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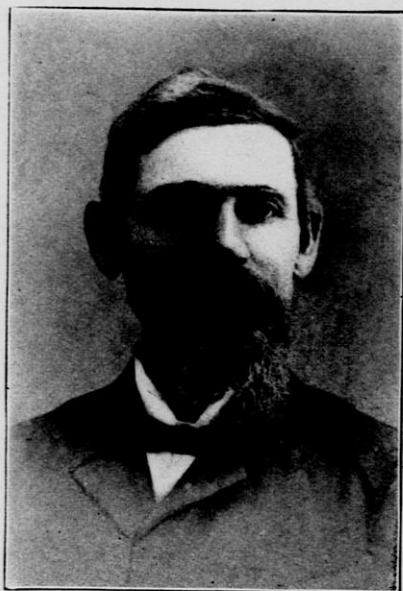
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A. L. HATCH, STURGEON BAY, WIS.

The Wisconsin Horticulturist.

VOL. VII.

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GROWING AND MARKETING OF SMALL FRUITS.

J. L. HERBST, Sparta, Wis.

Each year a good many of the farmers are persuaded by the glowing accounts of the successful growers of fruits and by the smooth talk of the nursery agent, to purchase fruit plants to a great extent, with the idea that they are going to make big money by growing and marketing small fruits.

People are tempted to go in this business, and do undertake it, without giving it first careful study. The successful fruit grower of today makes this business a specialty. He does not undertake three or four lines of business but puts his time and attention to this line of work.

At one time small fruits could be placed upon our markets in almost any shape and quality and command a good fair price. But with the strong competition now going on each year, the improvement of varieties, new methods of cultivation and methods of transportation and disposing of the stock one must devote a good deal of time studying this occupation in order to be successful.

The average farmer cannot undertake the growing of small fruit for commercial purposes without neglecting some of his other work. We often hear of the general farming man who has made money on his small fruit acreage, but does he know how much more he would have made if he had given it his whole time and attention? Does he know how much he has lost on his other crops by neglecting them when they needed the care necessary for their welfare? Unlike

the other crops of the farm, small fruits have to be disposed of at one certain time or be a total loss. Most other crops of the farm can be held for a time until the price is favorable. Small fruits must be disposed of whether the market is favorable or not. It is necessary that you dispose of the pickings each day, which will require a trip daily to your shipping point, and in doing this you will neglect the work necessary to the other crops. The work of attending the small fruit business comes at the time when your other farm products need care and attention. You will have to neglect one or the other. A few days' neglect in the harvesting of the corn, potatoes or most any of the general farm crops will make but very little difference, but a few days neglect of the small fruit crops when it is ready to harvest will mean a total loss.

From the above I do not wish to discourage the planting of small fruits but rather encourage it, providing one can do it in the proper way. There is money in the business if done in the proper way, and anyone contemplating going into it should first study carefully those things which are essential for successful fruit growing.

Location: Probably one of the most important factors in successful fruit culture is the location of the plantations. Not only as regards to soil, but as to shipping facilities, labor to be employed and market to be supplied. The plantation should be planted upon an eastern, southeastern or southern exposure. It is the concise opinion of most fruit growers that a loamy soil is much more preferable to all others for successful fruit growing. One that is quick to respond to good treatment. It should be well drained and at the same time one that will hold and retain moisture as it comes from time to time.

The plantation should be located as near as possible to your shipping point. Small fruits will not stand too much handling and hauling before reaching the point from which they are to be distributed. Drawing fruit eight to ten miles uses them up badly. Fruit is jarred and in most cases bruised before being loaded for shipment. At this distance too much time is lost. Fruit is sometimes picked one day and shipped the next and in this case fruit becomes settled in boxes, loses its color and flavor and quite frequently becomes mouldy and sour.

The shipping point should be one that has excess to different sections of the country. One that will reach your market by direct route and in quick time. Avoid transfers if possible as in this case your packages will have to be rehandled and sometimes are not used as carefully as might be. Or shipment may miss connections and be delayed thus placing the fruit in too late for market.

Locate in a section where the required help can be had quickly to take care, harvest and dispose of the crop. No small amount of labor is required to take care of and handle the crop of a fair size fruit farm. Pickers must be near at hand at the proper time of ripening to begin the picking of the crop. They must be ready to respond at any time during the ripening period. If you are not located as regards to securing labor do not undertake the enterprise. What good will the crop be if you cannot secure the labor to harvest it.

Varieties: This must be something that you must decide partly for yourself. Some kinds will do well in certain localities and on different soils and may be a failure if planted elsewhere. If certain varieties are doing well in the locality when you expect to embark in the business, plant of these and secure a few of other new varieties and test them first before planting extensively.

Dealers of plants will gladly give you any information in regard to the merits of the different varieties they are propagating and sending out.

You should study your market and find out what it demands. What varieties are generally handled and of which most is called for. Try and keep your fruit on the market as early and as late as you can. Early and late varieties should be planted in order to do this. As a rule the early varieties bring a good price, while the fruit that is placed on the market when the season is at its height will only bring a fair price. Then again when the heavy part of the season is over if you have some late variety you will secure a better price for them.

Varieties of strawberries that sell best in the market are not the overly large kind but of a fair even size and highly colored. The bright glossy red berry sells better than the pale light colored varieties. The berry should also be of a firm

nature. One that will hold up well and stand handling and shipping.

The following are some of the varieties that are extensively grown for market:

Warfield (P), considered by most strawberry growers, in this section of the country, to be the best all round strawberry to grow for home use or distant market. It is a pistillate. A rapid plant maker and some years when there is an excess of moisture, must be restricted in growth. The only objection to this variety is that it sets plants to thick and during its fruiting season will be the first to show the effect of drought. It is a heavy yielder when properly handled. The fruit is very fine in appearance. Medium size; color, rich dark glossy red, giving it a fine appearance in the boxes. Flesh, red and quite acid. Texture, very firm. It is adapted to nearly all soils. One of the best shippers.

Haverland (P), of late years has worked itself into market. A splendid berry of fine appearance. Quite productive and fruit large. Color, bright red, very glossy. Foliage quite heavy, protecting the fruit from sun. This variety should be well mulched as the fruit is borne on quite long stems and it ground is not mulched the fruit is inclined to lay on the ground and get dirty. They will not stand to far a shipment unless picked a little before ripe. They stand the drought better than most varieties. Season medium early,

Beder Wood (S), an early sort and a tremendous yielder, on light loamy soils. Several have reported this variety as not doing as well on heavy soils. It is a fairly good plant maker. Fruit pale red and nearly round. First pickings are generally quite large, but as a rule the fruit is only fair size. It is of good quality and will stand only a short shipment. A good home market fruit.

Enhance (S), a medium late variety. Strong grower with a well developed root, which stands the drought the best of any variety coming under my notice. Fruit is large dark red but without the glossy appearance so noticeable in the Warfield and Haverland. They stand a shipment well and should have plenty of fertilizer, and given good cultivation.

Bubach (P). For those who want a large berry, this variety should be planted. Not as large a yielder as some, but fruit is very large of good quality. Irregular in shape; color dark glossy red. Plants are large and vigorous, but are slow in sending out runners. This variety should be planted closer together in the rows to insure good filled rows.

Splendid (S). One of the most vigorous sorts grown. Similar to Warfield and Crescent in manner of growth, but plants are more stocky and with a well developed root system. A splendid fertilizer for the Warfield. It is a tremendous yielder of medium to large, smooth, nearly round, bright scarlet berries that are firm. A good berry for home or distant market. It seems to thrive well on most soils.

Gandy (S). A late standard sort. They require a rather heavy soil which has been well fertilized. A rather shy plant maker but is stocky and strong. Should be planted closer together in the row to insure a good well filled fruiting row. Fruit rather light in color but very firm and will stand a good shipment. It holds its size up well to last of season. It seems to do its best on second year fruiting bed.

Within the past few years quite a number of new varieties have been placed upon the markets and are catalogued by the leading plant dealers. This list includes such varieties as Senator Dunlap (S), New York (S), Maximus (S), Rough Rider (S), Klondike (S), Nick Ohmer (S), Sample (P), Hunn (P) and Kansas (P). I would not advise a new beginner to plant largely of any of the above but to procure a few plants of each and give them a test. They are all highly recommended but your soil and conditions may not be the same.

Red Raspberries: The cane fruits as a rule do not adapt themselves on most all soils and conditions as the strawberry. Some varieties will do exceptionally well in some localities and be complete failure in others.

Marlboro: This variety is more extensively grown in this locality than any other. It is an early sort and a strong grower. Very productive and a good shipping berry. Fruit medium to large of fair quality and firm.

Cuthbert: A strong rank grower and the best late variety in cultivation. It seems to adapt itself to most all soils. Very productive. Fruit very large, conical, rich crimson and quite firm, Flavor is sweet, rich and luscious. A splendid home market berry and will stand a good fair shipment.

Loudon: A cross of the Cuthbert and Turner. A fair grower not so vigorous as Cuthbert. Canes short and stout. Fruit large, bright red and splendid flavor. A good shipper. Fair yielder.

Other varieties that are good and can be worked in to advantage are Miller, Turner, Hansel, Thompson's Early and Superlative.

Black Raspberries: Nemeha seems to be the best market variety in this section. In my opinion it is superior to all others in size, beauty, quality and productiveness. It is a strong upright grower. Fruit large, firm of splendid quality and one of the best shippers. A late sort.

Gregg is similar to Nemeha in most respects but does not seem to be as hardy. Fruit large, medium quality and nearly as firm as Nemeha and same season.

Ohio, an early sort. Good quality, medium size. A strong grower. It will stand a fair shipment and works in well as an early sort.

Older, a very prolific early variety. Large, jet black fruit of fine flavor. A good home berry.

Conrath, Kansas, Eureka and Palmer are all worthy of cultivation.

Blackberries: Ancient Briton, probably leads for an all around purpose berry. It is a strong grower. Fruit large, best quality and one of the best for shipping. It is very productive and medium late.

Snyder, an early variety. A very strong grower. Fruit medium size, fair quality. We always get a good price for Snyders as they are generally the first in market from this section. They are however of short season.

Eldorado, a variety that seems to be gaining favor with most of the growers. It is very hardy and one of the most productive of the newer varieties. Very vigorous. Fruit, large, jet black, sweet and of the best quality. A good shipper.

Early Harvest, Wilson's Early, Lawton, Erie and Kittatinny all deserve some notice.

Gooseberries: Downing, an old variety, well known and probably more cultivated than any other variety. A strong thrifty grower and hardy. Fruit very large, green in color and very productive. A good variety for market.

Houghton, one of the oldest varieties in cultivation. A thrifty grower and hardy. Fruit rather subacid, pale red when ripe and very sweet. Very productive and perfectly free from mildew.

Industry, an English variety and not a variety to plant very largely of. It is subject to mildew if not given plenty of light and fresh air. Not one of the best growers. The fruit however is very large, thick skinned and of fine flavor and quality.

Chautauqua, one of the later introductions, originating in New York. Season, medium; strong grower; fruit large, greenish white and of very good quality.

Pearl, Smith, Redjacket and Champion will all bear some attention.

Currants: Lately a good many new varieties have been placed upon the market and are being catalogued by the leading nursery-men.

Victoria, Red Dutch and Prince Albert, of the red sorts, have been extensively grown for some time and are all good ones to plant. Of the white varieties White Grape and White Dutch seem to have taken the lead. Fay's Prolific, a red variety, is too slow a grower and inclined to be too tender and should not be planted very extensively of this variety.

North Star, Pomona, and Red Cross of late years have been receiving a good deal of attention and are gaining favor with a good many fruit growers.

Grapes: The grape is receiving a good deal of attention of late and there is no reason why it should not. There are quite a number of varieties that can be successfully grown here in the northwest.

The Concord, Worden, Moores, Early and Delaware are too well known to need any description. All these varieties are quite commonly cultivated and all seem to do well. Some of the newer

varieties that are being brought out and have given satisfaction are, Diana, Diamond, Isabella, Campbell Early, McPike and Salem.

Preparation of Soil: The soil upon which we are to set our plants should have been put to some hoed crop the previous year or to one that was given clean and thorough cultivation. If we are to use sod, this should have been plowed shallow in the fall and again in the spring. It should be made fine and mellow by use of harrow or drag, and all lumps crushed down. Setting the plants will be more easily and quickly done. All small fruit plants should be set in the spring to secure the best stand. Raspberries, blackberries, currants, gooseberries and grapes can be set out in the fall with good results, but I prefer spring setting. To do this however, the soil must be made ready as early as possible and plants set out to secure the benefit of our spring rains. Get on the ground as soon as possible in the spring and put the ground in readiness.

After the ground is well pulverized it should be marked. For strawberries mark off rows three and one-half feet apart and mark crossways of these, rows eighteen inches to two feet apart; for the cane fruits, mark off the rows seven or eight feet apart and set the plants at the distance most desirable in the row.

Setting the Plants: After the ground is fitted and marked properly all that is necessary is a spade and a good man back of it. The strawberry plants should be set at the intersection of the two marks. Insert the spade, at a slight angle to its full depth and push forward, and in the cavity made, insert the roots spread fan shaped. Withdraw the spade and press the dirt firmly about the roots with the foot. The crown of the plant should be even with the surface of the soil. In regard to the setting of staminate and pistillates will say that a good many growers differ on the number of rows that one row of staminate will fertilize. It is safe however to plant every fourth row to the staminate variety. Some fertilizers are heavier producers of pollen than others and will handle more rows of pistillates. The season has much to do with this also. The raspberries and blackberries can be set in about the same manner, only that the spade should be inserted vertically in the soil instead of at an angle. The roots of these should not be so large that a hole should have to be dug. The small well rooted plants of these do better than the overly large ones. Rows of these should be seven or eight feet apart and plants placed about two feet in the row.

(to be continued)

COLD STORAGE FOR APPLES.

The Horticultural Department of the Iowa Experiment station has one hundred barrels of standard varieties of Iowa apples in cold storage to determine the relative keeping qualities of the varieties, the length of time they may be held successfully, and the best temperature for storing.

The varieties included in the test are Wealthy, Wolf River, Fameuse, McMahan, Jonathon, Domine, Ben Davis, Seek-No-Further, Janet, Roman Stem, Northern Spy, Willow Twig and White Pippin. From three to ten barrels of each variety have been used, and the apples carefully selected and packed.

The apples were bought at Corning, Iowa, in the heart of the Adams county apple district at prevailing prices, and were packed by a commercial packer under the direction of the Experiment Station. The results should be a fair guide both to the commercial orchardist and dealer. The work this year is but a beginning and it is hoped that next year it may be conducted on a more extensive scale and that co-operative experiments may be arranged for in different sections of the state.

Cold storage of fruits and vegetables is a subject of vital importance to the live horticulturist, and the experiment station at Ames is receiving many inquiries from those who contemplate building storage plants both for private and commercial use. It is a line along which little experimenting has been done, and a subject of special importance to the fruit growers of the northwest since we cannot raise successfully the long keeping varieties of the east.

REPORT OF A. G. RUGGLES.

Inspector of Nurseries for the State of Wisconsin Season of 1902.

Acting under instructions from Mr. Cranefield, the horticulturist in charge at the Experiment Station, during the time between July 20th and August 10th, I inspected the nurseries of Wisconsin mentioned below. I am happy to inform you that no San Jose scale was found even in the locality where it was detected last year.

The nursery stock everywhere visited was with few exceptions as healthy as nature and man could make. The foliage was bright and the bark was smooth and clean. Better looking stock I think could not be found anywhere. Apple blight or fire blight seemed to be the worst common enemy. The list of injurious insects and fungous diseases will be given at the end of this report.

The number of nurseries inspected this year was twenty-four and were as follows:

The Great Northern Nursery, M. F. Foley, Manager. General nursery stock—apples, pears, cherries and ornamentals.

Z. K. Jewett & Co., Sparta. General nursery stock, principally apples.

Herbst Bros., Sparta, small fruits.

Geo. Hanchett & Son, Sparta, small fruits.

Henry Lake & Sons, Black River Falls, fruits and ornamental stock.

Waupaca Artic Nursery, A. D. Barnes, Manager. General nursery stock—apples, ornamentals and strawberries.

Boynton & Williams, Shiocton. Few apples, but mostly ornamentals.

Hatch & Bingham, Sturgeon Bay. Apples and small fruits.

Hočy & Son, Sturgeon Bay. Fruit trees and evergreens.

Evergreen Nursery Co., Sturgeon Bay. Evergreens almost entirely.

Hawks Nursery Co., Wauwatosa. Few fruit trees but principally large ornamental trees.

Hartland Nursery Co., Hartland. Large ornamental trees and some fruit trees.

A. F. Fancher & Son, Corliss, large ornamentals, few fruit trees.

W. J. Moyle, Yorkville. General nursery stock.

Phoenix Nursery Co., Delevan. General nursery stock—chiefly ornamentals.

G. J. Kellogg & Son, Janesville. Fruit trees and small fruits.

M. E. Downing Nursery, Milton. Fruit trees, ornamentals and small fruits.

Coe, Converse, Edwards Co., Ft. Atkinson. Ornamentals, fruit trees and small fruits.

A. F. Tamblinson & Son, Ft. Atkinson. Small fruits and ornamentals.

W. H. Bright, Ft. Atkinson. Small fruits and ornamentals.

White Elm Nursery Co., Watertown. General nursery stock.

W. W. Brown, Hartland. General nursery stock.

Pfeiffer & Co., Waterloo. Ornamentals and small fruits.

Riley & MacKay, Waterloo. Fruit trees and ornamentals.

Methods of Inspection: In examining a nursery one has to choose a method by which the best representation of the plants can be secured. The method of inspectors is to take certain trees in every seventh or eighth row; another is to zigzag across a plot examining two or three trees in each row. Both of these methods were used this summer and I think as thorough a sample as possible, in such a short time was taken. Of course all trees and shrubs looking unhealthy were examined whether in the direct path of search or not. Any rough bark discolorations, wilted foliage and the like were studied very carefully.

In all the inspections, however, the principal thing was the look out for the San Jose scale. The nurseryman and orchardists may congratulate themselves that so far this pest has gained no headway among them. Yet it is only by constant watchfulness and carefulness in the importation of stock that this danger will be averted.

Insects Found: Although a number of insects were found none were doing any serious injury to the nursery stock. Therefore mention will be made of only a few of them.

Oyster-shell bark louse (*Aspidiotus ostreaeformis*). This scale is a very close relation to the San Jose scale (*Aspidiotus perniciosus*) although it is never as dangerous. This scale was found in two places in the state and in one place very abundant. In one section it was found on white birch, a fact never before reported. In another district it was working on old currant canes.

Lecanium: This scale insect differs from those above in that the scale is firmly attached to the body of the insect.

Pulvinaria: This scale insect secretes a large cottony mass in which the eggs are laid. Many shade trees along the roadside at Corliss were very badly infested.

No other scale insects were detected.

Lachnosternr: The larvae of the May beetle or "June bug" was found in a few nurseries eating the roots of strawberries.

Fungus Diseases: Several fungus diseases were found doing considerable damage. These will be mentioned together with a method of combatting when known.

Leaf curl fungus was found doing injury to blackberries. The leaves become curled and thickened. This prevents the proper maturing of the canes and therefore lessens their vigor which grow the following spring.

Red raspberry fungus or cane blight was detected in one locality doing serious damage. Experiments made with methods and substances for combatting this disease have as yet proven unsuccessful.

Anthracnose was found, though not to any large extent. Usually anthracnose is not very disastrous in its effect. It may continue for years; or it may effect the yield indirectly, lessening the vitality of the cane and subjecting them to injury from winter killing. As this disease is fungus it cannot be cured. It can only be prevented. This can be done by cutting out the diseased canes and burning them; then in spring the young canes must be sprayed thoroughly with Bordeaux mixture. This is continued at intervals throughout the summer. The spread of the disease can easily be checked, but in the experiments tried in New York the increase yield of fruit on the sprayed canes has not made it appear profitable to spray.

"Usually the profitableness of a commercial raspberry plantation does not extend beyond its third crop and it will be found best to set out a new one. Under such conditions if disease free plants are used and careful culture is given anthracnose is not liable to become troublesome as to require treatment.

Leaf blight or rust of the strawberry is a fungus (*Sphaerella fragariae*). The spots showing fungus attack are brownish at first but afterwards become dry and whitish with a circle of red; finally the whole leaf is spotted and assumes the red discolored appearance. The blight does its worst work in summer after the fruit is off. It then prevents the growth hindering the maturity of the plant and thus lessens the crop the following year. The two methods of dealing with the disease are as follows: 1st. Dis-

carding susceptible varieties. 2nd. Plowing up the patch after the first crop is off.

Prof. Bailey, of Cornell, says that there is a "growing tendency to fruit the strawberry patch but one year, and there are strong reasons in favor of it aside from the desire to check the blight."

Brown rot (*Monilia fuctigena*). This disease was of course not found in a nursery but my attention was called to it where the whole plum crop was being destroyed. It is a well known disease affecting all stone fruits.

In plums the fruit may be infested with the disease, but show very slight or no indications that such is the case. Sooner or later however the ash grey spore tufts appear on the surface. Seemingly sound fruit may be picked in the evening and by morning be so covered with these spore tufts as to be unsaleable.

Every year there is more or less rotting of fruit caused by this disease, but a season so wet as the past has been exceptionally favorable to the disease. If any lodgement of the spores was affected the disease was sure to start. Thus injuries of fruit caused by *curculio* would leave excellent opportunities for the spores of the Brown rot; fruit which is not properly thinned but allowed to hang in clusters would also allow lodgment for the spores.

The indirect treatment would therefore, be the riddance of insects which injure fruit; and the thinning of the fruit. Directly, Bordeaux mixture applied several times during the season will prevent the havoc made by the disease. Spray once before the blossoms open; spray after the petals fall and two or more times afterwards at intervals of ten days.

Fire blight was very common all over the state, some varieties of trees being much more susceptible than others.

This blight differs from the diseases mentioned above in that it is a bacterial disease and is very contagious. This is also a plant but of a lower order. The organism (*Bacillus amylovorus*) attacks and kills the blossoms, young fruits and especially new twig growth, running down in the living bark to the larger limbs and thence to the trunk. The bacillus itself rarely kills the leaves, but all the foliage on blighted branches eventually die.

The blight may attack different parts; sometimes only the

blossom clusters or the young tips of growing twigs; sometimes it runs down on the main branches and trunk; and again it extends down only a few inches from the point of attack. The sudden collapse of the foliage on blighted branches has led many to believe that it comes suddenly as with a lightning storm. It rarely, however, extends farther than two or three inches a day though it sometimes reaches a foot. Climatic conditions greatly influence the disease, warm moist weather with frequent showers favor it; dry, cool and summer weather hinder it; and very dry weather soon checking it entirely.

Although many of the bacilli are killed by the cold of winter some manage to keep alive and multiply. When the root pressure begins in the spring the sap provides more favorable conditions for these microbes, which now extend their work into the new bark. Gums exude from these diseased parts and the organisms are carried to other trees by insects. Thus the blossoms are the first attacked in the spring.

Treatment: While the trees are yet dormant cut out and burn every particle of blight that can be found. Wild crab apple, hawthorn, mountain ash should all be examined as the blight is the same in all. Any cases overlooked may bring a return of the disease. Cut out and burn therefore, seems to be the only effective treatment and this can only be effective when done thoroughly.

PROTECT STRAWBERRY BEDS.

While it may not be always safe to advocate strawberry growing for profit, we can always do it for pleasure whether in the bed of a few square feet or expanded into the broad acres. We take it for granted that the strawberry is, or ought to be, one of the belongings of a Wisconsin farm homestead. In the matter of winter protection the thing to be guarded against is not so much intense cold as the changes of temperature. The liability is of being "thrown out," as the saying goes, by the freezing and thawing of the soil. To prevent this we spread over the plant covering and here the name of the berry suggests the material in common use. Perhaps there is, all

things considered, no better material than the straw from a two-year-old straw-stack. We say two years old because in this interval much of the foul seed that sought to make trouble would be got away with, either in sprouting or rotting. This matter of foul seed in the covering is one of the serious problems in the winter protection of the strawberry. Were it not for this we would advocate the use of coarse strawy manure from the horse stable; we have used such extensively from the town livery stables, as this has the two-fold advantage of both covering and top dressing. The straw does duty as covering while the strength of the manure is carried down by the rains of melting snows to the roots of the plants, insuring a more vigorous growth and larger crop to be seen both in size and quality of fruit. But as an offset to this the danger of seeding down your bed with foul stuff is largely increased. We have tried wild marsh hay, but it is no improvement on the straw covering.

THE METHOD OF COVERING.

Spread evenly and not too thick, as the plant can be smothered, so a comparatively light covering is sufficient. When the bed is small leaves—the rakings of the yard or lawn—held down by a few bean poles may be sufficient. Too often it happens that the covering of the strawberry bed is postponed until the last minute, and if the plants are in rows and these covered with snow unless you use an extra quantity of covering there is the chance of missing the rows. The best is to get at the job while the plants are yet green in October or early November, seeing to it that the earth is sufficiently dry and firm beneath to support a team and loaded wagon, that is if you have a surface requiring to be driven over. With a small bed the more moist the soil the better it is at time of covering, the plants coming out all the fresher and greener in the spring.

PROTECTING THE CURRANT IN WINTER.

The winter protection of the currant can be made a short and easy task. As a usual thing the currant gets no protection, being allowed to shift for itself. Yet a little timely attention will pay, and this should take the shape of a shovelfull of well-rotted manure bestowed about the roots of each bush.

The reader will note that we use the term bush in preference to plant or tree, the bush form being the most profitable form to grow the currant. In pruning take out the old wood, leaving the most vigorous shoots of the new growth, as this will insure plenty of good bearing wood, and an abundance of light and air. Cut out the thin and weakly shoots, and should there be evidence of the currant bores in the comparatively dry and shriveled stalk you will note a small, round puncture. Cut well below this and carefully gather up such prunings and burn them. This will help to rid your grounds of the pest.

It sometimes happens that a storm of sleet, freezing as it falls, or making a hard crust, breaks down and off the branches of the currant. The best way to guard against this is to draw all the branches together at the top, in cone shape, so that the branches can lend strength to each other. While this is out of the question with large growers for market, yet in small lots and with weak-growing kinds of trees perhaps it may be well to take this extra pains.

The winter protection of the gooseberry is practically the same as with the currant. As to the matter of pruning the gooseberry needs still more chance given for sunlight and air to prevent mildew.

PROTECTING SHRUBBERY AND FLOWERS.

The climbing roses should be taken off from trellis, old wood pruned out, the young, vigorous shoots gathered close together, trimmed back when too lengthy, and then incased in straw, for its length is the most convenient. If the situation is much exposed and winters apt to be severe add to the straw a wrap of old carpet, the whole well wound from top to bottom with twine. We would add a good shovelfull of rotten manure at the roots of the bush.

For delicate varieties of standard roses, as the mosses and hybrid perpetuals, bend carefully down; remove with a digging fork a little earth from the roots, bend the bush at or in the root, and cover with earth. If the location is somewhat protected and winter comparatively mild, they may be bent over slightly and covered with straw or leaves, the latter preferred, as the straw tends to harbor mice. One of the best coverings is evergreen clippings from a cedar or hemlock hedge.—Farmers Sentinel.

J. P. ROE.

**WINTER MEETING WISCONSIN STATE HORTICULTURAL SOCIETY,
FEB. 2-4, 1903.**

Our annual winter meeting will be held in Madison, Feb. 2-4, 1903. All interested in horticultural lines of work should make preparations to attend. The officers of the society are doing all they possibly can to make this one of the best meetings ever held. The State Board of Agriculture, the Alumni Association, the Bee Keepers' Association and several other state societies meet at the same time. There will be a joint meeting of all the different societies one evening of the week.

Many leading horticulturists of the state and from our neighboring states will be in attendance.

We have already secured some very able speakers, including Prof. N. E. Hansen, of Brookings, South Dakota; J. W. Kerr, of Denton, Maryland; and Geo. T. Tippon, of Nichols, Missouri. We expect to have with us some able speakers from Minnesota, Iowa, Illinois and Michigan.

There will be fruit exhibit and liberal premiums will be offered. It is hoped some new and promising seedlings will be brought out at this meeting. Don't forget the dates and be sure and bring some one with you. The program and premium list will appear in due season.

A. L. HATCH, STURGEON BAY, WIS.**FRONTISPIECE.**

We present this month a good likeness of one of our most active and leading members of our State Society, one who is and has always been engaged in horticultural lines of work, and was a close and personal friend of our late Prof. E. S. Goff. His timely articles and papers read at our state meetings have always been very interesting and instructive. The following is what Mr. Hatch says of "Things gone by in Wisconsin Horticulture":

"Thirty years ago we expected so much from the introduction of new varieties of Crab apples and Hybrids. At one time, Mr. Free-

born, of Ithaca, and myself, had gathered up fifty varieties from Wisconsin to Canada. These we propagated in our nurseries with high hopes. There were among them five kinds said to be winter apples from Dr. Andrews, of Marengo, Ill., for which he charged the modest price of one dollar each for 1-year trees cut back—the cions were so valuable! Then we discovered the Sylvan Sweet and Mr. Tuttle, of Baraboo, bought out the Brier's Sweet, and from Vermont we obtained the Sweet Russett, which the introducer said would be a fortune to the grower. Mr. Felch, of Amberst, in this state sent out the White Arctic and his No. 10. We visited Mr. Brier, at Baraboo, and obtained from him cions of the little red crab we named the Spitzenberg, which is one of the highest flavored finest quality fruit we ever saw, yet he esteemed neither this or the Brier's Sweet as being worthy of propagation. How thoroughly disappointing the whole race of crab apples have been! How eager we all were to get them then was shown by the acceptance and dissemination of that wild abomination the Soulard, 'with an aroma as strong as the Orange Quince.'

"At my old home, Hill Crest, in Ithaca what a host of kinds Mr. Freeborn and I planted. Mr. Chas. Greenman was then at Milton and from his enthusiasm in grape culture we imbibed inspiration for planting liberally of Janesville grapes—hardy, very productive and hard to sell. For five or six years at first all kinds of grapes that we planted grew splendidly. I stopped with about twenty kinds and a thousand vines, but Mr. Freeborn kept on till he had over eighty kinds. Then in a few years the brown rot came. Prof. Trelease was then Horticulturist at Madison and I got him to come to my place with his compound microscope to investigate—the first that had been done in Wisconsin. He then told me of the Journal of Mycology, Insect Life, and Prof. Allen's monograph on foretelling frost. Then I began the study of fungus diseases, insects affecting fruits, and natural phenomena of matters pertaining to horticulture.

And the Russian apples we propagated, seventy kinds as a start in 1870 from the Agricultural Department at Washington. After 17 years arduous work in the nurseries I sold my share to Mr. Freeborn and his partner that I might devote myself to my farming and fruit

growing. And how the apples and grapes grew apace until I had thousands of bushels in a single season! What splendid fruit we had to send to the World's Fair in Chicago. How pleased Mr. Hoxie was with it, and how Mr. Thayer, who was then president of our society gloried in it.

"Before this, in 1887, in company with that grand man, President Smith, Mrs. Hatch and I attended a meeting of the American Pomological Society in Boston. There for the first time we saw Prof. Goff. Little did I dream that at that time I should ever see him again. Very naturally I noticed him then as he read a paper upon apple scab and I had one on the same subject before the meeting. Shortly after this he came to the University at Madison, and he was requested by Prof. B. T. Galloway of the U. S. Department of Agriculture to work out some experiments in spraying for apple scab, he wrote me if I had the fruit trees to operate upon; I promptly wrote that I had and would gladly undertake to help on the work. We then began experiments in this work that lasted four years, being broadened in the last year to include other fungus diseases and potatoes as well as fruits. Here then we began acquaintance with Prof. Goff that ripened into profound friendship that lasted as long as his life. Largely because of his influence I changed my home from Ithaca to Sturgeon Bay to begin here pioneer work in commercial fruit culture, and how it grows and expands. Who knows what influences have been and are still being exerted by the example and teachings of such men as Mr. Stickney of Wauwatosa, Mr. Kellogg of Ripon, Mr. Philips of West Salem, Prof. Goff, J. C. Plumb and President J. M. Smith? Surely they have all helped with others of our society to make 'the desert bloom as the rose'."

STATE HORTICULTURAL SOCIETIES TO CONVENE.

The month of December many of our State Horticultural Societies hold their annual winter meetings, especially is this true of our neighboring states,

Minnesota will hold their thirty-sixth annual meeting in the lecture rooms of the Plymouth church, corner 8th street and

Nicollet Ave., Minneapolis, Minn., December 2nd, 3rd, 4th and 5th.

Their program this year has been denominated a "volunteer program," that is, the subjects of the papers have been suggested by the writers themselves, and not by the secretary, each one contributing having been requested to select some subject of especial interest to himself. The result is that the majority of the topics relate in some way to the subject of apple growing, that being the subject evidently in which more horticulturists of our state are interested in at present than any other. As usual the Forestry Association, the Woman's Auxiliary, as well as the Bee-Keepers are to take part in the program. This is to be a big meeting, and they have a right to expect it with over 1,200 members. T. E. Loope, of Eureka, will be the delegate from the Wisconsin State Society to attend this meeting.

The Northern Illinois Society will meet in the Armory building at Sterling, Ill., December 2nd and 3rd. The officers of this society are doing all they possibly can to awaken the interest in this work. They have secured some very able speakers to be present and address them on the leading topics. They have a very interesting program. F. C. Edwards, of Fort Atkinson, will be the delegate to this meeting.

The Illinois State Horticultural Society will hold their annual winter meeting and exhibit of fruit at Champaign, Ill., December 17, 18 and 19, 1902. As yet we have not received their program, but we expect they will have their usually interesting and instructive session and a large display of fruit. Frederic Cranefield, of Madison, will be the delegate to the meeting.

The Iowa State Horticultural Society will hold their annual winter meeting at Des Moines, Iowa, December 9, to 12, 1902. They always have an interesting program at the state meeting. The four societies of the state are represented at this meeting and the attendance is usually quite large. S. H. Marshall, of Madison, will be the delegate to this meeting.

The Northeastern Iowa Society will hold their annual winter meeting at Nora Springs, December 16, 17 and 18, 1902, and W. J. Moyle, of Yorkville, has been chosen to represent our society at this meeting.

The Michigan State Society will hold their winter meeting at

Hart, December 2nd, 3rd and 4th, with two evening sessions. Their program includes many topics of interest to the commercial orchardist. Irving C. Smith, of Green Bay, will be the representative from our state.

The Missouri State Horticultural Society will convene at Springfield, Mo., December, 2, 3 and 4, 1902. This is the forty-fifth annual meeting of the society. This society has been a great factor in the growth of the fruit industry in Missouri. She ranks first now in apple orchards of any state in the Union.

APPLES AND PEARS FOR LONG KEEPING.

Experience in handling fruit for spring use has taught Dr. Groff many things worth knowing. He says in the New York Farmers Tribune: The longer winter apples can be left on the trees the better their development and the better their keeping qualities. This is because in ripening some material is drawn from the tree, which is lost if the fruit is gathered too soon. Apples will stand heavy frosts, and even mild freezing weather without injury.

After apples are gathered they may be left in heaps under the trees, or they may be placed in barrels and stored on the barn floor, until winter sets in. Some prefer the one method, while equally good observers choose the other. The writer gets good results from picking as late as possible, then storing in barrels, filled but not headed, and placed on the barn floor. When winter threatens to set in the fruit is carefully sorted and carried to the cellar or buried in the garden. If cold storage facilities exist, a portion of the fruit may be stored therein.

In picking apples, a basket with a hook, by which it may be hung to the ladder, will cause fruit to be less bruised than the old plan of picking into bags slung over the picker's shoulder. An advantage of leaving the fruit long on the trees is that fruit which is about to spoil will do so on the tree or in the barn before the final storing for the winter.

STORING APPLES.

As to whether apples should be stored in a dry or damp atmosphere, the writer's experience has been in favor of the damp atmos-

phere. Sometimes one will find an apple in the wet grass in the spring, perfectly preserved through the winter. A form of rot which prefers dryness seems to carry off most apples. In burying apples in the earth, an advantage is gained by first packing them in cheap barrels, which may be had at the grocery store for about 5 cents each. If placed in barrels, the earthy taste is in large part avoided. There is no use at all in trying to keep imperfect or bruised fruit. No man who will not pick apples without bruising them is of no value in this line of work.

Some pears ripen best on the trees. Others should be picked and stored. This is true of all the winter pears. The Bartlett and the Kieffer should both be picked while yet firm, but after they have got their coloring. They should be placed in a warm room, and ripened in the dark to develop fully their respective flavors. Treated in this manner, the Bartlett is the best of pears, and the Kieffer is not to be despised, though this fruit is quite variable.

Better than the cellar under the house is a cave built on the north side of a hill. One of my neighbors has such a place, in which his apples keep well until late in the spring. The sides and back are of stone laid up dry. The front wall, in which there is a double door, or, rather, two doors, is laid in mortar, and the roof is of lucust timber. Over all is a thick covering of earth. The work was all done by the sons of the owner, no mechanic being employed at all.

It is possible, by carefully storing apples of the right varieties, to have this king of fruits until May and June.

FALL WORK ON THE FRUIT FARM.

If you would insure healthy canes and bearing fruit buds for the year following give the plantation as much winter protection as can be afforded. We must give winter protection if we would secure the best results. If there are any varieties of the small fruits which will do no better by protection than without, of course it is useless to do this extra work, but we have as yet failed to find any variety that can pass our winters here and come out in spring in good condition. We have had unprotected canes come through the winter

and appear to be healthy, but the crop would be worthless. We know that no variety of small fruit can survive our winters without protection and give a paying crop the following season. We have experimented along this line for the past seven years and know it to be a fact that canes which have been protected have come out of their winter quarters in as good condition as when they went in. And again canes of the same variety on the same soil and location without protection have been half winter killed. In a climate like ours where the thermometer drops to 35 and 40 degrees below zero, and where the temperature is so varied it seems absurd to allow canes go unprotected and then expect a large crop of fruit the next year. If the grower has a variety which does in his estimation well without a winter protection, does he know how much better that variety will do treated properly? "Experience is a dear teacher" sometimes, but think it would be a profitable one if this experiment was tried.

You will ask the question, why is it there are certain growers who do raise small fruits successfully without giving winter protection? If you will look up their location you will find they are situated near a lake or other large body of water, and hence their climate is not so varied nor are their winters so cold. The more even the temperature the more successful will one be in the growing of small fruits as regards to winter killing.

Why is it that in sections of Michigan in the same latitude that we are in Western Wisconsin they raise peaches successfully? If you will notice that the charts issued by the United States signal service showing the maximum and minimum temperatures by decades for all years, you will notice the great extremes of temperature that certain sections undergo, which are situated a great distance from large bodies of water, and how even a climate those sections have located near or surrounded by bodies of water. This is the reason why. The more even the temperature the less loss is there by winter killing of canes. We can readily see the object in giving winter protection and why it is practiced in some localities and not in others. The impression has been made on some new beginners in small fruit culture that winter protection was not necessary but no reasons have been given. The work of laying down and covering canes is done with ease when once understood. You must handle

cane carefully. If canes are planted in hills and rows as they should be the work is carried on much more rapidly. We begin at the north end of the rows after removing wires. Loosen up the soil well about the hill. Let one man gather the laterals or arms together and gently pull them forward, at the same time another man with a six-tined fork placed on south side of the hill is bending the canes in the root. There will be no trouble in bending the canes and with this method can be laid down with ease and rapidity. When the canes are flat or nearly so cover all over with dirt. The next hill is laid over the same as first with the tips of canes lying close to the butts of the hill just laid down.

JOHN L. HERBST.

AN APPEAL TO MEMBERS OF THE WISCONSIN HORTICULTURAL SOCIETY.

Fellow Members—Owing to the fact that Mr. Peter M. Gideon, of Minnesota, by his determination and untiring efforts originated the grandest seedling apple for the north that has ever been produced, to-wit, the Wealthy, I candidly feel that we as a State society and as individual Horticulturalists, are not giving as we should to the Gideon Memorial fund of Minnesota, which proposes to use the interest of the same for prizes to young men who make horticulture a study and try to do some work along the same lines that that grand old man Gideon did. They propose to raise \$1,000 and our state, in proportion to the benefits we have received, should pay several hundred dollars, and so far we have paid but little, our lamented Prof. Goff paying the most of any individual, I think. Perhaps because I have traveled more among our members and orchardists than any other person in the past fifteen years, do I realize this fact, at fifteen institutes one winter I asked the apple growers present what was the best apple and tree they grew and at thirteen the majority said the Wealthy, and wherever I have visited or spent an evening at this season of the year for the past ten years, including four places in the past ten days, when apples were brought from the cellar for the guests, nine times out of ten it has been a pan of Wealthys if they were home raised apples. Now consider-

ing these facts, is it not right that every one who has a Wealthy tree growing or raises Wealthy apples to eat and sell, that they should pay even a trifle to honor the old man and encourage the young. Now I wish every one who reads this would send some contribution. From one to ten dollars as we have been prospered and sold Wealthy apples, so that it can be paid at the coming meeting of the Minnesota society. I propose to pay ten dollars myself for the simple reason that I think it a duty I owe the man, having set the first seventy-five Wealthy trees sold in our state.

Now, members, do not confine this to yourselves—hand it to or solicit something from orchardists in your part of the state who raise Wealthy trees. If every man in Iowa, Wisconsin and Minnesota would give one cent for each wealthy tree he has, it would raise a nice fund. If all will give ten cents for each bearing Wealthy tree they have, it will raise a sufficient sum. Now, please read this, solicit for it and send the money to either one below as soon as possible, and I think in the future as we see the effects of this valuable work in our state, we as individuals and as a society should do something for Prof. Goff along these same lines.

What is a greater satisfaction in life than to think we tried to honor the dead? I could say more, but this is sufficient. Now please send your contributions, though they may be small, and they will be credited to our state or to the individuals, as you order. I know the time is short, but it does not take long to make up one's mind when you know you are helping a worthy object.

A. J. PHILIPS, Ex. Secretary,
West Salem. Wis.

J. L. HERBST, Secretary,
Sparta. Wis.

PERENNIAL PHLOX.

W. E. FRYER, Mantorville, Minn.

The earth wears a crown of floral beauties, and among the brightest, richest and sweetest are the hardy perennials. They fill a

place in our gardens and in our hearts which nothing else can supply. Like flowering shrubs, when once planted they are good for a lifetime, and we come to regard them as a part of our homes. What would induce us to part with the grand clumps of phlox, pæonies or iris that have stood along the paths in our front yards so long and greeted us year after year with such brightness and beauty? They have cheered us through many vicissitudes, they were loved by dear ones whose voices we hear no more; their blooming calls to mind pleasant associations, happy days and friendly faces that time has taken from us. Then let us enrich our little yards, our borders and walks with these flowers. which will be ever faithful friends and companions.

No one of these perennials is fairer or more useful or will give more complete satisfaction than the phlox. Those who remember the thin-petaled, white and dull-hued purple perennial phlox of old-fashioned gardens can scarcely recognize these new varieties as the same flower. From July until late in the fall they present huge pannicles of close bloom, like that of hydrangea, while the individuals florets are twice the size of the old-time phlox. The colors are of the brightest, richest and clearest, consisting of all the different tints of rose, carmine, red and purple, as well as pure whites with distinct purple or crimson eyes.

They succeed in any position either as single specimens in the mixed border, or in large clumps or beds in the garden or lawn. They are of the easiest culture, and the tiniest plants with ordinary care will blossom the same season they are set. They can be safely planted in September or the first of October, but I prefer to plant in the spring when the new shoots have made a growth of three or four inches. They are more easily separated then and can be divided into one or two shoots which will make fine plants for the next season's use.

About the 20th of last May we transplanted about 1,500 very small plants after they had made a growth of six to ten inches, and how well they grew and blossomed can be seen by the above cut. It was very dry at the time, yet I do not think a dozen plants died.

Mulching is necessary when they are planted in exposed posi-

tions, or when we have winters without snow. A light covering of leaves, strawy manure, etc., is all that is required. Sometimes the buds at the crown will winter-kill. When this happens they will generally sprout up from the roots and send up dozens of small shoots. They can be left until the next season, then transplanted, and they will soon make nice plants.

I have about thirty named varieties and at least seventy-five distinct seedlings. We always transplant the seedlings when they are from two to three inches high. They never fail to blossom the same season they are transplanted but somewhat later than established varieties, and this helps to prolong the season of bloom. If the center shoot is cut soon after it blossoms side shoots will appear later and bloom as freely as the main stalk. This, also, is a good way to prolong the flowering season.

No flower on my grounds the past season caused more comment than the perennial phlox, and no one variety was so much admired as the Jas. Garland. This is pure white with large crimson eye.

It all realized how easy the culture and how gratifying the result with perennial phlox, this worthy flower would be more widely known and loved. Let me beg you to give it at least a thorough trial.—Minnesota Horticulturist.

VIEWS AND REVIEWS.

G. A. IVINS, Iowa Falls, Ia.

It has been said "Plant a tree and it will be growing while you are sleeping." To some this might be regarded as trivial, but when our recollection goes back to boyhood, when father and mother by hard work in a heavy timbered country, cleared the land and planted the orchard that they and the children might enjoy the benefits in after years; it does not seem of a trivial nature; but a substantial benefit. If all creation lived solely for its own selfish ends, we fear society and the highest inspiration of humanity would be on the downward grade.

MEMORIES OF BOYHOOD.

The grand old orchard bloomed and bore its crops of fruit for years, adding comfort to the home circle, many long winter evenings.

The recollection of each variety and the spot where they grow can never be erased from memory, nor how we climbed the trees and picked our favorites; not that they were any better than we now grow, or as good, but we cherished the old orchard because fond parents had planted and tenderly cared for it in our playful days. How vivid is every loved spot that encircled that home; surrounded as it was by nature's lofty forest, but the ax and the fire have long ago destroyed it. We see dimly through past years the old log school house by the roadside, partly sheltered by forest trees, the interior furnished with oak slabs for seats which would not be very inviting to young Americans today, but there we attended school in winter unless the district was short of funds and could not afford to hire a teacher, but in the crude structure our education was completed in all the branches there taught. If we expressed an opinion of the public school we would say that if the pupils of the public schools of today had more work to do and some responsibilities to occupy a part of their time and less education they would be better fitted to meet the requirements and conditions of life. Such is a glimpse of the past.

PLANT A TREE.

Now for the text of this article. Plant a tree and in some way it will benefit yourself and be a gift to the future generations. Plant a tree that it may beautify some barren spot. Plant a tree in the light of the window that the bird in the summer season can sit and sing their songs among the branches from morn until eve. Plant a tree some where about the home where the little folks in gleeful play can sit and sing beneath its shade.

Plant a tree near the home so that in old age you can sit beneath its branches when the hours are fleeting fast. Plant a tree in memory of the home that sheltered and protected you year after year. O plant a tree or a shrub! Plant as many as you like—the more the better—but plant one at least. It may be a fruit tree, shade or

ornamental, but whatever it may be, once planted, you will have an added pleasure and interest in all nature, and your green tree growing will be a living link in the chain which shall bind you to the home. It may be in after years it will extend a welcomed greeting to you to come back to the old fireside from which you have been a wonderer. Let us each plant a tree.

THE LONG JOINTER.

Several years ago during the strawberry season we sent to Prof. Craig, of Ames, Iowa, some eight to ten varieties of our seedling strawberries with the foliage of each variety with it. Each variety was numbered, excepting one which we had named, but Prof. Craig informed us that there was another variety by the same name, so we changed the name to Long Jointer. This berry was sent to him about ten days later than the last we had sent. He spoke of it as being of high quality and the best in foliage of any we had sent. He spoke of it as being of high quality and the best in foliage of any we had sent him. We believe if it had been the Gandy, he would have known it. Some ten or twelve years ago we bought the Gandy from a reliable nurseryman and fruited it for several years, then discarded it entirely from our grounds. If our recollection is right and we have not lost our eyesight, the Long Jointer, in color and shape of berry has no more resemblance to the Gandy than the Beder Wood has to the Warfield and in the foliage of the two varieties there is a greater difference in comparison than have made in the berries. The Long Jointer is all we claim for it, and we regret that the overflow of water damaged so many of them that we will be limited in our own planting and have but a very few to sell.—The Fruitman.

The Omro Horticultural and Improvement Society's Chrysanthemum Show and Fair was a grand success. The exhibit was large in each department and particular so in the fruit, which was very fine. And as a Society we feel proud of the Eighth Annual Show. Hon. E. R. Hicks gave us an address on Thursday afternoon, Nov. 20, and in the evening a speaking contest was held and Friday, Nov.

21, a baby show was an attraction and the hall each day was filled to overflowing so that the Society are well pleased with the result of the 1902 Flower Show.—MRS. JOS. TRELEVEN, Secretary.

EDITORS NOTES.

The secretary of each local horticultural society in the state should make out his or her annual report to the secretary of the state society. The annual report of the state society for the year 1902 is in the hands of the printer, and the local societies in order to receive their required number of copies must report to the state society in what standing their society is. It is hoped that every local society in the state will send a delegate to the annual winter meeting to be held at Madison, Feb. 2-4, 1902.

The new agricultural building at the Wisconsin University is rapidly nearing completeness. Everything is in readiness to do the interior work the coming winter.

The Year book of the United States Department of Agricultural for 1901 has been issued and contains a vast amount of valuable information and is well illustrated. If interested in agriculture request your congressman for a copy and no doubt you will receive it.

The Wisconsin Agricultural Experimental Association now numbers about 500 members. All former, present and future students can become members by the payment of an initiation fee of 25 cents.

The short course in agriculture at the Wisconsin University will begin December 1st. Every young man who wishes to follow farming as a vocation should not fail to attend the short course. There are already registered about 300 who will attend the course the coming winter.

Parsons & Loope, of Eureka, this year raised and harvested 700 bushels of Duchess from about 600 trees eleven years old and sold them for 70 cents a bushel. They also had 400 bushels of Wealthy,

700 bushels of Longfield and quite a number of Scots Winter and Fameuse. They consider this about 25 per cent crop and lay the failure to blight.

\$1,400 of strawberries were sold from a 3-year old bed of three acres at Eureka the past season.

L. G. Kellogg's 10 acres of N. W. Greening have done exceptionally well the past season. They have made a splendid growth. In fact all his settings of apples, plums and cherries have done well. At the present writing he is busy getting out 3000 trees for fall delivery.

It is estimated that there was a loss of \$30,000 to the growers of pears and apples in one county in Michigan during a heavy wind storm which had blown 75,000 bushels to the ground.

At the experimental station at present they are testing oats, rape and vetch as cover crops. They have early and late sowing of each. The early sowing was made Aug. 11th and the late sowing a month later. The early sowing shows that it is the best at the present time. We look for a report of this experiment by the station later on.

It is reported that at Endeavor in Marquette county many new orchards are being planted. 3000 trees were received lately from an Ohio nursery which will be heeled in this fall and planted in the spring.

STATE HORTICULTURAL MEETINGS, 1902 AND 1903.

- Wisconsin State Horticultural Society—Madison, Wis..... Feb. 2—5
J. L. Herbst, Secretary.
- Minnesota State Horticultural Society—Minneapolis, Minn..... Dec. 2—5
A. W. Latham, Secretary.
- Iowa State Horticultural Society—Des Moines, Iowa..... Dec. 9—12
Wesley Green, Secretary.

- Illinois State Horticultural Society—Champaign, Ill.....Dec. 17—19
L. R. Bryant, Secretary.
- Michigan State Horticultural Society, Hart, Mich..... Dec. 2—4
C. E. Bassett, Secretary.
- Ontario Agricultural and Experimental Union, Guelph, Can..... Dec. 8—9
C. A. ZAVITZ, O. A. C., Secretary.
- Northern Illinois Horticultural Society—Sterling.....Dec: 2—3
- Central Illinois Horticultural Society—Decatur.....Dec. 10—11

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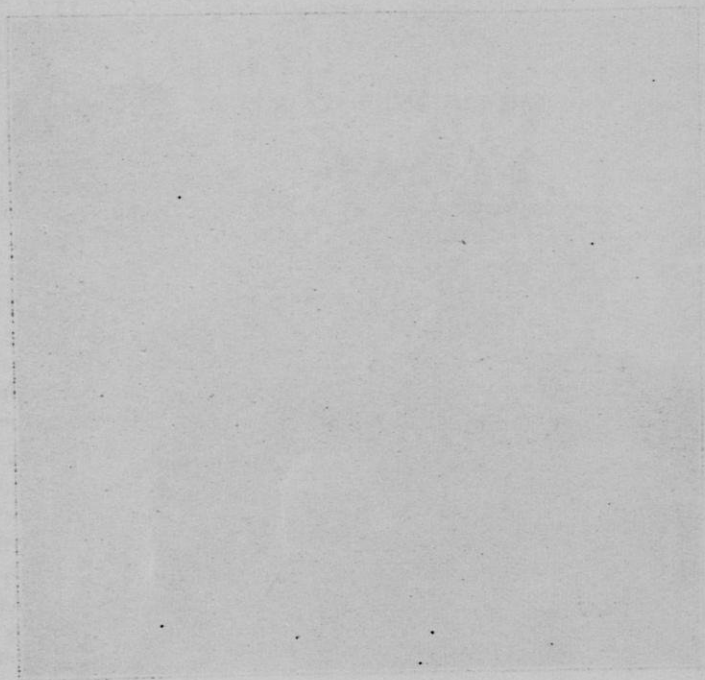


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