

The fourth application is made about 10 days to 2 weeks later again using the bordeaux on everything except strawberries.

Our fifth and final spray of bordeaux and arsenate on fruit trees for the late brood of codling moth which has puzzled many of us to know just when to apply, should surely be put on at the proper time this year if we follow Prof. Moore's suggestion given at the winter meeting: namely, gathering some of the wormy apples just after the June drop and placing them in a wire fly trap or like contrivance under a fruit tree and watching proceedings. At this time it would be well to give the new strawberry bed, the melons in the field, squashes, cucumbers and tomatoes a shower of bordeaux. We also use this mixture on potatoes in preference to paris green as it controls the blight as well as the bugs and there is no danger of burning the foliage. For the cabbage worm we use arsenate of lead at the rate of 4 pounds to 1 barrel water applied at the first sight of the worm.

We are also using a "poison bait spray" under the direction of Prof. Sanders for the onion maggot which has been causing great damage to our onion fields, early cabbage, radishes and turnips and which we feel sure we shall be able to control.

The small fruits especially strawberries and raspberries, shall receive many more sprays in the form of "shower baths" with fresh, cold water.

We are still suffering large losses from sweet corn worms, cut worms, white grubs and many other pests which are constantly being pursued by our University and Horticulture workers. Let us continue to spray.

N. A. R.



Tobacco Spray Will Destroy Grape Insect.

The insect known as the leaf-hopper that has seriously menaced the vineyards of Ohio and Michigan may be controlled by the use of a tobacco spray, according to the scientists of the Department of Agriculture. The time for the application of this spray is during the last few days in June or very early in July.

Successful control of the insect depends on thoroughly wetting all parts of the under side of the infested leaves with the spray liquid. The following two formulas have been used with excellent results:

1. Tobacco extract containing 2.70 per cent nicotine sulphate, diluted at the ratio of 1 part to 150 parts of water.

2. Tobacco extract containing 40 per cent nicotine sulphate, diluted at the ratio of 1 part to 1,500 parts of water.

The killing quality of the tobacco extract is apparently just as effective when added at the same dilution to the Bordeaux mixture and arsenate of lead spray liquids, which are used to control fungous diseases and chewing insect enemies of the grapevine, as when used with clear water. No injury results from combining these spray mixtures, namely, tobacco extract, Bordeaux mixture, and arsenate of lead. However, the tobacco extract should not be mixed with spray mixtures containing arsenicals in the form of Paris green or arsenite of lime, for serious injury to the foliage is likely to occur as a result of the combination.

The spray application if made at the time indicated will destroy the immature insects when they are present on the vines in the largest number. After this period (toward the end of July) a large percentage will have grown their wings and can no

longer be successfully treated with the diluted tobacco spray.

In vineyards where black-rot, mildew, the grape rootworm, and the grape-berry moth occur, it is suggested that arsenate of lead and Bordeaux mixture be used with the tobacco extract to take the place of the second spray application in the schedule of treatment recommended against these diseases and insect pests.

When it is deemed expedient to use sticky shields to capture the winged adults, the best sticky substance for this purpose is this mixture:

Melted Resin 1 quart

Castor Oil 1 pint

Smear liberally over the face of the shield.

In experiments undertaken by the Department of Agriculture, a single thorough spray application made at the right time so reduced the number of insects that injury to the crop and the vines for the remainder of the season by those escaping the spray was very slight.

The leaf-hopper's record for destruction has been great, and it has occupied an increasingly prominent place in the rogues' gallery of grape pests since it was first noticed in 1825. Since that time it has caused damage in New York, Illinois, Michigan, California, Ohio, New Mexico, Colorado, North Carolina and Minnesota. Destructive local outbreaks have also occurred in other states.

The grape leaf-hopper injures the vine by attacking the foliage. It is a sucking insect and injures the plant by extracting its juices from the underside of the leaf. The result of its punctures and of the removal of the juices is first made evident by yellow and white patches on the upper surface of the leaf which later turns brown. Finally the leaf falls from the vine prematurely. As an ultimate result the size of the grape crop is gener-

ally reduced and the quality rendered inferior by a reduction of its content of sugar. During very dry seasons the fruit on heavily infested vines is badly spotted by the insects.

The adult insect is about 1/8 of an inch long. It is a pale yellowish color. The eggs are sometimes deposited singly over the surfaces of the leaf near the ribs and veins, but usually in the



Dog-tooth violet, one of our earliest spring flowers. Altho called "violet" it is really a lily.

spaces between them. Investigators of the Department have noticed that the adults feed during the spring on the following trees and plants:

Beech, maple, wild cherry, wild apple, hawthorne, dogwood, wild plum, hornbeam, hackberry, honeysuckle, wild grape, Virginia creeper, raspberry, thimbleberry, blackberry, strawberry, goldenrod, nettles, wild columbine, and a great variety of weeds and grasses.

Observations, however, have not shown that the insect reproduces on the foliage of any other growing thing besides the grape. The summer of 1911 was unusually hot and the result was that the insects were more numerous and more widespread than ever before. In 1912 although the summer was cool, the injury wrought was fully as great as that in the previous year. The injury sustained by the vineyard

industry in the east and the west amounted to an enormous sum.

"The grape leaf-hopper in the Lake Erie Valley", is the title of a bulletin which the U. S. Department of Agriculture has issued describing this insect and the methods for its control.

A Vegetable Stranger.

(Contributed)

The picture below shows two vegetable friends—at least they should be friends as they were raised in the same back yard. Everybody will at once recognize Asparagus as an old acquaintance. The family history runs back to the days when its parents were wild salt water weeds, growing along the ocean marshes. But, who is the stranger, do you ask? Then please be introduced



to Udo, of Japan. Unlike the men of Japan, this is not a "little brown fellow", but a large white fellow. The Bureau of Plant Industry, of the U. S. Agricultural Department has given the stranger a letter of recommendation and quite a number of people, who have followed the introduction with a closer acquaintance, stand ready to vouch for Udo.

Udo is an Oriental cousin to the American Spikenards, sometimes called "Spignet." It is a fine vegetable for the table when properly prepared and every gar-

den should contain a few plants. They are strong luxurious growers and after the cutting season is over they make a fine bank of foliage of a tropical appearance. Udo has a decided flavor of pine or sarsaparilla which one soon learns to like. It can be used raw in salads, or can be cooked like asparagus. It also makes a fine substitute for oysters in a stew, or an excellent soup.

Its cultivation is not difficult. It can be propagated by seed or from cuttings. After the tops of the plants are killed by the frost in the fall, the roots are covered by about a foot of loose friable earth or a mixture of earth and sawdust, or a mixture of earth and short stable manure. In the spring, as soon as the sprouts force their way up through the top of the covering, you can dig down and cut large tender sprouts an inch or more thick and from eight to twelve inches long, as shown by the picture. The bleaching can also be done by covering the plants with inverted flower pots or large drain tile with the tops covered to exclude light.

The vegetables shown in the picture were raised by Mr. M. Dings, of Milwaukee, who is an enthusiast over the possibilities of a home garden for flowers and vegetables. The photograph was taken to show the relative size of the two vegetables mentioned. Parties interested in the cultivation of Udo should send to the U. S. Department of Agriculture for Bulletin No. 84.

Notes in Relation to the Climate and Interesting Events in Milwaukee 1837.

By I. A. Lapham.

(From Original Notes.)

June 30th, spring very backward.

Gardens in town generally look poor—owing principally to the influence of the lake.

July 3rd.

Committee of Citizens sent to invite Hon. Daniel Webster to visit Milwaukee.

A clipping from Milwaukee Advertiser Saturday morning July 22, 1837, includes a table "showing time of flowering of several wild plants at Milwaukee and near the head of Pishtaka river, 1837."

Included 10 common wild flowers—Liverwort, Bloodroot, Adder's Tongue, Low Anemone, Spring Cress, Buttercup, Trillium, Moccasin Flower, Blue Flag & Prairie Pink—Average diff. of 10 days earlier at Pish-taka.

"It results from this that vegetation is ten days earlier in the Spring on the Pishtaka than on the lake shore. This is attributable principally to the cold winds from Lake Michigan.

Candied Cherries.

Use Morello cherries. Weigh cherries and sugar; 1 lb. sugar to 1 lb. cherries. Pit cherries with nut pick. Mix pitted cherries, juice and sugar. Let stand over night. The following morning drain off juice and sugar without crushing fruit. Boil juice and sugar 10 minutes and pour over cherries. Repeat 4 or 5 times at intervals of 24 hrs. On the second morning juice should be boiled until quite thick; on the 3d, 4th and 5th mornings merely bring to boil. Leave cherries in enameled colander, used in straining, until thoroughly dry then pack in tin cracker boxes with layers of waxed paper, or pack in glass fruit jars. Save syrup in fruit jars or covered jelly glasses. Various uses for this delicious syrup will be given next month.

Blanchard Harper.



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As Advertised.

The summer meeting will be held at Gays Mills, in August, as stated in the July number. The dates August 19th and 20th.

The program has not yet been arranged but will be given in full in August WISCONSIN HORTICULTURE. It is likely that the first session will be held in the afternoon and an evening entertainment, lantern lecture, both down town. It is possible even probable that both forenoon and afternoon sessions will be held "on the bluff" with a picnic lunch at noon. Most of the papers and talks will be

about home, gardens and orchards.

We have usually spent a lot of time at summer meetings talking fruit on a commercial scale, too much time, and just for once we will forget it and talk about something really worth more than a million barrels of apples.

This plan ought to fit all right because those who come for fruit only will be able to get their fill of it out doors. They will find 40,000 fruit trees already planted and places for a million more.

Orchards out doors, flowers and the home inside, this plan ought to work out all right.

The Kickapoo is one of the most picturesque and charming regions of Wisconsin. Settled seventy-five years ago by farmers and lead miners from northern Illinois, it remained a "general farming" section, very general indeed, for over fifty years. About twenty years ago a railroad crept its way along the river banks from Wauzeka to La Farge and the tooting and clank of the first engine and train woke echoes in the valley that had been sleeping since the last Kickapoo Indians shouted war-whoops of defiance at their enemies.

The railroad brought more and better farmers; the discovery that tobacco of a superior quality could be raised on the bottom lands brought Scandinavians whose coming to any community means prosperity. The real awakening, however, did not come until 1908.

Up to that time the kickapoo valley was not more widely known than a thousand other prosperous farming sections of the state. At that time the Horticultural Society located a trial orchard at Gays Mills.

This orchard brought many of the best fruit men of the state,

members of the trial orchard committee, to the Kickapoo. The opinions of these men carried conviction and in time men with money to invest and faith in Wisconsin began planting trees. In three years forty thousand have been planted and 100,000 more will be planted soon.

We have in this state three sections where commercial fruit growing is being developed very rapidly and on a sound basis, Bayfield, Sturgeon Bay and the Kickapoo.

Richland, Sauk and one or more other counties have each many splendid bearing orchards but no development, no new planting. We have been once to Bayfield and twice to Sturgeon Bay now we are going to the Kickapoo. It is newer and different from the others but quite as well worth seeing. The place is Gays Mills, the time August 19th and 20th.

No Apologies Necessary.

Therefore what follows must be taken as an explanation.

At the last three summer meetings, Oshkosh, Bayfield and Sturgeon Bay, the local members have set a mighty fast pace in the way of entertainment, including excursions, banquets, etc. Everybody enjoyed and appreciated it very much, and we all want the years to slip away rapidly so that we can call again without seeming to have forgotten our manners.

Before that it was different. We entertained ourselves as well as the people of the town we visited nor asked nor expected more than a quiet two days of communion. We also carried the gospel of good horticulture to places where it was most needed.

This year we get back to the old order of things and while we shall miss many of the enjoyable features of recent years the

meeting should be none the less enjoyable and perhaps more profitable.

Gays Mills is a village of about five hundred inhabitants and not in the least interested in apples, apple orchards, or the horticultural society—so far.

The orchards are nearly all owned and controlled by non-residents, people from Milwaukee, Ft Atkinson, Beloit, Madison, Monroe and other places. We cannot therefore expect lavish entertainment on the scale of former years from the Gays Millers, nor will we ask more than a place to sleep and a bite to eat.

The orchards are not in the valley but on the bluffs, one half mile up and one of the pleasures of our trip will be the morning climb up "Rattlesnake Trail" a perpendicular ascent of 454 feet and so named because there are no rattlesnakes nearer than Steuben, twelve miles south. The rattlers all fell down the trail and broke their necks, except two that attempted the highway route and died of exhaustion.

We will camp all day on Orchard Ridge with meetings in a huge tent.

There is no use telling about it come and be a part of it.

Faith and Vision.

Faith: "The assent of the mind to the truth of what is declared by another, resting on his authority and veracity, without other evidence, or on probable evidence of any kind."

Vision: "That which is seen by the eye of the mind or imagination; a subjective appearance of something seen which does not really exist."

These two things, faith and vision possessed the soul of John A. Hays in the fall of 1907 or else there would be only hay

and corn, woodchucks and cottontails where now are apple trees. When the trial orchard committee visited Gays Mills in August 1907, only one man could be found who had faith and to him more than to any one else is due the remarkable development of the Kickapoo orchard belt.

We were strangers come with a story of riches awaiting him who had faith. We came seeking the man who had faith and found him. Let us all go August 19th and 20th to learn if faith and vision count.

Direct Marketing

G. H. Townsend.

Various schemes for reducing the cost of distribution have been tried from time to time with rather meager success. Just now the producer has cause for grievance when frequently he cannot get the cost of labor,—if he hired the work done,—for his produce, while the consumer, must pay prices well nigh prohibitive. This is a wrong that must somehow be righted,—an analysis of *direct marketing* shows only limited possibilities for relief—The plan looks simple because it is merely a direct exchange between the fellow who offers to sell something to eat and the one who wants to eat it; in operation it is very complex.

The first difficulty is to find each other. It takes people of aggressive personality—*psychic force*—to sell as common a thing as apples and potatoes, because the buyer is always raising a question as to quality or price—indecision is met everywhere—The prospect wants the goods you offer and has no idea that such goods can be bought for less, yet the seller hears almost an unbroken stream of "I'll wait"—The good salesman breaks down the indecision, but how many producers are good

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William J. Starr

Eau Claire, - - - - - Wis.

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THE DENISTON COMPANY

Bayfield, Wis.

salesmen? True enough you will say, but that trouble can be overcome by advertising. To the inexperienced this looks like a solution, but it isn't—a manufacturer has a continuous product to sell and thinks his advertising highly successful if he sells a thousand dollars worth of goods at an expense of a like sum. The customers he gets will buy enough goods in the future to make it profitable—not so with the horticulturist—His product is not continuous, the supply, price and consumption being irregular. For these reasons immediate returns from advertising is necessary.

So that advertising for customers will seldom bring satisfactory results—It will not get enough orders in one community at one time to be profitable unless the product offered is continuous and produced at a good margin of profit—Direct selling cuts out fee of commission merchant, cartage, once or oftener, and the retailers profits and sometimes a jobbers profit. These are offset by large increase in cost of direct selling, cost of packing and handling small lots, loss in shipments, from breakage and from stealing—Seventy-five per cent of small lot shipments of early apples will be broken open and part of contents consumed. Collect damage from the carrier, of course, at as much expense for collecting small claims as is obtained. Transportation of small lots is expensive and losses from people who won't pay until the goods are received and find many excuses for not paying after they get them. The consumer will be leary of the producer as long as the producer sells rotten products for good ones and marks worthless fruit as No. 1. It is, however, practical to take fair samples of the product to be sold and get enough orders from consumers in one community to

ship in car load lots and deliver direct from the car. Producers are forming associations for selling their product. Like associations of consumers may also be formed to buy products of standard quality guaranteed by associations.

The great difference between what the producer receives, and what consumer pays is due to many causes—too many profits is an important one but not the only one. Buying in small quantities, the credit system and the delivery system are all expensive. If a groceryman sells a loaf of bread and a quarters worth of sugar at less profit than the cost of delivery, he feels that other articles must pay a good profit or otherwise he would be obliged to quit business, so that if you expect the groceryman to drive ten blocks to deliver goods on which he makes three cents, after he has collected his bill, do you wonder that he expects to make twenty cents on a peck of apples? To say that there are too many retail grocers, "don't get any place"—small quantities and quick delivery make nearness of store and customer necessary, so that the little corner grocery is a feature of conditions. If the apple crop is light the large dealers buy most of the good stock and put in cold storage and this happens readily because neither the grocer nor consumer can keep but few at a time. The remedy for this is for growers to build cold storage houses. The conditions of trade make high prices a habit but it is time for horticulturists to insist that their product be distributed as cheaply by dealers as other goods.

Plums and apples may be budded the latter part of July or early in August. Try a few. It is an easy way to increase good varieties.

Take time to visit the nearest park or a neighbor who has been successful in growing trees, fruits, or flowers and study the plants and methods of growing. It is not a difficult matter to have an attractive home yard and it adds much to the pleasure of living.

It is often a good plan to pinch back musk melon and cucumber vines to make the fruit grow more rapidly.

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**"We have a Fine Lot of
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QUESTIONS AND ANSWERS

(1) What caused the small green apples to drop from the trees this year? There was no frost late enough to hurt anything but a few of the earliest blossoms.

(2) The worms are very bad on the apple and some other leaves. Do they ever eat the apples?

(3) What does a curculio look like?

(4) Do the June bugs do any harm to the apple trees?

(1) What is known as the "June drop" of apples and plums has not been satisfactorily explained up to date. It occurs every year and is not by any means confined to the heavily loaded trees. The dropping is not uniform as to varieties nor as to trees of any variety. It appears to be more severe this year than usual at least in some localities. This is an explanation but not an answer.

(2) This is indefinite. The "worms" may be tent caterpillar, canker worm or something else, but the fruit is rarely attacked by any of these.

(3) The plum curculio is a hump-back homely little cuss about one-eighth inch long and covered with warts; has a proboscis, 8 legs and a mean disposition.

(4) June bugs rarely do any damage to fruit trees.

Cause of Bean Anthracnose.

Bean anthracnose is caused by a fungus which attacks the stems, leaves, pods and seeds of the plants. On the stems and leaf veins it causes elongated, sunken, dark-red cankers, sometimes killing young plants and often producing deformed and yellowed leaves. Rounded or irregular sunken spots with a slightly raised rim are produced on the pods. The spots usually have

pink centers surrounded by a darker reddish border. In severe cases the pods may be entirely covered by the sores and produce no seed. In other cases the fungus penetrates the pods and enters the seed, causing dark, sunken specks or spots. In these diseased seed as well as in the refuse from diseased plants the fungus is propagated from season to season.

Cause of Bean Blight.

The bean blight differs from anthracnose in several ways. It is caused by a bacterial organism. On the leaves it produces irregular, diseased areas which at first have a water-soaked appearance, later dry out and become brown and brittle. The entire margin or half of a leaflet is often affected. On the pods and stems it often starts as slightly raised and watery pustules, which later enlarge, become of irregular shape and amber color with yellow centers. Infected seed show yellow diseased blotches or are entirely yellowed and shriveled.

Nature of Loss.

Both diseases cause serious losses in the snap bean trade. Diseased pods are unmarketable and must be sorted out. If but a few slightly spotted pods are packed in a basket, the disease may spread during shipment, causing additional loss and necessitating extra sorting before the beans can be sold to the consumer. Diseased beans used for seed usually give a poor stand and result in the production of a badly diseased crop.

Control Measures.

It has been conclusively demonstrated that anthracnose can be avoided by a careful system of seed selection. Save seed from perfectly healthy pods, selected with great care for entire absence of spotting. Carefully keep them away from diseased pods, shell by hand to avoid re-infection, and plant on clean

land. Pull and burn any plants showing disease. By planting the seed thus secured enough disease-free seed can be secured to plant the whole crop.

In the absence of such disease-free seed (1) secure for planting, seed having the least possible amount of disease, as shown by actual examination; (2) all seed should be hand picked and no seed showing the slightest discoloration should be planted; (3) practice crop rotation, never plant beans on land where the same crop grew the previous season; (4) do not cultivate or walk through the bean field or pick beans while wet with dew or rain. If the disease is present it is then easily spread from one part of the field to another.

The bean blight is more difficult to control than anthracnose, but the same methods will give the best results at present available.

JEWELL MINNESOTA GROWN Nursery Stock

Complete assortment of Fruit and Ornamental stock in all varieties suited to northern culture. A specialty of Hardy Shade Trees, Windbreak Stock, Evergreens (Coniferous), Deciduous Shrubs, Apples and Native Plums.

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Strawberry Growing as I Saw it in the South.

P. Kern.

Judsonia, the oldest and largest strawberry shipping point in the state of Arkansas is located in the east central part of the state on the Missouri Pacific and the Iron Mountain railroads has been shipping earloads of strawberries for the past thirty-five years without missing a season.

Since 1900 they have been shipping from 200 to 400 cars each season in addition to the tomatoes and truck and a peculiar thing about berry growing there is that every farmer who ever engaged in the berry business and who is still farming is still in the berry business and apparently satisfied with it as a business. Grows strawberries for a spring money crop and cotton and razor backs for a fall money crop.

The soil in that district is, or has been very good, and what has been poorly farmed and is run down responds readily to fertilizer (bone meal is the kind used) and it is possible to grow a good yield with good farming just as well as in Wisconsin, and with much less effort as there is no grass to bother and very few weeds. Strawberry fields can with little effort be kept clean and produce fairly good crops for four years with proper cultivation and plenty of fertilizer.

Owing to the mild winters stock is not stabled and there is no barnyard manure for fertilizing and while clover will grow there as well as it will in the north, very few have ever sowed it to plow under, but they do sow peas for cover crop and nitrogen to considerable extent and I noticed that the fellow who sowed the most peas was the best farmer.

The best yield recorded this season, and this was a good season at Judsonia and Bald Knob,

three miles apart, was 160 crates per acre and this on a ten acre tract half of which was first crop and the other five acres was picked last season for the first time. 160 24 quart crates or 240 16 quarts which is the best yield I heard of in that district.

They grow the Excelsior for an early shipper, the Klondike for medium and the Aroma for late.

The Excelsior is becoming unpopular because it is so small and does not yield well and is not a first class shipper. Very few will be picked next season.

The Klondike is a good bearer, good size, holds its size through the season well and is without question the best shipper in the strawberry family and of high flavor but a little sour for Bay-field taste.

The Aroma is a beautiful berry and the largest berry grown in the south and is popular with the growers and with the pickers especially but is not a good flavor but a rather dry texture which makes it a good shipper.

Getting the crop picked properly is as much of a problem in the south as it ever was in the north if not worse. Whites will not pick for a grower who employs negroes and there are about as many of one as the other and not enough of either to pick the crop and to make matters worse (but intended to make matters better) the state law in Arkansas prohibits any kind of labor on Sunday, so, no matter what the weather conditions or the crop conditions are the grower must keep quiet on the Sabbath.

A strong point in their favor is the shipping quality of the berries. They can be shipped across the continent and arrive in good condition.

At Bald Knob I saw berries from a broken crate come back in a car that had been shipped to Minneapolis, was out nine days and the berries were fresh

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LEON MILLER

2012 N. Germantown Ave. Philadelphia, Pa.

and perfectly sound when nine days old. These were Klondikes.

The Bald Knob Association netted the growers a great deal more money than did the Judsonia Association and this was due to the difference in the kind of crate, the Tennessee ventilated crate which will refrigerate perfectly and in a very short time and if growers all understood the advantage of the ventilated crate there would be no more Michigan or Illinois style crate used anywhere.

The inspection system though is what accounts largely for the shipping quality to a great extent. Growers are not allowed to nail the cover on, just one nail in one end of the cover, and every crate is inspected before it is loaded and nothing that is below a B grade is accepted by the Association and if at all over ripe or in any way shows a dishonest pack they are rejected and the grower takes them home to the razor backs and without any protest. This is especially true in the Ozark section and this rigid inspection in the Ozark district is the one thing that has put the Ozark Fruit Growers Association at the head of the list for quality and honest pack.

The Associations are well equipped for handling the immense business, (the Associations at Judsonia and Bald Knob) shipping in a single day more than 25,000 crates. The R. R. Co. has a loading shed that will accommodate 25 cars at the platform at a time and they employ enough help to load several cars at a time and the first train out in the evening, 7:10 picks up the express cars, a fruit special at 9:10, another at midnight and almost any other time that they have a car ready it is taken out, practically everything routed via St. Louis and diverted as sold, going as far east as Boston, North to Toronto and N. W. to Winnipeg, west to Pueblo and Denver and south to

Ft. Worth and on 328 cars not a single complaint from the receiver as to quality on arrival.

Berries shipped by the Ozark Association are not good shippers but are put up in better shape, more rigid inspection and bring better average prices as a rule on the crop.

In 1912 they shipped 626 carloads thru the Ozark Fruit Growers Association alone and there are several other large associations, the Interstate, the Tri-State, the Independent and others and in a single day there was handled by Mr. Rogers the Manager of the O. F. G. A. at Monette 140 carloads. All told about 200 cars were shipped and diverted at Monette in a single day.

The crop in the Ozark district was very light this season, due to the extremely dry season in 1913 killing 75% of the new setting and the growers are not as well with the business as they used to be before the drouth. They have always had frost danger and when the drouth was added to the list

the are slow to go back into the business and it looks to me as though the northern part of Wisconsin was destined to grow the strawberries for the northwest for the next five years or more.

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FORT ATKINSON, WIS.

I am firmly convinced that there is no place in the south where strawberry growing is so profitable even under the most favorable conditions, as it is in Wisconsin but they can, without question, grow them with less effort.

Fertilizing Strawberries.

In Bull. 113 of the Mo. Expt. Sta. Mr. W. H. Chandler reports a series of strawberry fertilization experiments, which constitute practically the first attempt to place this work on a scientific basis. Although because of the many different conditions influencing each trial, it is hard to make a good summary, a review of these experiments in so far as it is possible to make one may be useful here.

Applications were made of the three elements most likely to be deficient in ordinary soils, namely nitrogen potassium and phosphorous. The nitrogen was used as nitrate of soda and as dried blood; the potassium as sulphate and as muriate of potash; the phosphorus only in the form of acid phosphate. Applications were made at three periods as regards the life of a strawberry bed. These are, 1st. in a newly set bed the season previous to first fruiting, 2nd. on a one year old bed in the spring of the first fruiting season, and 3rd. on a bed of one or more years of age at the time of renewal just following the picking of the fruit. Because of complication with weather and other conditions affecting the stand of plants no accurate results were obtained from experiments on fertilization at the time of renewal.

The results with both forms of potassium were negative. No increase in yield was obtained in any case, and further if the material is allowed to fall on the foliage or in large quantities

close to plants direct damage results.

Nitrogen at the rate of 150 to 300 pounds of nitrate per acre, or as 360 pounds of dried blood gave uniformly injurious results when applied either early or late in the spring of the bearing season. It resulted in a luxuriant growth of plants with a considerably reduced field of fruit. Like the potassium salts nitrate of soda is injurious to the plants if applied on the foliage or close to the plants. Dried blood also gave injurious results applied on a new bed the season previous to fruiting. This

is probably because some of the nitrogen remains over until the fruiting season. In one case at least, however, nitrate applied the season previous to fruiting gave an increase in the crop. In other instances it did not. To the writer it seems probable that results of such application depend entirely upon the previous treatment of the land, and that in relatively poor soil, proper application of this nature may be a benefit.

Acid phosphate at the rate of 100 to 400 pounds per acre, in no case produced injury and usually gave a profitable increase

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in the crop whether applied the year previous or in the early spring of the fruiting season. In one instance where applied late in spring of the fruiting season, just as the fruit stems were appearing no results were obtained. Also in excessively rich soils there were no results. Still in most cases the application of phosphate was a profitable venture, and further there is no danger of burning if this material falls directly on the leaves or near the plants.

While the results of these experiments are applicable mainly in the locality where they were performed, they offer suggestions to any Wisconsin grower contemplating a trial of commercial fertilizer.

G. F. P.

At this season the farmer's family feasts on garden 'sass', and small fruit, and it is the height of luxury to have crisp lettuce, radishes, delicious green peas and the best of all small fruits, the strawberry, fresh from the garden. To be sure we literally eat in the sweat of the brow, but we also have the satisfaction of eating without cost except the expenditure of a little labor.

The schools have closed and Johnnie and Mary are at home and should be pressed into the service of hoeing and cultivating. They will enjoy the swimming pool and the fishing trip all the better after they have wielded the hoe for a time.

While keeping fields and garden free from weeds, do not neglect the wayside, and the odd places around the farm. Community interests and neighborly consideration together with self interest ought to be sufficient to spur the farmer into cutting all weeds without a visit from the weed commissioner.

The orchard if not carefully watched will make a fine seed propagating bed, as the high

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state of fertility of the soil will produce a luxuriant growth of weeds in a short time if they are neglected. The general appearance of a neighborhood is a true index to the business ability and social refinement of the residents. The spirit of good fellowship among neighbors should create an inclination to co-operate in working for the general good of a community.

Mrs. S. H. Palmer.

Orchard and Garden Notes.

Try one more planting of sweet corn.

Rutabagas may be sown now. New land is the best to use.

Celery plants may be set out for a late crop.

Leave no vacant places in the garden. Replant for fall use.

Keep flowering stalks off of the rhubarb.

Another planting of string beans may be made.

The early summer-flowering shrubs may be pruned just after flowering.

Keep the cultivator going. Every weed allowed to go to seed now means many weeds next season.

The hardy Gaillardia has proved a splendid flowering plant again this summer.

Plow the old strawberry bed and set the late cabbage, or sow rutabagas on it.

Tie tomato vines to stakes. Better not let more than one or two stems grow.

One of the pretty vines at this time of the year is the Alleghany vine or Mountain Fringe. It is easily grown, coming up year after year. Its leaves make excellent green for cut flowers.

No one should be without a few iris and peony plants in the yard or garden. Probably no two perennials give more satisfaction in their season, year after year, than these. They both come in a wide range of color.—LeRoy Cady, Associate Horticulturist, University Farm, St. Paul.

Items on pp. 3 and 4 are also by Prof. Cady.

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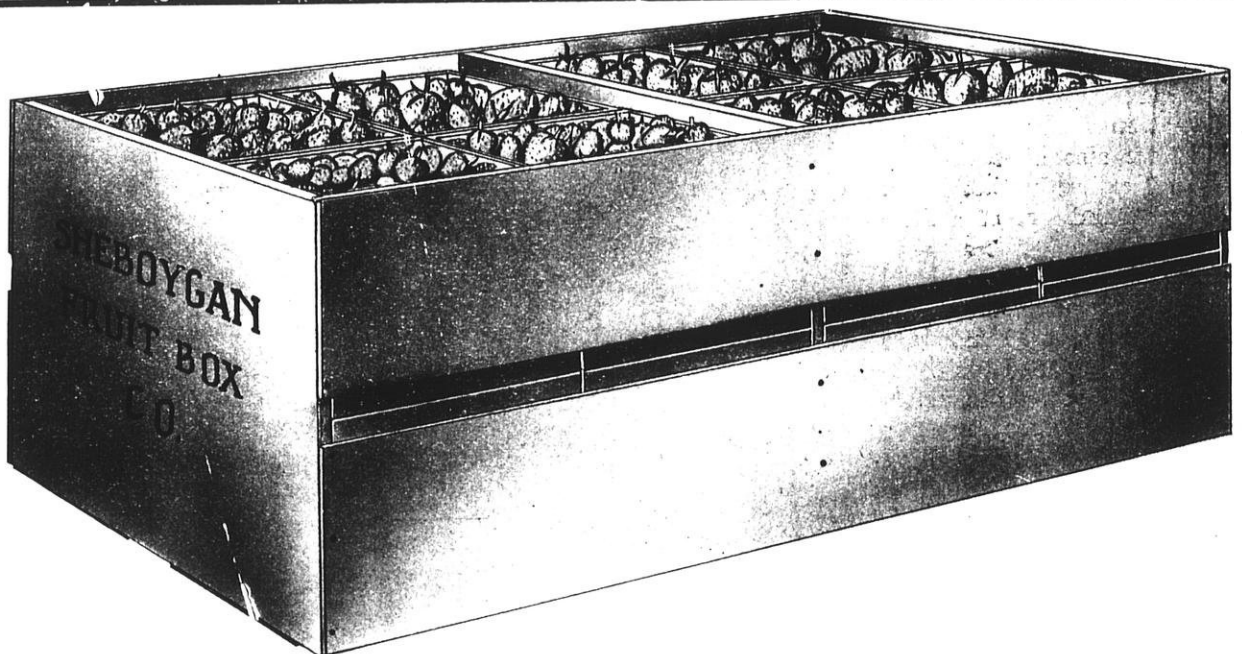
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WISCONSIN HORTICULTURE

OFFICIAL ORGAN OF THE WISCONSIN STATE HORTICULTURAL SOCIETY

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Madison, Wisconsin, August, 1914

Number 12

The Kickapoo Valley, "Wisconsin's Favored Fruit District."

By J. A. Harley, Madison.

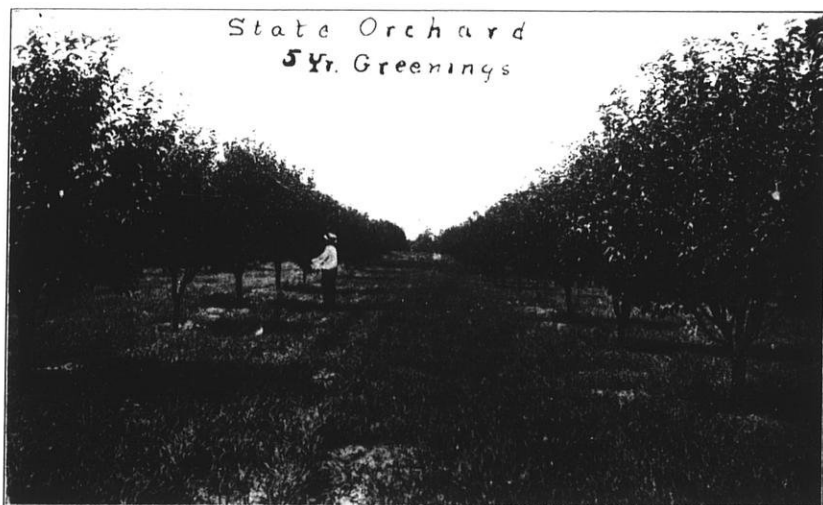
Who has not heard of the Kickapoo valley,—the ancient home of the red man and the modern home of the red apple? What reader of Wisconsin Horticulture has not spent his hard earned money for Kickapoo remedies, guaranteed to cure every ill to which man is heir, from stone bruise to seven year itch? And of course all the herbs from which these miraculous remedies were concocted, grew in the Kickapoo!

But let them pass, the noble red man and his panaceas. We are concerned with other things grown in the Kickapoo valley, of greater worth and destined to know a greater fame.

The Kickapoo valley is old historically but new agriculturally; and, in respect to horticulture, it is still younger. Until the coming of the railroad, twenty years ago, this region was too remote from routes of transportation and too inaccessible for agriculture to flourish to any extent. And, until the State Horticultural Society planted a trial orchard at Gays Mills, no one gave any particular attention to fruit

culture in the Kickapoo. To be sure there were farm orchards, many of them, planted on the hill-sides, and then left, like Topsy, to grow up and shift for themselves. But in spite of neglect, of care and cultivation, these old

apoo fruit district and proclaiming the possibilities of commercial orcharding in that region. It so happened that the genial secretary paid a visit on foot some years ago to the Kickapoo in order to verify the rumors

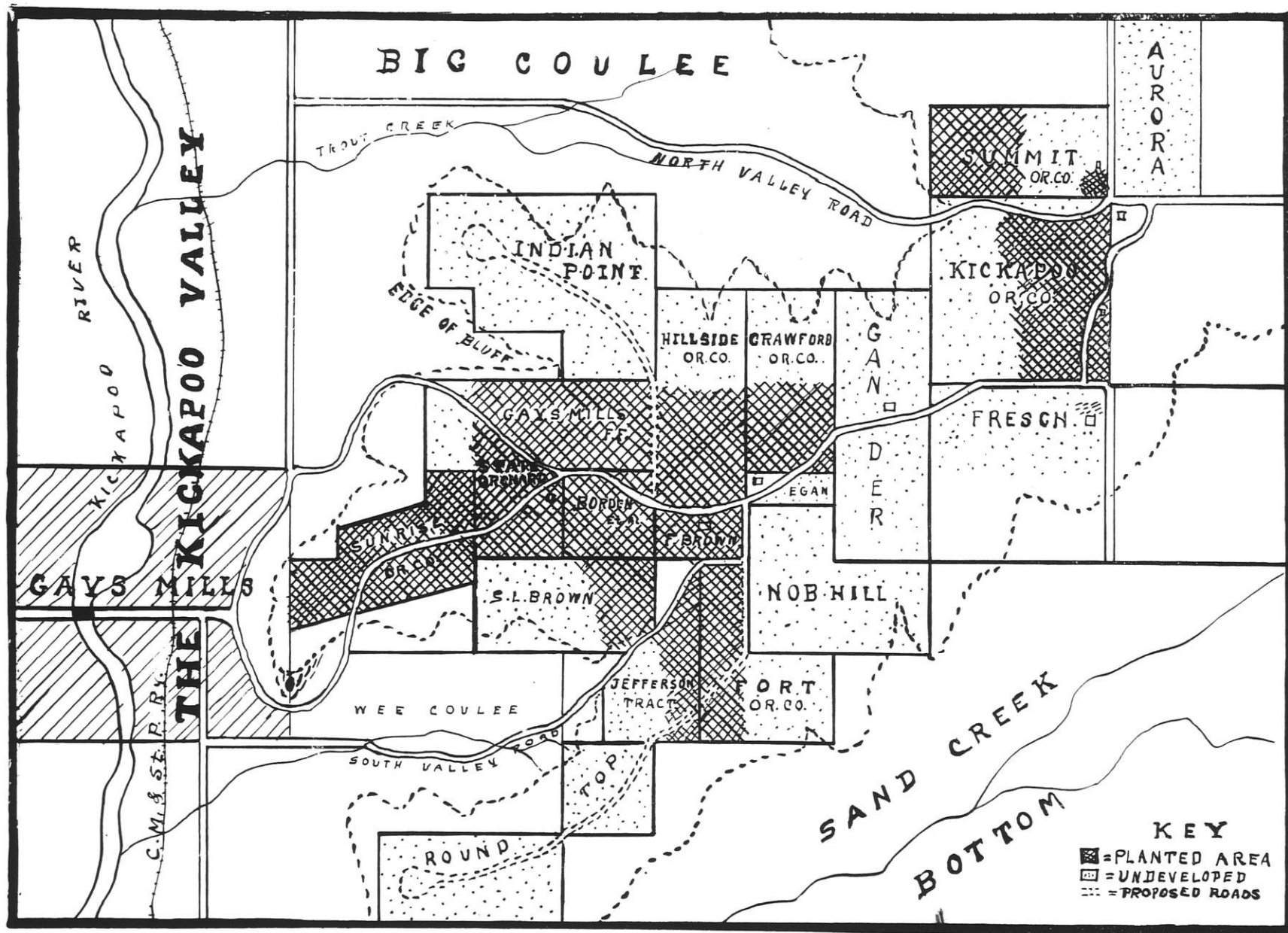


Northwestern Greening, Gays Mills Trial Orchard

farm orchards gave annual evidence of wonderful vitality and fruit of exceptional color, size, and quality. And hereby hangs a tale.

To Frederic Cranefield, Secretary of the Wisconsin State Horticultural Society, belongs the credit for discovering the Kick-

that had reached him of the wonderful apples grown "away back there in the hills." The orchards and fruit surpassed his expectations. Mr. Cranefield returned home full of enthusiasm for the district and reported his discovery to the Society. Among other things Mr. Cranefield said:



"Crawford County has some of the best apple lands to be found anywhere in the United States. On the limestone ridges—there are thousands of acres of fertile clay soil, with air and soil drainage that produce the finest Wealthy, Duchess and McMahon in all the world. Crawford is destined to be one of the leading apple sections of the United States."

Upon the recommendation of the Secretary, the Society finally decided to plant a trial orchard upon some favorable site in the Kickapoo valley. The exact location fell to Gays Mills, a town about midway up the Kickapoo valley. Speaking of this orchard last year the Crawford County Independent said:

"The history of 'Trial Orchard No. 8' is briefly told but it deserves to be retold often.

In the spring of 1908 the Trial Orchard Committee of the State Horticultural Society selected a site on the east bluff near Gays Mills for a demonstration orchard. This region had long been known for the quality of its fruit and the abundance of apples raised on neighboring farms. The object sought, therefore, was not so much to prove that apples could be grown as to demonstrate the possibilities of commercial orcharding in the Kickapoo.

The site chosen is ideal for an orchard. It is on top the bluff, 450 feet above the valley with a gradual slope to the north. Originally an acre each of five varieties was planted. The next year an acre of cherries and an acre of grapes were added. Still later two acres of winter apples were planted. The oldest trees therefore are five years old and some of them—the Wealthies—will yield their third crop of apples this fall. It is estimated they average a bushel per tree—some trees a barrel a piece! The vineyard also has a large crop.

This record is considered most remarkable. It is doubtful if it can be excelled anywhere in the country. Certain it is that the results in Trial Orchard No. 8 have justified the faith the State Horticultural Society had in the Kickapoo."

In 1911 the attention of the general public was first attracted to the Kickapoo through the published report of trial orchard No. 8. That report challenged belief. "Could it be possible," people asked, "that right here in good old Wisconsin was an or-

chard outside capital seeking investment, provided some responsible person or company could be found to undertake the planting and care of orchard tracts.

To meet this demand the Kickapoo Development Company was organized with a capital of \$24,000. Mr. J. A. Hays, superintendent of the State orchard at Gays Mills is president of the company and J. A. Harley of Madison is the secretary. R. L. Marken, a University of Wisconsin graduate in horticulture, is the company's expert in charge.



A scene in the upper Kickapoo (Viola) Sept. 1906. In spite of neglect and abuse Kickapoo trees have borne apples like these for 40 years. This also illustrates a poor method of marketing apples. A better way will be shown in the August 1917 number.

chard whose individual trees were bearing as early and as heavily as any in the much toothed Northwest?"

The best way to answer that question was to make a personal investigation. Experts came and saw and were conquered. They found an orchard 100% better than any other they had ever seen in the state. They were more than satisfied. Their enthusiasm begat action and right then and there was born a new fruit center in Wisconsin.

What follows is recent history. With the development of the State orchard and the success of the experiment assured, there

of the orchard work. The company planted 15,000 trees this season and is caring for 400 acres of orchards for other people.

At the present time there are in the vicinity of the State orchard at Gays Mills about 1,000 acres under development. Within three years it is safe to predict there will be 3,000 acres in the fruit district at Gays Mills. And all this without any booming or scheming. The development here is safe. The future of the Kickapoo fruit district is sure.

The orchard companies and their holdings are as follows:

Name	Acreage	Planted
Sunrise Or. Co.	80	63
Gays Mills Fruit Fm. Milwaukee	135	75
Borden et al.	40	40
Hillside Or. Co.	96	44
Crawford Or. Co.	80	42
Kickapoo Or. Co.	160	65
The Fort Or. Co.	80	31
Summit Or. Co.	80	37
Kickapoo Dev. Co.	60	8

The question is often asked why the Kickapoo is any better adapted to fruit growing than any other section of the state. To one unfamiliar with the geography of this part of Wisconsin a glance at a physical map of the state will be a great aid to his understanding of the natural advantages of the region.

Notice first the location of the Kickapoo valley. The high table land between the two great rivers is cut in two by the deep gorge of the Kickapoo valley. From the junction of the Kickapoo with the Wisconsin one follows up stream a meandering river, through picturesque scenery with bluffs rising on either side to heights of four and five hundred feet. High crags and deep ravines border the valley. One looks in vain for gravel and boulders. This is the non-glacial section of Wisconsin.

The soil on top the bluffs is decomposed limestone of great depth and fertility, covered originally with hardwood timber. The percentage of iron, potash, lime and other orchard foods runs very high in this soil. We have, therefore, in the Kickapoo a combination of elevation, drainage and chemical ingredients of the soil unsurpassed in any part of the country. It is what fruit men call a natural fruit country, where the fruit grower is favored by nature to a remarkable degree. Late spring frosts, winter killing and other bugbears of the orchard are unknown to the orchardist on top the bluffs at Gays Mills. These

are some of the natural advantages of the Kickapoo, which to be appreciated must be seen.

The Wisconsin Farm Orchard What Shall Be Done With it?

(1st Prize, Students Contest, 1914
Annual Convention.)

F. L. Bewick.

I assume at the outset that your secretary Mr. Cranefield, Professor Moore and others long champions of this cause, have convinced you that the ordinary Wisconsin farm orchard is a menace to the commercial fruit orchard and that if Wisconsin is to develop this great industry; to become a leader among the fruit growing states (as it is prophesied she will become) then the time is ripe for something to be done to remedy this condition and the presentation of this topic needs no further apology.

It is my belief that the Wisconsin Farm orchard, as it exists today, should be thoroughly renovated in *every case*, materially cut down in *some cases* and completely wiped from the face of the earth in others. I believe that laws should be enacted in keeping with the progressive movements of the day; that this, as well as other lines of agriculture should be governed by that American principle "the greatest good to the greatest number." Such laws would prevent the sale of immatured diseased fruits—even more than that—they would prevent the very existence of neglected orchards which harbor pests, breed diseases, becoming in truth, nothing more than patches of noxious weeds.

But no advocate of such heroic treatment would condemn the home orchard entirely, nor claim that a single rural home should be without its own grown fruit. Laws to regulate what a man

shall eat or grow upon his own land, when it does not interfere with his neighbor, are un-American and quite out of place in this day and age,—but the time is at hand when special privilege cannot be granted to the few when it leads to the detriment of the many. The sole aim of the home orchard should be to supply the farmer's household with a variety of good wholesome fruit and enough to last throughout the entire year. Does it fill the bill? Your answer is unnecessary. The average farm orchard today is a neglected, uncultivated bit of land, presenting all manner of ungainly, unpruned, broken down and diseased trees, usually fenced off for the hogs or calves to run in. Sometimes the corner nearest the house is set apart as the garden spot for the growing of vegetables and small fruits but this often produces a beautiful assortment of every weed known in that locality.

It is unnecessary I am sure for me to here review the causes bringing about this condition. Men prominent in the fruit growing business have told you for years that the ordinary farmer is not a good fruit grower,—he's interested in other things nearer his heart. He's growing Pure Bred Poland China's or producing Pedigreed Seeds. Besides he has no convenient appliances with which to care for, or harvest his crop. He has never made a study of fruit growing and therefore knows little of the needs of an orchard, less of its care in handling its fruits and nothing at all of the diseases and insects which attack it on every hand.

What are the effects of such orchard practices? Listen, while I enumerate but a few of them. First, an immatured, unwholesome fruit is produced, second, the wormy windfalls are put upon the market, sold to the vil-

large grocer at $\frac{1}{3}$ price (in trade) spoiling the sale of good fruit from the well handled commercial orchard. This competition with inferior fruits at fluctuating prices is one of the most serious obstacles to commercial fruit growing in Wisconsin. Third, great quantities of fruit are allowed to rot each year. This was especially true the past season when it was reported that over 100 bushels rotted on the ground beneath a single orchard not a dozen miles from Madison. Such extravagance in the face of the present high cost of living is almost a crime. In fact, its a shame and ought not to be tolerated. Fourth, and the greatest ill effect, in my estimation, is the ruthless spread of diseases, unchecked, unnoticed, in fact encouraged—causing the undoing of the work of years in perhaps a single season.

I believe you commercial orchardists have a right to demand protection from the injustice of negligence. The spread of diseases among plants should be controlled, by as rigid laws as the spread of diseases among animals. The fruit market should be protected by law, persuasion, or otherwise, as was the dairy business not many years past, when putrifying, uncleanly dairy butter was driven from competition. This is necessary if Wisconsin is to become as a fruit state what she is in the dairy world.

But until the adoption of such compulsory measures, I plead for a "cleaning up" not alone for the betterment of the fruit industry in Wisconsin but for economic reasons, and more particularly, for pathogenic reasons, to prevent the establishment of diseases, the eradication of which may later prove a serious problem. Set aside your sentimental feelings for the ancestral orchard and cut down those diseased and dying trees

long past their days of profit,—grub out the underbrush, the accumulations of summers of neglect. Tear up the sod, the rendezvous of insects, germs and orchard pests and give new life to her dormant powers. A few well chosen varieties, placed near the house—well pruned—well cared for, will fill your apple cellar with such as it has never known.

It is probably unfortunate that the Wisconsin orchard insists in producing, at least a partial crop, in spite of negligence. The farmer knows he must feed his stock or they perish; he must cultivate his corn or it returns him nothing. If the bugs eat up his potato vines, he never looks for tubers. But the persistent faithful orchard comes about as near to producing "something for nothing" as anything I know of.

To what extent can the State Horticultural society assist in bringing about his "cleaning up?" I believe there is laid at your door no small responsibility. The reason for this neglected condition of the home orchard is largely ignorance. I dare say that not one half of the farmers today are aware of any negligence on their part. If this be true, then the blame falls on him who sees the evil but reveals it not. You should see that every farmers' institute in the state of Wisconsin has this important subject on its program for discussion. A little work with farmers' clubs might help materially. Put the proposition up to the county agricultural agents where there are such and then, if necessary, place another burden upon the now heavily laden shoulders of the rural school teacher. These, with that ever powerful agent, the public press at your command should accomplish even more than the enactment of laws.

I have confidence in the American farmer today—that his aim

and desire is to act wisely as far as he knows and it is the duty of your society to see that he is enlightened.

I am glad that I live in this progressive age—I'm proud to be a citizen of this great state of Wisconsin. The "Wisconsin Idea"—abroad in the land fills me with enthusiasm. The greatest inspiration I have received as a student at the university of Wisconsin is a knowledge of the excellent work of the Wisconsin Pure Seed Association, sending its pedigrees throughout the length and breadth of the land with their challenging insignia—"Grown in Wisconsin." But such inspiration and egotism can only be justified in the loyal citizen who stands ready to hold up Wisconsin's reputation and to fight to raise her standards in every line of occupation.

Co-operation.

From "Co-Operation in Agriculture" by G. Harold Powell, published by the Macmillan Co., New York. Copyrighted. Published by permission of The Macmillan Co.

"In the co-operative association, the controlling factor is men; in the other, money. The "one man, one vote" principle of organization is best suited when the interest of each member in the association is approximately equal to that of every other one. Under these conditions, each member contributes equally to the investment necessary for operation, each has an equal voice in the management of the business, and all share pro rata in the advantages and the risks. The object of the organization is to serve the members and to distribute the earnings on the basis of the members business.

The "one man, one vote" principle, however, is not always adapted to industries in which the amount of the product contributed by the members varies widely. In this case, the voting power, property rights, and interests of its members may be

unequal and the members may contribute to the investment in the proportion that the product of each member bears to the total product handled by the association, or in proportion to the acreage of each member. Under these conditions, the voting power, property rights, and interest of each member may be in proportion to such contribution or in the proportion that the acreage of each member bears to the total acreage which contributes to the association, or proportionally in other ways. Among many earnest advocates of the co-operative method, the "one man, one vote" idea is held as a sacred fundamental principle to which there should be no exception. It is an application of ideal democratic principles to business transactions. This is the usual method in the foreign co-operative societies, and as a general principle, it should usually be adopted in America. This limitation has been incorporated in the laws of some of the states which provide for the formation of co-operative associations, notably in Nebraska, Minnesota and Wisconsin. But experience in some of the most successful American non-profit co-operative business associations, like the organizations of citrus fruit-growers in California in which the property interests of the growers are widely variable, has shown that the grower who markets \$100,000 worth of fruit through co-operative association, will not consent, nor should he be expected to stand on the same basis of responsibility in the management of the organization or in liability as a fellow grower who contributes not more than \$5,000 worth of fruit. Experience has shown also that a voting power of the members may be equal with a reservation that it may at any time be proportional to the product or acreage contributed, with a limit placed on the voting power of

large producers, without weakening the fundamental principles that distinguish a co-operative non-profit corporation from an ordinary stock corporation formed for pecuniary profit.

It has been the experience of the past that they must feel the need of getting together to meet a crisis in their affairs, and the realization of the need must spring from within and not be forced on them from without by the enthusiasm of some opportunist who seeks to unite the farmers on the principle that organization is a good thing. American agriculture is strewn with the wrecks of associations that were the outcome of high motives and impractical enthusiasm. It will continue to be filled with derelict associations as long as they are formed by professional organizers, by middlemen who seek to control the products of a community, or by impractical farmers who affiliate to fight some evil but who fail to form on a broad, constructive basis for the upbuilding of the business side of their industry.

It is generally true that the so-called farmers' business organizations have not been formed primarily to improve the industrial relations of the farmer. They have usually combined political questions, social and legislative problems, and business enterprise. Many of them have been formed by impractical enthusiasts with high motives but with little business experience, desiring to reform every one except themselves, to wage war on their neighbors who do not affiliate, to fight every competitor, and to found the organization on enthusiasm, altruism, and general discontent. It is a common fault that they have aimed too high to be useful. Many of them have been formed ahead of their time through the efforts of opportunists when there was no real call for organization or when the farmers were too pros-

perous to hold together. Many have been managed by incompetent local men who have been unsuccessful in business or who have been selected by the farmers because of evidence of local leadership rather than for business qualities, and finally, the great majority of the organizations have been managed by totally incompetent, low-salaried men because the farmers have not realized that a business organization to succeed depends primarily on a manager possessing a high order of business and organizing ability. Such organizations have had a short, violent existence and have died as every business undertaking must when born prematurely or when placed in the hands of inexperienced incompetent leaders."

②

Home, Sweet Home.

Mrs. L. H. Palmer, Baraboo.

There is no place in all the world where the spirit of "Home Sweet Home" can be so fully and completely realized, and enjoyed as in the farm home. Father, Mother, the boys and girls, form a little republic where all unite to work for the common good. Their interests are so interwoven that whatever affects one member of the family, the others are intensely interested in.

The nature of their business keeps them in close touch and in all social affairs the whole take undivided interest. Neighborhood gatherings generally consist of old and young, and while the young people indulge in games or dancing, the parents either join in the fun, or indulge in reminiscences of their young days, and discussing the advances made in all branches of agriculture since their parents time, and indulging in conjectures on the possibilities of the future.

Their heart is in their home

make it better and brighter. We hear and read much to the contrary but such comments are based mostly on exceptional or individual cases and should not be taken as indicative of the whole.

In far too many instances comparisons are drawn between the well-to-do of the city and the poorer class in the country, which is unfair, as many times the seemingly poorer people of the country own the home and having worked and practiced rigid self denial to pay for it, will in the near future be surrounded with furnishings that will equal or surpass those in many of the city, rented residences.

Love of country and home is inborn in nearly every child, and until perverted by some unusual influence, it is as true as the needle to the pole. Much unfavorable comment is made because the boys do not remain on the farm with their father. It is seldom that fathers and sons are found doing business together in the city. The average American boy as soon as he arrives at a business age wants to be the head of the establishment, and much rather be a big fish in his own pond, than a small one in the home lake, not because of any dissatisfaction with home affairs, but because he prefers to try out his own powers.

Those Ever Bearing Strawberries.

W. J. Moyle.

I have just come in from over-seeing the hoeing of our ever bearing strawberries, and say Uncle Fred there is no use talking these ever bearers have come to stay. Our principal plantings consists of Progressive Amerieus and Superbe and I have watched them very closely with great interest. Amerieus

in my estimation is the best of the three when you come right down to splitting frog hairs, simply for this reason: the quality of the fruit. As I walked up and down the rows picking off those big dark red berries sticking out from under the leaves! once in your hand your eyes are fixed upon it these hot July days and your hand voluntarily comes toward your mouth, but long before it passes out of sight into the baser of our five senses, the delightful perfume and aroma is carried to my nose and recalls the days when as a boy I crawled around on my knees among the rosin leaves, wild geraniums, shooting stars, wild grasses, lady slippers and yellow puccoons looking for the wild strawberries.

They tell us these ever bearers have a little of the wild alpine strawberry blood in their make up and the delightful qualities of the Amerieus would indicate as much.

Progressive is a more vigorous plant and on that account may be more popular, and the superbe is the best plant maker of the lot but bears the best the second year or on the old plants.

We can think of nothing more to be desired than 50 or 100 Amerieus plants growing in the small garden where they can be given good care and high cultivation, as it will mean strawberries for the table all summer long.

"Chasing The Rainbow or an Upper Peninsula Gold Mine."

Lewis Elithorp, Clinton, Wis.

Horace Greely said Go West young man." I got mixed in my bearings, somehow, for I headed northward instead. This is what drew me, thither:

"Wanted a good man on a truck farm, must speak English. Will pay \$35 per month, and 10 per cent of sales over \$1000

per annum to the right man, one who knows fruit preferred.

I applied by letter, we corresponded, I accepted. Was told I wouldn't have to do any heavy work, as this was a fruit farm also. Twenty acres cleared. They thought the first year would net me about \$700 to the good.

As I left behind, a 3 acre farm which I bought on the installment plan the \$700 would come in nicely for a starter. On arriving at C—F. Michigan I was set to work carrying fruit (or rather maple sap) from a sugar bush, this was a variety of fruit I never heard of. My boss found fault with the sap, it wasn't sweet enough. Of course I was responsible for that, being a good man. Next I constructed a hot bed, a Wisconsin hot-bed; no use, it wouldn't do, had no place on it for a "Cash Register." Next thing, we selected our garden seeds for spring planting. Ever milk muskmelons? he asked; I avowed I never had, goats or cows either. When we got to the truck farm part, he had not 20 acres, but 2. This was worth coming 300 miles to see; In fact this was one of those dream farms, improved with blue sky overhead. I decided this was too thin to satisfy a gnawing stomach, a delusion and a snare. I gladly took passage homeward on the first opportunity, glad to get back where it wouldn't be so hard to handle the bags of imaginary gold. Never again would I try any more "Mail Order" jobs, sight unseen, that don't make good. Name of this was Fortuna.

Every member is expected to invite at least two of his neighbors to attend the summer meeting.

If you must have a drink get it at Wauzeka for the valley is as dry as a Ben Davis in January.

Wisconsin Horticulture

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

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

Don't worry about hotel accommodations, everybody will be taken care of.

Several members have a fixed habit of attending the summer meeting, an annual vacation trip. Will you join the vacation club?

On the Way to Gays Mills.

A few people will reach Gays Mills from the west or northwest, the ones who live at Prairie du Chien, Viroqua or Mt. Sterling. All others who travel by rail will go through Madison, and Wauzeka.

The train schedule follows:

Morning Train.

Leave Madison—10:10 A. M.
 Arrive Wauzeka—12:57 P. M.
 Leave Wauzeka—3:45 P. M.
 Arrive Gays Mills—5:05 P. M.

Afternoon Train.

Leave Madison—4:40 P. M.
 Arrive Wauzeka—7:53 P. M.
 Leave Wauzeka—6:30 A. M.
 Arrive Gays Mills—8:45 A. M.

Night Train.

Leave Madison—10:10 P. M.
 Arrive Wauzeka—12:50 A. M.
 Leave Wauzeka—6:30 A. M.
 Arrive Gays Mills—8:45 A. M.

The service is as good as on any stub line and is not bad at all. Wauzeka is not *especially* attractive but two of the three stops are after dark and the morning ride up the Kickapoo will make you forget the past.

A Seedless Tomato.

A. H. Lemke.

For the last decade there has been a great desire among horticulturists and others, to produce seedless fruits and vegetables, and never yet have I read an article by any experimenter as to his technical procedure. As a drawing card so that the article will be read the writers or publishers usually introduce the subject by a deceiving title or illustrated by showing Luther Burbank in the garden selecting flowers, pollinating, hybridizing, grafting, etc. If the methods of procedure can not be given why write such articles. This article would be just as deceiving if it is 'The Seedless Tomato.' 'Grafting' is abundantly illustrated at every hand and is out of the question in this article.

'Selecting' is no doubt the only method of improving the species—be it animal or plant.

Here is an experiment of mine.

The aim was to produce a seedless tomato. Choose the 'Illinois Purple.' The method was by selecting the choicest fruit with the fewest seeds. The plants were staked, no laterals were permitted and after the fifth or sixth cluster of flowers appeared the head of the plant was pinched out so as to put all the strength into the fruit. The usual cluster of fruit contained from 5 to 10, often 15 to 20 and in one rare instance last summer 1913, there were 32 tomatoes in one cluster but being the last bunch formed they only attained the size of walnuts. The fifth season I found one tomato weighing almost seven ounces and was able to extract but 25 seeds from it. There being no seed pockets as are usually found. Sectioning the tomato either way showed beautiful and even symmetrical convolutions. External appearance smooth and color good. The only objection was a small green area around the stem perhaps one inch in diameter. But the seeds at this stage (fifth year) are very deceiving. Out of the 25 seeds there developed but six **strong** plants. Some of the seeds were sprouting after four or five weeks' sowing. These plants were spindly weaklings. No amount of coaxing encouraged their growth, and about one-third of the seeds never sprouted, the germ being so weak or negative. I would think that the fewer the seeds the stronger the germ thereof, especially in so large a fruit which by no means was an exception in size.

The ultimate aim was to find a plant with seedless fruit and then the propagation would be by cuttings. My whole experiment terminated the first week in June, 1911, by an unexpected frost while I was visiting in the southern part of the state.

Starting all over again from very inferior plants from that season had very good fruit the

past season '13. There must have been a little Darwinism among the plants reverting to some of the lowest down-and-out type. Three plants were of the most freakish growths imaginable. The stalks were very stout and angular, the petioles nodular with leaves drawn down. Three or four feet high stalks were capable of standing upright without supports. The fruit very inferior, small, nodular and sparingly produced. Have photographed the fruit and plants but the plates were a failure. No wonder.

Testing Bordeaux.

In recommending the ferrocyanide test for bordeaux the mistake is often made of advising that the mixture be stirred before taking the sample. This test is for the purpose of detecting an excess of copper sulphate and if such is present it will be *dissolved in the liquid. It is not in the blue precipitate* and to most advantageously make the test, this should be allowed to settle until some of the clear fluid can be dipped up into a white cup or saucer. A few drops of the solution of ferrocyanide of potash are then added and if any reddish brown precipitate occurs it can be readily seen. Stirring the mixture before taking the sample only makes the detection of a reaction more difficult because of the presence of the blue precipitate of bordeaux.

The brown discoloration indicates that there is not enough lime to combine chemically with all of the blue vitrol, and plants upon which such a mixture were sprayed would be burned.

However, one-fourth of the lime ordinarily used in making bordeaux according to American formulas, would combine with all the blue vitrol provided that it were pure and not air-slaked. Even if lime of only 50 per cent purity were used about

the only circumstance under which the resulting bordeaux would react to the ferrocyanide test is that an error had been made in weighing ingredients or air slaked lime had been used. The experienced fruit-grower who is familiar with the process of mixing bordeaux and who knows the appearance of good fresh stone lime will find little use for the test. The amateur may find it a good way to check his calculations and his judgment of materials.

G. F. P.

Nurserymen Call for Uniform Inspection

Similar nursery and orchard inspection laws may soon be in force in every state in the Union.

What is hoped will prove a model inspection law was introduced at Cleveland, Ohio, at the convention of the National nurserymen's Association by James G. Sanders of the Agricultural Experiment Station, University of Wisconsin. Mr. Sanders is secretary of the American Association of Horticultural Inspectors.

Uniform legislation regarding horticultural inspection in all states was the uppermost theme at the nurserymen's meeting. The bill presented by Mr. Sanders is designed to accomplish this and will be presented by convention members to their respective state legislatures.

Hindrance to the interstate shipment of fruit and nursery stock at the present time are the widely varying inspection laws found in different states. But three states have no inspection laws at all. Many others, however, have laws which do not efficiently exclude disease infested nursery and orchard stock.

R. J. Coe of Fort Atkinson is one of the vice-presidents of the National Nurserymen's Association.

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Wisconsin Grown for Wisconsin Planters

SIXTIETH YEAR

Specialties.—Apple and Americana plum trees, small fruit plants. Everbearing strawberries. A card will bring our special

INTRODUCTORY OFFER which will surprise you. Descriptive price list free, and it will save you dollars.

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Send us a \$1.00 bill and we will express you ten good roots of our selection. Get our catalog.

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Wisconsin Nurseries

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Orchard Land in Dunn County, Wis.

Surface rolling; soil, rich clay loam underlaid with limestone. The orchards of adjoining farms show the adaptability of this part of Wisconsin to apple growing. Near railroads and markets. Prices reasonable. Write for particulars.

William J. Starr

Eau Claire, - - - - - Wis.

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Against frost on the Bayfield Peninsula.

We have also nearby markets, a successful cooperative association, fruit producing soil, cheap land and beautiful country. Our latest publication on actual profits made by growers will be mailed upon request.

THE DENISTON COMPANY

Bayfield, Wis.

PROGRAM OF SUMMER MEETING OF STATE HORTICULTURAL SOCIETY.

Gays Mills Aug. 19th and 20th, 1914.

Wednesday Afternoon

2:00 o'clock

"Down Town"

"There is a reason"The Secretary
Growing and Harvesting RaspberriesHoward Smith, Poysippi
Summer Potatoes and Some are Not.....C. L. Richardson,
Chippewa Falls
Small FruitsProf. C. V. Holsinger, Milwaukee
Co. School of Agriculture
Bulbs and Bulb CultureC. A. Hoffman, Baraboo
Some Orchard InsectsProf. J. G. Sanders, Univ. of Wis.

Wednesday Evening

The Improvement of Home Grounds, Illustrated.

Thursday Forenoon

"On the Bluff"

Inspection of Orchards until 10:30 o'clock
Orchard ManagementProf. R. S. Howard,
Dept. of Horticulture U. W.

Thursday Afternoon

Farm Home SurroundingsWm. Toole, Sr.
HomeE. H. Niles, Oconomowoc
The Farm GardenN. A. Rasmussen, Oshkosh
At least two papers in addition to above will be presented Thursday.

Premium List

The following Cash premiums are offered for Exhibits of Fruits and Flowers at the Summer Meeting, Gays Mills, August 19 and 20.

	1st	2nd
Best Display Asters	\$1.00	\$0.50
Best Display Cosmos	1.00	.50
Best Display Coxcomb	1.00	.50
Best Display Single Dahlias	1.00	.50
Best Display Double or Show Dahlias.....	1.00	.50
Best Display Cactus Dahlias	1.00	.50
Best Display Delphiniums	1.00	.50
Best Display Gaillardia	1.00	.50
Best Display Gladioli	1.00	.50
Best Display Nasturtiums	1.00	.50
Best Display Pansies	1.00	.50
Best Display Petunias	1.00	.50
Best Display Phlox (Annual)	1.00	.50
Best Display Phlox (Perennial)	1.00	.50

JEWELL MINNESOTA GROWN Nursery Stock

Complete assortment of Fruit and Ornamental stock in all varieties suited to northern culture. A specialty of Hardy Shade Trees, Windbreak Stock, Evergreens (Coniferous), Deciduous Shrubs, Apples and Native Plums.

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1500 Acres Estab. 1868

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are in a position to furnish high grade Nursery Stock of all kinds and varieties suitable to Wisconsin and other northern districts.

Will be glad to figure on your wants either in large or small quantities.

WAUWATOSA, WISCONSIN

	1st	2nd
Best Display Roses	1.00	.50
Best Display Snapdragon	1.00	.50
Best Display Sunflowers	1.00	.50
Best Display Sweetpeas	1.00	.50
Best Display Stocks	1.00	.50
Best Display Verbenas	1.00	.50
Best Display Herbaceous Perennials	1.00	.50
Best Display Annual Garden Flowers not enumerated in above list, (collection)	1.00	.50
Best bouquet of garden flowers in vase not over six inches in diameter	1.00	.50

FOR AMATEURS ONLY.

Potted Plants.

Best Fuchsia	1.00	.50
Best Rex Begonia	1.00	.50
Best Tuberous Begonia	1.00	.50
Best Begonia other than above	1.00	.50
Best Gloxinia	1.00	.50
Best Sword Fern	1.00	.50
Best Fern other than above	1.00	.50
Best Asparagus Plumosus	1.00	.50
Best Asparagus Sprengerii	1.00	.50
Best Display Geraniums	1.00	.50
Best Display Coleus	1.00	.50
Best Display Golden Rod	1.00	.50

Wild Flowers.

Best Display Asters (native)	1.00	.50
Best Display Lobelias (native)	1.00	.50
Best Display Native Ferns	1.00	.50
Best most artistically arranged bouquet of Wild Flowers	1.00	.50
Best Display Ornamental Wild Fruits	1.00	.50
Best Display Native Fungi	1.00	.50
Best collection of Wild Flowers in arrangement and variety; the different varieties to be shown separately each with common and botanical name	3.00	2.00
Sweepstakes to be awarded to the exhibitor receiving the largest number of first premiums on flowers and potted plants, amateurs only	1st 5.00	2nd 3.00
	3rd 2.00	

For Professional Growers Only.

Display ornamental potted plants	10.00	5.00
Display cut flowers	6.00	4.00

FRUIT.

Apples.

Best Plate Alexander	1.00	.50
Best Plate Astrachan	1.00	.50
Best Plate Beautiful Arcade	1.00	.50
Best Plate Duchess	1.00	.50
Best Plate Early Harvest	1.00	.50
Best Plate Lowland Raspberry	1.00	.50
Best Plate Okabena	1.00	.50
Best Plate Tetofski	1.00	.50
Best Plate Yellow Transparent	1.00	.50

Bush Fruits.

Best Red Currants, 1 quart	1.00	.50
Best White Currants, 1 quart	1.00	.50
Best Black Currants, 1 quart	1.00	.50
Best Gooseberries, 1 quart	1.00	.50
Best Red Raspberries, 1 pint	1.00	.50
Best Black Raspberries, 1 pint	1.00	.50
Best Blackberries, 1 pint	1.00	.50

Five apples to be shown for a plate.—In crabs not less than six specimens will be considered a plate.

Sweepstakes for largest number of first premiums for fruit.. 5.00 3.00 2.00

The Great Northern Nursery Co.

Sells First-Class Wisconsin Grown Trees

Our Trees Live. We have over 50,000 No. 1 apple trees of the late varieties, all of our own growing; and a nicer lot of trees was never grown. They are smooth, clean, healthy, hardy and just the kind of trees to plant in a commercial orchard.

Before you place your order, Mr. Planter, for your trees, write us for prices.

We are the largest growers of apple trees in the state, we are confident that we can furnish trees that will please you, and our prices are right.

Every tree and shrub is packed entirely under cover, free from exposure to sun and wind.

Great Northern Nursery Company
Baraboo, Wis. Write for Catalogue and Price List

BERRY BOXES

Crates, Bushel Boxes and Climax Baskets

As You Like Them

We manufacture the Ewald Patent Folding Berry Boxes of wood veneer that give satisfaction. Berry box and crate material in the K. D. in carload lots our specialty. We constantly carry in stock 16 quart crates all made up ready for use, either for strawberries or blueberries. No order too small or too large for us to handle. We can ship the folding boxes and crates in K. D. from Milwaukee. Promptness is essential in handling fruit, and we aim to do our part well. A large discount for early orders. A postal brings our price list.

Cumberland Fruit Package Co.

Dept. D, Cumberland, Wis.

Make Your Own Barrels

At a cost of about 29c.

"BARREL MAKING SIMPLIFIED"

Tells How - - - Price \$1.

Sent free for 6 names of Apple

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IT'S JUST FULL OF "BARREL"

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VEGETABLES.

	1st	2nd
Best quart Snap ans	1.00	.50
Best quart Bush Lima Beans	1.00	.50
Best quart Pole Lima Beans	1.00	.50
Best six Turnip Beets	1.00	.50
Best three heads Drumhead Cabbage	1.00	.50
Best three heads Cabbage any other variety.....	1.00	.50
Best three heads Cauliflower	1.00	.50
Best Celery, six heads.....	1.00	.50
Best twelve ears Sweet Corn.....	1.00	.50
Best six Cucumbers	1.00	.50
Best Head Lettuce, three heads.....	1.00	.50
Best three Musk Melons.....	1.00	.50
Best three Watermelons	1.00	.50
Best six Parsnips	1.00	.50
Best twelve Tomatoes	1.00	.50
Best Turnips, one-half peck.....	1.00	.50
Best White Onion, one-half peck.....	1.00	.50
Best Yellow Onion, one-half peck.....	1.00	.50
Best twelve Carrots	1.00	.50
Best three egg Plant.....	1.00	.50
Best six Peppers	1.00	.50
Best three Summer Squash	1.00	.50
Best three Winter Squash	1.00	.50
Best Display Radishes	1.00	.50
Best Display Novelties	1.00	.50
Sweepstakes for largest number 1st premiums, Vegetables	5.00	3.00 2.00

LOCAL SOCIETIES.

For best exhibit Flowers and foliage plants, quality and variety, by a local society \$25 will be distributed pro rata in three premiums.

For best exhibit Vegetables by local society, as above, \$25 pro rata in three premiums.

The Illinois Way.

Paper by J. C. Heaton, Illinois delegate, at Annual Convention.

The object of this paper is to tell you a few of the things Illinois has done and is doing in horticulture, with special reference to apples.

I well remember about the year 1868 when the first crop of tomatoes was grown near Cobden, Illinois, and was reported to have sold on the Chicago market for \$7.00 per bushel, the season through. Our strawberries were selling at the same time, and for several years after at from \$3.00 to \$5.00 per twenty-four quart case.

For a generation or more southern Illinois had been noted for it's large crops of tobacco and children, especially children. Our country was new and we were carefully feeling our way to better and more profitable crops, except children, considering them the most profitable crop grown by

the Horticulturist in any clime.

When we saw the possibilities of our country in horticulture we were not slow to take advantage of them. We began in a small way to raise fruits and vegetables for the Chicago market, shipping by express at first. It was not long however until our output had become so great that we asked the Railroad for a cheap, fast, freight service, which they were prompt to give. This gave such an impetus to the business that we went, in one season, from wagon-loads to car-loads, and it was only a short time until train-loads were gathered up along the line.

To give an idea of the enormous business done along the main line of the Illinois Central in fruits and vegetables, I will here give a brief statement of the amount shipped in the year 1913, from two of the principal shipping points in the clay hills of the southern part of the state. Anna shipped—130 cars of sweet pota-

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HOFMANN'S DUTCH BULB

HOUSE

219 Second St., Baraboo, Wis.

toes, 100 cars strawberries, 53 cars apples, and 300 cars of truck including onions, pieplant tomatoes, melons, and various products of this kind. Cobden shipped 160 cars of sweet potatoes, 55 cars of asparagus, 65 cars of pieplant, 64 cars tomatoes, 10 cars strawberries, 115 cars apples, 35 cars peaches.

The crop at these points was 50 percent short of the average on account of the extreme drouth. Cobden alone in a good season has shipped as high as 30 cars of tomatoes in one day. Anna, one year, shipped 21 cars of strawberries in one day. While these two places are the largest shipping points in that part of the state, they are typical of many others in the same vicinity. These were solid cars and were handled by the shipping associations at each point. Besides this there were large quantities went from each place by express and freight in less than carloads. So much for the horticultural development of that immediate section. From the above one can see that apples are a small factor in their horticultural output.

Until about the year 1875 nearly all the apples were grown by the general farmer in his home orchard. There were few orchards of ten acres or more in the state, notwithstanding the smallness of the orchards their owners began to realize that they were the most profitable part of the farm. The only things necessary to have good apples in those days were to plant the trees and cultivate. Nature did the rest. Observing people soon saw that there was no crop so easily grown and so profitable as apples. As a result farmers who had the means began to enlarge their orchards to twenty and sometimes forty acres. When these came into bearing they were veritable mines of wealth. Apples became the general talk of the country. Everybody was telling everybody else how much money was being made

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on apples. It was a common thing for men to meet on the street corners or in the stores and figure out fortunes in apples, and the beauty of it all was that it cost practically nothing to grow them. Just plant the trees, wait a few years and reap a golden harvest. They figured that if one tree would produce twenty bushels, which is a conservative estimate for a full grown Ben Davis, fifty trees would produce a thousand bushels which at \$1.00 per bushel would bring \$1000 per acre. Allowing one third off for harvesting and marketing there would be left \$666 per acre net profit each year. In those days there was no such thing as a crop failure consequently there were no allowances made on that score. Such figuring was in harmony with conditions and results at that time, and was so reasonable that not only farmers but everybody who had the "get rich quick" desire went into the apple business. "The butcher, the baker, the candle stick maker," professional men, bachelors, widows and old maids, all, everybody who could raise the money began to plant orchards. Bankers and money lenders made liberal loans to those who desired to plant but had no money to buy trees. Everybody seemed to have been bitten by the apple microbe and was wild to lend a hand in developing the business.

In Clay county twenty thousand acres were planted, with Richland, Marion, and Wayne closely following in the order named. In one place in what is known as the apple belt of the state, along one public highway there are twelve continuous miles of apple orchards, mostly Ben Davis. Large bodies were planted in different sections throughout the south half of the state. The owners were happy in the thought of the rich harvests that awaited them. These orchards were cared for as only an enthusiast will care for a thing on which he has

set his heart. The first crop came and the fruit was fine, fulfilling the expectations of the most hopeful, except that the large blocks, all of one variety, were a little shy all through the center. The second and third crops were about the same.

All this time nothing was being done to control the insects and fungous diseases. Such large

areas of orchard soon became prolific breeding grounds for these pests, and the orchards began to fail. In a few years they quit and most of them stayed quit. The experiment station sent out men to investigate. First they found large blocks of trees, sometimes twenty to forty acres, all one variety and as a result pollination was weak. To rem-

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edy this they recommended that every fifth or sixth row be taken out and some good pollen bearing variety planted in it's place, or better, that the trees in these rows be cut back and topworked to some strong pollener. This is to be followed with two or more applications of Bordeaux and Paris green at stated intervals, that being the standard spray at that time. Only a few had the courage to take this advice. The majority preferred to trust to luck and await developments.

Up to this time the only enemy of the apple known in our country was the codling moth, which had always been with us. Later we learned of the apple scab, blotch, bitter rot, and curculio, either of which may of itself cause failure of the crop if not controlled by spraying.

This was so discouraging to those who had planted for speculation that they turned their attention to more congenial occupations and left their orchards to take care of themselves. As a result they produced nothing better than evaporator and cider stock. But out of all this failure and ruin there were a few who were not quitters; who had the courage of their first convictions, and were determined to do all that was possible to be done while there was a ray of hope. Our experiment station offered them help in this time of gloom, which they were prompt to accept. Every one who followed the instructions of the station was rewarded with bountiful crops, and soon felt themselves on the high-road to prosperity.

As season after season went by and the sprayed orchards produced good crops, other growers fell into line and obtained similar results.

About this time some of our shrewd, farsceding growers conceived the idea of forming a company to lease a lot of these neglected orchards and take an option on them for their purchase

at the expiration of a five years' lease. All these orchards were taken over by the company and are now paying liberal dividends to the shareholders.

Apple growing in Illinois at the present time is a business that to succeed must be conducted on scientific principles. To grow first class winter apples one must spray from three to five times, as weather conditions may require. As this spraying must be done at the same time that much of the spring work comes onto the general farmer, and the equipment necessary to the successful handling of the orchard and it's product is very expensive, and of lit-

tle or no value in any other line of farm work, the apple business is rapidly going into the hands of men who like the work and are making it their specialty.

I will give a few examples of the specializing being done. Senator H. M. Dunlap of Savoy, Illinois, has one hundred twenty acres on his home farm from which he harvested in 1913 twenty thousand barrels of apples, besides several carloads of cider and evaporator stock. In addition to this he has under his control one thousand twenty-five acres of apple orchard belonging to the Illinois Orchard Company of which he is president and busi-

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ness manager. These were the neglected orchards referred to above, which were leased on five years trial and which proved so successful that they were bought at the expiration of the leases and became the property of the company. Under Senator Dunlap's management these orchards have paid for themselves, paid for up-to-date equipment for handling them, and are now paying fat dividends on the investment.

J. M. Tanner of Springfield, Ill., has two hundred eighty acres of apples, thirty acres of peaches, and one hundred acres of pears in bearing. Eighty acres of apples and thirty acres of peaches in young orchard. The year 1913 being an off year with his pear orchard and about half of his apples, he shipped only six

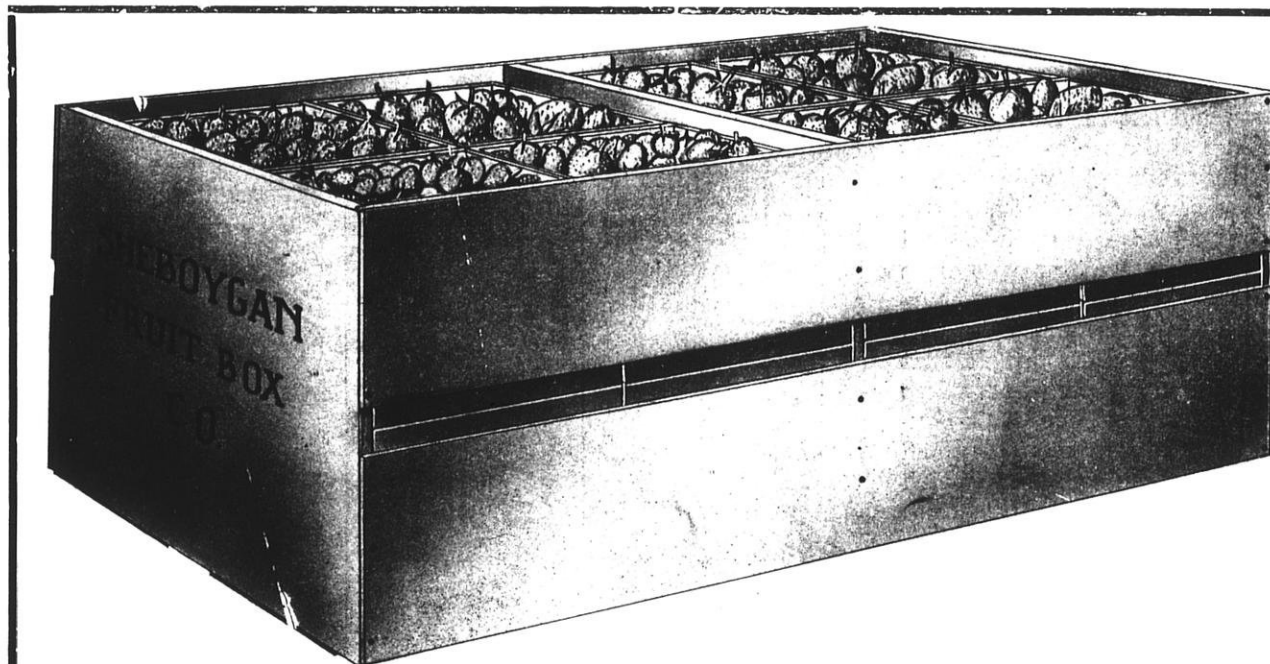
carloads of pears, four thousand bushels of peaches and ten thousand barrels of apples. One four acre block producing six hundred barrels of apples.

The Perrine Brothers of Centralia have two hundred acres; H. M. Simpson & Sons of Vincennes, Ind., own and successfully operate two hundred or more acres in Illinois. Messrs. Ringhausen, Motaz, and many others of Calhoun county have each a large acreage. Guy Beauman of Tunnel Hill, Mrs. McEvoy of New Burnside, and F. B. Hines of Ozark have about one hundred acres each. Mr. Poff and Mrs. J. F. Jolly of Olney, Lamar Bros. of Cobden, Casper Bros. of Anna, and many others over the south half of the state are all making good, and are enjoying many of

the luxuries of life made possible by their orchards.

The Apple man who succeeds in Illinois today must either know his business thoroughly or be able and willing to follow, without question or doubt, the instructions of some one who does know it. He must be a man who can work and live by faith and never figure the expense until the end of the season, for if he counts expenses he may become discouraged and throw up the job, quitting on the eve of success and losing out entirely.

Automobile parties from Madison should go via Dodgeville, Fennimore and Wauzeka and avoid the Wisconsin river valley. It's only a short day's drive from Madison to Gays Mills.



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