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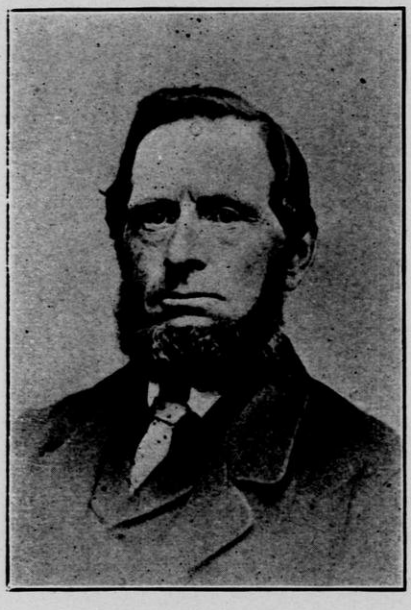
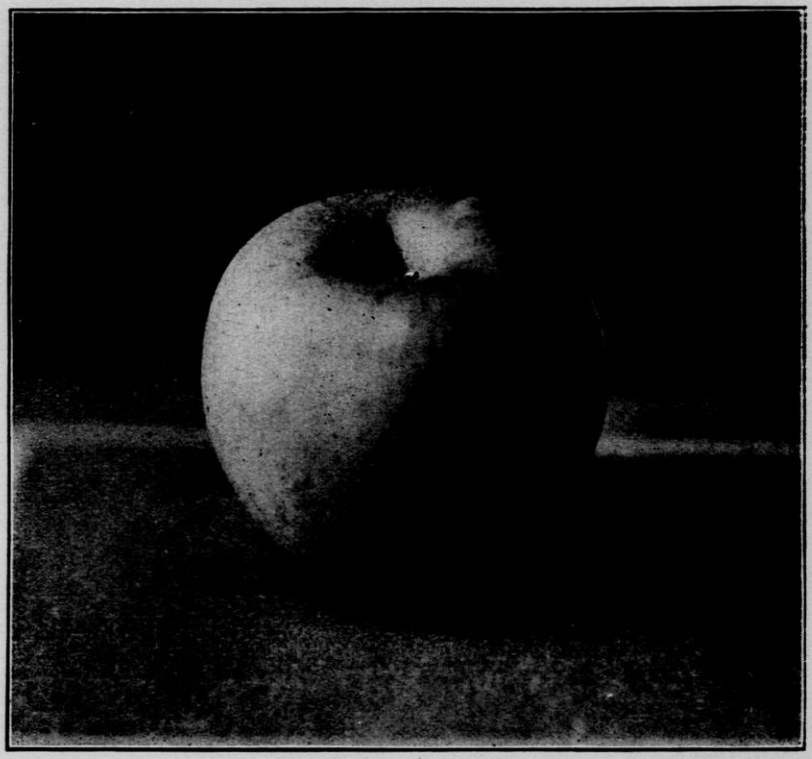


MR. HATCH, Iola, Wis.



Northwestern Greening.

The Wisconsin Horticulturist.

VOL. VII. APRIL, 1902. NO. 2.

THE NORTHWESTERN GREENING AND ITS ORIGINATOR.

FRONTISPIECE.

A Wisconsin apple that was originated by a Mr. Hatch, of Iola, but grafted and disseminated by the late E. A. Daniels, of Auroraville, Wis. The photograph was taken from a specimen that was raised by A. J. Phillips, of West Salem, Wis.

From the experiences of various growers of this and many other varieties, we draw the conclusions that the Northwestern Greening, to be successfully grown, and be a success as a market apple, must be planted on high sites, in clay or sandy loam soils, or loamy soils with a clay subsoil, and plenty of light. It should not be planted in low, damp, or shaded places, to be successfully grown.

What is said of it, by those who have grown this variety:

A. J. Phillips, West Salem. "Has grown it for fifteen years, on top of a ridge, set in clay with hard subsoil. It is a success as to hardiness, long keeping and cooking qualities, but not as a bearer, and grows too much top and crotches badly. Does not blight."

L. G. Kellogg, Ripon. "He has ten acres of them growing that have been planted six years. They are planted on a hogs back, slooping both north and south, and set in black prairie loam and clay soil. As far as tested, finds it a success as to productiveness and a winter variety. Does not blight."

A. D. Barnes, Waupaca. "Has fruited it for eleven years. Planted on high and dry well drained surface, in sandy surface with clay subsoil. It is a grand success as to hardiness, productiveness, size and keeping qualities of fruit. It lacks color and is liable to mildew in shady and out of sun locations. One of the most free from blight."

Geo. J. Kellogg, Lake Mills. "Has fruited it about ten years. Has grown it in the nursery for about twenty years. It is a splendid tree, a little inclined to crotch, free from blight and hardier than Wealthy, but not quite as hardy as Oldenburg. When properly sprayed and well grown it is productive and a good keeper. Bears young. Grown on open prairie, loam soil, somewhat protected by evergreens and older apple trees. Does not blight in nursery, but in the orchard is inclined to blight a little."

J. J. Menn, Norwalk. "Has fruited it only two years, but has noticed it in his neighbor's orchard fruiting for five years. Has it growing on a very high elevation, planted in flint clay gravel. He finds it successful as to hardiness, an annual bearer of large size fruit of very good keeping qualities. For a Wisconsin winter apple it has no poor qualities. Remarkably free from blight."

E. S. Goff, Madison. "Has fruited it in a small way for five years. Planted on a north and northwest slope in light clay loam. It is a profitable variety as to good size, keeps well, and looks well when ripe. It is fairly productive, but poor quality and sometimes rots at core. Not much subject to blight."

A. L. Hatch, Sturgeon Bay. "Has fruited it fifteen years in Richland county. Planted on high ridge land, in light ridgeland clay. It is a good kind for Wisconsin if planted on good site and well cared for, but tree will suffer from neglect. The fruit is a good seller, keeper, fine appearing and large size. Not very high flavor, needs more acid for a cooking apple. Tree in foliage is subject to fungus deseases unless on good soil and well cultivated. No more subject to blight than any good kind. None are exempt if conditions are favorable for blight."

Parsons & Loope, Eureka. "Have watched it for fifteen years. Planted high with exposure north, south and east, in clay loam over lime rock. It has been a medium success. Size and beauty sells it. It has good size, form and color. A late keeper, medium as to production. Hardy in good locations. It has poor quality as an eating apple. On low ground it some times cracks open on tree. Rarely blights."

Henry Tarrant, Janesville. "Has fruited it nine years. Planted on level prairie in clay loam. It has been only a partial success. A

good bearer of fine large fruit. Sometimes cracks and some seasons rots and is covered with this green mould on fruit. Has not blighted much."

F. H. Chappel, Oregon. "Fruited it four years. Planted on Burr Oak openings in clay loam with clay subsoil. So far it has been nearly a failure. Trees look healthy and all right."

THE SPRAYING OF PLANTS.

By F. H. Webster, Wooster, Ohio.

[Continued from March Number].

The Beginning of Spraying.

One may explore our literature up to 1870 in fruitless search of even the mention of spraying, or spraying machinery, and the nearest that he will come thereto will be an occasional mention of the dusting of plants with paris green or arsenic mixed with flour, lime or ashes. The oldest patent on record for a machine to apply liquid poisons on a large scale, was the Johnson Spray Machine, patented December 16, 1873, by Judge Jehu W. Johnson, of Columbus, Texas. This was simply a tank mounted on a cart, with a double acting force-pump attached to the top of the tank. It was about this time that Mr. Gross, of Ripon, Wisconsin, invented an instrument for spraying potato vines with a mixture of paris green and water to destroy the potato beetle. It was not until five years later that much was accomplished, and not till 1880 that the matter of spraying with arsenical poisons began to attract general attention, and even then largely as against the cotton worm and Colorado potato beetle, and not as against orchard pests, except, perhaps, the canker worm. In 1875, Mr. J. N. Dixon, of Oskaloosa, Iowa, in spraying his orchard to destroy canker worms, found in the fall that where he had applied a solution of arsenic there was no injury from codlin moth, and we had the first intimation of what could be accomplished in poisoning the larvæ of that insect. The matter was not generally brought to public attention however, until 1882, in a prize essay presented at the meeting of the Iowa State Horticultural Society for that year. It was about this time that Agricultural Experiment

Stations were established, and this gave opportunity for investigation and experimentation, which in turn directed the attention of manufacturers of pumps to this new demand for particular machinery. Then followed the improvement of spraying machinery and nozzles, and here the French have helped us out greatly with their Bordeaux mixture and Vermorel nozzle. Bordeaux mixture is still the standard fungicide, and in our extensive spraying in Ohio, during the last two years, we have used the Vermorel nozzle almost exclusively.

What to Spray for and What to Spray With.

For twenty years I have been telling people, in the papers, in bulletins, in letters, at institutes and other kindred gatherings, that it is useless to spray with poisons to kill insects that do not devour the foliage but only suck the juices therefrom; that bordeaux mixture is not an insecticide at all; that for sucking insects we must spray with some insecticide that kills by contact; yet not a year goes round that I do not learn that bordeaux mixture will not have any effect on aphides, potato beetles or San Jose scale. That paris green will not kill chinch bugs, squash bugs or scale insects, because "we" have tried it. Other entomologists and horticulturists have been doing the same thing in the way of trying to instruct people, but still we are encountering these criticisms every year; and when we remonstrate, we are asked why in the world we do not tell people these things. Why do we not tell people! If the angel Gabrael had attempted to "tell people" he would of long ago worn out his trumpet and retired in disgust. Why do we not tell people? Why will not people read, and listen, and remember these things that are as simple as the first letters of the alphabet? Tell people! Why we are so sick of telling these things that we hate the sound of our own voices, or the words as they appear on paper. How in the world are we to tell you if you will not listen, or listening will not remember; why will you not read these things? I ask these questions because this is really one of the most difficult phases of the problem. After we learn what an insect will do and what it will not do, there is the unknown quantity to take into consideration, viz., what the people will do if they do anything. Now, I have no wish to discount the intelligence of our people, and yet it always gives me the feeling that I am doing this when I repeat time and again the sim-

plest statements and directions relative to spraying for certain insects or fungus diseases. Professor Goff has, I know, told you again and again that for fungus diseases, like apple scab, the anthracnose of the grape, raspberry and blackberry, tomato, melon cucumber, you must not use poisons, but bordeaux mixture; that this is not a poison, or indeed, an insecticide of any sort and it is little if any use to apply it against insects. It does not seem necesary for me to come all the way from Ohio to tell you this. You can combine this bordeaux mixture with poisons and thus destroy both insect and fungus at the same time.

Take the apple worm, the caterpillar of the codlin moth as an illustration. You can apply bordeaux mixture to the very best advantage for apple scab, just as the buds are swelling in spring, but as you do not need to fight leaf-eating insects at this time, poisons are unnecessary for this spraying. So, use bordeaux alone. Just as bloom falls, spray again, and this time put in your paris green, four or even six ounces to fifty gallons of the bordeaux, and this application will affect both scab and insect. In a couple of weeks, spray again with the same combination. In Ohio, we have had more trouble with the second brood of codlin moth, than with the first, because, by the time these appear and lay their eggs, the poison has mostly washed off the apples and we cannot spray so as to reach the calyx and poison the caterpillars. But I feel greatly encouraged, just now, and believe that we have not only solved the problem of the second brood, but also found out how to protect the apples from the worms hatching from eggs laid by the moths that come in from without—from untreated orchards. Paris green will probably do for the first spraying and also for the second, but, this year, we think we have found something better for the last application of poison. I have long thought that, if we could get a poison that would adhere to the calyx and not wash out readily, we might be able to strike the last brood of codlin moth lavæ. As it now appears, we have this desirable insecticide in Bowker's Disparine, or what is practically the same, Swifts Arsenate of Lead. These two preparations have the desirable qualities of adhering tenaciously and not injuring the foliage. If we watch closely and just as the apples begin to reverse their position, that is, the calyx end begins

to turn downward, and then spray promptly and thoroughly with a mixture of three pounds of either of these preparations, we can get enough into the calyx, and once dry it will remain there, so as to protect the apple from attack. This is also a remedy for all other leaf-eating insects. The cost of these mixtures will be from 17 to 20 cents per pound, but if they do the work, as now seems probable, the cost will be a matter of minor importance; besides they are easily mixed and will not burn the foliage like paris green. I would certainly urge you to experiment with these in the way that I indicated.

Please remember that the plum curculio is above ground as early as August, of the same year that the eggs are deposited in the plums, or early peaches; they feed by puncturing fruit, but deposit no eggs, and in the fall seek woodlands if such are near at hand, and if not, matted grass, in which to pass the winter. They appear with the coming of spring, feeding on the buds and unfolding leaves, but not depositing their eggs until the plums get to be about the size of peas. Now, there is but a single brood each year; you can only fight the beetle itself, as the young hatches in the flesh of the fruit and only leaves it to enter the ground. Mr. Willard, of Geneva, New York, tells me that his plum orchard always suffers worst, and the curculio always appears first, in that portion nearest adjoining woodlands, and if no woods are near, along roadways where there is much matted grass. Much can be accomplished in fighting this pest by burning fallen leaves and matted grass in winter or early spring. As soon as the buds begin to swell, spray with bordeaux mixture for plum rot, and put in four or five ounces of paris green to each fifty gallons, for plum curculio. So after the bloom falls and the young fruit starts, spray again with the same mixture, this time for the plum curculio, plum rot and shot hole fungus, as you can now hit all three with the same application.

(TO BE CONTINUED).

MAIDEN-HAIR FERN.

(*Adiantum Pedatum*).

By W. J. Moyle, Yorkville, Wis.

All lovers of the fern, particularly the ladies, go into raptures over the beauties of the Maiden-hair fern. To-day, with the florist in making up designs and for decorative work, it is more largely used than any other green unless it might be Asparagus Plumosa.

The greenhouse species of the Adiantum, as that is the name generally used and in common vogue among the florist's, are natives of a warmer climate than Wisconsin, and while they are much finer in leaf and more airy in appearance "than our native Maiden-hair," growing with perfection under the skilled management of the professional florist, they will be found to bring only disappointment to the amateur who undertakes to grow them in the cottage.

Our native species, however, "Adiatum Pedatum," is found growing well throughout the State, is one of the most beautiful house plants in our collection, and people who ought to know better often ask, "where did you get the beautiful fern?" and are surprised when told that it was dug up in the back wood lot. The time to gather this fern is in May, the middle of the latter part, the plant is then well developed and will transplant with little difficulty.

The place to look for them is in hard-wood timber where the land slopes abruptly to the north, where these conditions are found and you have the hard maple, basswood and oak, you can expect to be rewarded, provided the land has not been to closely pastured with stock.

We set a half-dozen plants in an old four quart wicker basket, which we had filled with leaf-mould and decayed moss that we had gathered in the same vicinity where we found the ferns.

These plants were so successfully transplanted from their native haunts that they received no shock but went on throwing up more fronds and were a beautiful sight, not only for a week, or a month, but all summer, when in the fall they were placed in the cellar for the winter.

THE PRUNER'S PROBLEM.

By Prof. E. S. Goff.

[Continued from March Number].

Small, inferior fruit rarely pays expenses, so it is the orchardist's problem to grow large fruit and plenty of it. How much can we do by pruning to correct this trouble? The more I study this subject of pruning, the more I feel that pruning is a fine art. The methods we have followed are mostly right as far as they go, but they have not discriminated between varieties, or between the trees growing on different soils; they have not considered the individual tree. We probably ought not to prune a Duchess apple exactly the same way that we prune a Wealthy. We should say how to prune the tree when we see the tree, just as with the grape vine. In pruning the grape vine we cannot lay down a cast-iron rule, because grape vines are different and they must be differently pruned.

How much can we do to regulate the size? I think the principle we need to observe is this: Large fruits will grow on young fruit spurs and they will not grow elsewhere. If this is true, then we must so prune our trees as to have young fruit spurs rather than old ones. You all know that a Duchess tree twenty years old is just one mass of fruit spurs, and sometimes these branch like a deer's horn. If we could prune our trees so that we could have young fruit spurs instead of old ones, I believe, we could grown just as fine fruit on a Duchess tree twenty years old as on one six or seven. The next question is, how shall we manage to have only young spurs?

I do not claimed to have answered this question fully, but I think one secret is this: We must prune our trees in such a way that we shall grow some strong new shoots. In other words, we must adopt something like a renewal system, such as we use in the grape. I know this is a new doctrine, but I think we can often gain much by pruning our trees rather strongly, so as to start a new growth. I believe we should aim to grow up two or three strong sprouts every year to take the place of some old and feeble branch that has done its work, and that is no longer able to produce large fruit.

I want to relate an instance that occurred when I was a boy. I

did not understand it then, as I do now, though I remember the fact. My father had a Golden Russet tree in his orchard; it was an old tree and it bore very profusely, but the apples were very small. By an accident the limbs on that tree were broken down on one side, so that we had left only three or four branches that extended more or less at an angle on the other side, leaving the side on which the limbs broke off without any branches. This tree started up some very vigorous sap sprouts, we would call them, on the side where the breaking occurred, and these grew four or five feet the first season and they were nearly an inch through at the base. The next spring I expected those new shoots were going to bear fruit, and when I found they did not blossom, I was disappointed. The next year they did not bear fruit; they kept right on growing, and I wondered when they were going to bear, but the third year those new sprouts bore such russets as I never saw before; they were double the size of those that grew on the old limbs. We have been taught that we ought to cut off sap sprouts, but I suspect the sap sprouts are nature's efforts to renew the bearing wood of the tree, and if we allow the sap sprouts to grow in some cases, and remove some of the old feeble limbs, we could have new apple trees, so far as the ability to produce fine fruit is concerned. I do not claim, as I said, to have settled this problem, but I believe my suggestion is worthy of our consideration.

Bordeaux mixture is made by dissolving 6 pounds of copper sulphate in at least 4 gallons of water, using an earthen or wooden vessel. Slack 4 pounds of lime in 4 gallons of water. Mix the two thoroughly and add water to make 40 gallons. It is then ready for use. Use for rots, moulds, mildews, and all fungus diseases

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Kerosene Emulsion is made by dissolving ½ pound of hard soap in 1 gallon of boiling water, add 2 gallons of kerosene and churn for 10 minutes. Dilute 10 to 15 times before applying, and use for insects that suck, cabbage worms, and all soft bodied insects.

COLORADO BLUE SPRUCE—(*Picea Pungens*).

By Frederic Cranefield.

The compact growth, perfectly symmetrical habit and beautiful color of this species, easily renders it the most desirable of our native spruces. It seems to be perfectly hardy in all sections and on all soils. It is a native of the Rocky Mountain region, and although attaining a height of seventy-five to one hundred feet at maturity, is of very slow growth compared with the Norway or the White Spruce. The stock offered by nurserymen is invariably grown from seeds, and these vary widely in color, from dark-green to the metallic glistening blue of the type. In ordering specimens it would be well to specify that they should be "blue" in truth as well as in name. The illustration shown herewith, from a specimen on the University grounds is somewhat marred by the temporary sign-board shown in the foreground. Visitors during the picnic days last summer will remember that these signs were abundant on the lawn, each giving a brief description of the different varieties of trees and shrubs.

SOME THINGS FOR THE AMATEUR.

Don't plant largely of any variety you have not tested and found adapted to your location and soil.

Locate the small fruit plantation near your shipping point. Drawing your fruit eight and ten miles to your shipping point, places it in bad condition to ship.

Place your product in neat, clean, and attractive packages, and ship by most direct route to its destination.

In planting strawberries, be sure your pistillate and staminate varieties are of the same season. An early pistillate planted with a late staminate means a light crop of inferior fruit from the pistillates.

To succeed with small fruits, soil must be rich, thoroughly cultivated and well drained. Frequent cultivations makes the ground moist and mellow.

Never expose plants to wind or sun. Upon arrival of plants from the nursery, and soil is not ready to receive them, untie and spread the roots out well while heeling them in.

The essentials for successful small fruit growing, are: Good soil, well drained, highly fertilized and always well cultivated; a limited variety of best hardy plants, producing large, firm, highly-colored fruit throughout the season; proper mulching, prunning, thining of fruit and winter protection; neat, uniform packages, well made; fruit carefully picked, boxes well filled, and of uniform quality throughout.

The beginner should go slow. Do only what you can do well as the competition increases. The best production only will pay. Commence moderately. Subscribe liberally for good papers, and increase your plantation as experience is gained.

Strawberry Blight or rust of leaves is the work of a parasitic fungus, and leaves the leaf in a spotted or red condition. It occurs mostly in the summer months, or after fruiting. Some varieties are more subject to blight than others, and it is best to discard them. It generally shows up on second year fruiting buds more than the first year. Two or three sprayings with bordeaux mixture after fruiting will generally be beneficial.

THE DEWBERRY.

Probably one of the most neglected, and yet one of the most delicious of fruits recently coming into favor, is the Dewberry.

When well taken care of, they are of large size, delicious in quality, excellent canners, and find ready sale when placed upon the market. They will show neglect the same as any of our cane fruits and must be taken care of to secure the best results.

While they will succeed upon a light soil, much better yield and quality of fruit will be secured if planted upon a rich loamy soil. They respond quickly to good care and cultivation, and show a decrease in yield, quality, and size of fruit if neglected.

They require about the same cultivation as the blackberry. The canes being of a trailing habit, instead of upright, require a sort of of trelis on which they should be tied. They should be trimmed about the same as the blackberry. Cut out the fruiting cane each year after bearing, and in the spring shorten back the previous year's growth.

Different varieties should be planted together to insure fertilization of the blossoms. Lucretia and Bartel are the most important varieties.

AN IMPROVED PRUNING SAW.

By E. S. Goff.

After testing many pruning saws, I have recently found one that seems to me superior to all the others. It is made like a meat saw, except that the back is not parallel to the blade, but approaches it as it recedes from the handle until at the distance of about twenty inches, it meets the outer end of the blade. The blade is so attached that it may be set at any angle to the plane of the back, which, as the blade is narrow, makes it possible to work in very sharp crotches. As the blade is very thin and has fine teeth, and a screw attachment for tightening it, it cuts much faster than the ordinary pruning saw blade. The handle is so made that it forms a socket into which a pole may be inserted for high work if desired. I would gladly men-

tion the name and maker of this saw, but I refrain lest I should be accused of advertising. It may be ordered of one of our prominent western seed houses.

Experiment Station, Madison, Wis.

A NEW IDEA IN TREATING PEAR BLIGHT.

By E. S. Goff.

While visiting a pear orchard at Calhoun, Alabama, recently, I observed that the trees were all branched just above the surface of the ground, and that each tree had several of these low-set branches. On inquirng the object of this peculiar method of growing the pear tree, I was told that it was intended to fortify the tree against destruction by blight. If one of these main branches was seriously attacked by the blight, it could be cut off at the bottom, and thus the rest of the tree could be saved. New branches could be trained up occasionally to take the place of those that had been cut out, and thus the life of the tree could be prolonged, unless the attack was so severe as to include all of the branches at once. The blight in Alabama is even more serious than with us. This method of branching the pear tree is not generally practiced there, and the trees in the orchard where I saw it in use are as yet rather young. How valuable it may provc to be remains to be seen, but it seems to me worthy of trial for our Wisconsin pear trees.

Experiment Station, Madison, Wis.

MERTENSIA VIRGINICA.

By W. J. Moyle.

I was traveling along the road one day the latter part of April, when in a front-door yard I saw a large clump of blue pink flowers nodding gracefully in the wind, no other flowers were in bloom it was so early in the spring. Here was something new, my curiosity was excited, being only a boy at the time. I drove up, tied my horse, and went in, faced the dog, the old gander, and a good natured jolly German woman, the lady of the house. I asked her what

the flower was and she quickly responded with that honesty, characteristic of the race. "I don't know," my daughter and I once called it "*Lungwort*." It grew wild there on the farm in big patches and I thought it was so pretty I brought some home. Of course, I begged a peice of the plant, and, of course, I got it. This plant is the cause of more remarks of surprise and pleasure than any flower that blooms in our garden. Once planted it continues to grow in beauty every year, and is perfectly hardy under all conditions.

FARMERS' FRUIT TREES.

By T. E. Loope.

I am well satisfied that a large portion of the inhabitants of our State believe that apples cannot be grown successfully in Wisconsin, and I am equally sanguine that our State will in the near future become an important factor in apple production. The person who came from New York, or Maine, or any of the Eastern States where they grew the Baldwin, Northern Spy, Seek no Farther, Pippins, or Bellflower, etc., thought they were the only apples worth raising, and because they grew differently here, jumped to the conclusion that Wisconsin could not grow apples. Did you ever think that varieties could be influenced by isothermal lines?

California is a fruit State par excellence, but she cannot grow the apples mentioned in all their Eastern delicious quality. Neither can Oregon or Arkansas. Most apples have their native habitat and are not grown successfully outside of that. The Ben Davis has a wider range of successful production than any known apple if I am not mistaken. Then they say that trees do not live as long here as in the East, and prove it by quoting the trees of their boyhood days which grow as large as they could reach around. That may be true, but as a modification of that fact, is it not also true that the insect enemies have been imported since those trees were matured, and do they not at the present day exert a potent influence upon the newly planted orchards, limiting the life of the Eastern trees?

Then the wholesale destruction of forests may also act unfavorably to their longevity. If we cannot raise those old varieties is it

not possible to find varieties which do well in Wisconsin? I think that question can be affirmatively answered by looking at the list I shall mention later. It is most true that we have crucial winters here that sap the vitality of fruit trees and forest trees as well. One source of failure in fruit trees has been the fact that location and soil have not been carefully considered. This is as essential as in the growing of peas, tomatoes, corn or potatoes. The idea that an apple tree will grow successfully on any ground is fallacious. That we can grow beautiful, glossy-skinned apples, has been well proven by the display the State made at Chicago, Omaha, and at the Pan-American exposition, where in each case they attracted universal admiration and favorable comment. From the time we opened our exhibit at Buffalo to the closing day, Wisconsin apples held their own against the elaborate showing of the greatest apple growing States, winning golden opinions from visitors of all parts of our land and golden medals from the exposition.

I need not at this time enter into a discussion of the healthfulness, the aid to digestion and all the dietetic excellence of that king fruit, the apple, for it is almost if not quite a self-evident fact. At least it is an accepted fact. You all know how that pan of apples and pitcher of cider has come down to us from time immemorial in winter evening stories. I must confess that the cider never appealed to my appetite, for of all drinks hard cider, rank and often bitter, is a nauseous beverage for me. But apples are delicious and never pall upon the taste, be the season harvest or cold winter. How the children love them, and that, if nothing else, makes them valuable.

If the farmer cannot have apples in abundance when he has the space and soil to grow them, then nobody can afford them, for he is getting to be the aristocrat in these days of registered cattle, hogs with lofty titles, and sheep and horses of princely pedigree, these days of silos and parlor-fitted stables. Groom you apple trees well, blanket their roots, cross their breeds to add to their vitality, dehorn their branches, feed them balanced rations and then, if they are blue-blooded stock, they will emerge from the frost of winter like thoroughbreds and gladden your hearts with robes of gorgeous hue, with heavenly fragrance exhalting like sweet incense from their flower-strewn branches and from the chrysalis dots on every limb

when flowers are past emerges at last the perfect heaven-born fruit whose delectable nectar is food fit for gods.

A good part of the disbelief of the adaptability of our climate and soil to the production of tree fruits comes from the idea that when once planted a tree should grow and produce fruit without further care or attention on the part of the farmer. This may be true of weeds, but not of fruit trees.

The farmer is planting trees to furnish fruit for himself and family should take before he commences a long draught of common sense and use it as he would in raising cattle, or hogs or corn. If he will do this he can succeed and add to his secret belief that he is a wise and shrewd being.

First select your trees with care having in your list the varieties to cover the longest season possible. Dig large holes two or three feet in diameter at least large enough to accommodate the roots, and deep enough to place them three to six inches lower than they were in the nursery row. Trim the broken and bruised roots, leaving all small, fibrous roots possible. The tops must be cut back to balance the roots. Place the tree in the hole upright and fill in some good top soil, straightening out the fibrous roots and pressing the dirt firmly about them, leaving no vacancies in any place. Fill and firm the soil as you go till the hole is filled somewhat higher than the surrounding earth. Having done this much well the farmer has usually prided himself on having performed his whole duty, but this is a great mistake. He naturally supposes that bounteous nature will do the rest.

You must remember that mice, rabbits, the scale, curculio, codlin moth and negligence are abroad in the land seeking whom they may destroy. Weeds grow even around trees, grass embeds itself above them, insect life stands ready to get in its work.

You must protect them from mice and rabbits by putting on protectors made of lath or other material. You must cultivate the ground to protect them from grass and weeds. You must prune them judiciously to make them shapely and favor formation of fruit buds. You must watch for signs of the borer and kill him when you find him.

If a tree dies, as trees often do, replace it. Spray in spring ac-

cording to well established usage. Thump your trees in June and catch the curculio on a sheet and pinch his head. If you persevere, as you must, you will have the gratification of having fruit for yourself and family.

What I have said of planting apples, applies to plums, cherries and all fruit trees.

In buying fruit trees go to your local nursery, or to some man you know who is selling fruit trees and has an honest reputation. The tree shark infests the county and has an insinuating manner and a smooth tongue. He sells you any variety you select from one bundle at double the price your home nurseries ask. Beware of the man who offers to plant and care for your orchard for five years. He charges a dollar a tree, replaces the trees that die, does the pruning, etc. He wants half the money down and the rest at the end of five years. He gets it and gets out of the country and you get it in the neck. Remember that trees die, even as neighbors drop out occasionally.

Remember that trees that bear most die soonest. They are the trees I most desire to plant. The shy bearing tree occupies valuable ground without corresponding benefit. Don't imagine when your trees are large that you can grow full crops of other products on the same ground, and because you can't grow other crops don't let the June grass or weeds occupy your orchard.

Cultivate and clover your orchard alternately. Don't imagine that a good orchard will flourish on impoverished soil or on a gravel bed, for the drouth will kill them as surely as it would any other crop.

Don't think that a low, mucky soil is the place for your orchard. Fruit trees are not aquatic in habit. Give them good upland soil, high clay land if possible, for they won't do well in a sandpit.

I shall not give an extended list of varieties, for the farmer cannot afford to scatter his efforts in trying to grow many kinds of apples. For early varieties I name Yellow Transparent and Tetofsky. They are both subject to blight in some localities. On my own grounds I have dug them up and burned them for that fault.

Duchess is next in season, a beautiful apple, most excellent for cooking, tree hardy as an oak and a prolific bearer. Longfield, an

annual prolific bearer, fruit handsome, of good quality; keeps with conditions until the last of November. McMahon White, a large, beautiful white apple, excellent for cooking; same season as Longfield. Fameuse, the dessert apple, which keeps until December. Wealthy, an apple that cannot be over-estimated for quality and beauty, while the tree is hardy and a great bearer. Kept under best conditions it lasts until the holidays and in cold storage indefinitely, retaining its flavor and juiciness perfectly. They are delicious in March, for I speak from experience. I have them now in my cellar.

For winter apples I will name Northwestern Greening, a beautiful, large green apple; keeps until April. Scott's Winter, Pewaukee, Ben Davis, Gano, Newell's Winter, Tallman Sweet, Fameuse Sweet (a seedling Parsons and Loope are propagating), and Walbridge, is rather small, but under high cultivation grows to fair size. Tree hardy and prolific. Quality good late, winter or spring.

For plums I would name Surprise, Quaker, Wyant and Forest Garden. There are many other good ones. If the farmer wants fruit he can surely raise all these varieties in abundance.

As before stated, it requires care and perseverance. The insect pests have multiplied in recent years and you cannot ignore them.

In this paper I speak only from experience in North Central Wisconsin, but I have an abiding faith that even Northern Wisconsin can raise fruit and plenty of it, but it may have its limitations.

The State Horticultural Society is engaged in testing many varieties in the northern part of the State at Wausau and Eagle River, and will establish a third trial orchard in the Northwest this spring.

THE MOTH TRAP.

L. A. Goodman, secretary of the Missouri State Horticultural Society, has given a good deal of time looking up the moth traps and securing the experiences of some of our most noted entomologists. From a circular issued by Mr. Goodman, we take the following:

"I have taken pains to get all the information possible on this subject so that there need be no further question as to its failure

Facts are what we want, and when our best scientists give us such an abundance of proof for their statements we should believe their conclusions.

"There seems to be no end to the proof here given that, 'for the orchardist or fruit grower, the moth traps are not only worthless, but really a detriment.'

"We ought to learn from the experience of others and profit by it, and not go to the expense of all of these experiments ourselves. I have given the names and words of our best entomologists, and the refutation of those who have either been misquoted or only partially quoted.

"We are sure that 'moth traps' will not catch Codling Moth, Curculios, Gougers, Flat or Round-headed Borers, Peach Borers, Canker Worm Moth, and that they can never take the place of spraying.

"It is a waste of money to buy these 'traps', and you should be convinced by the following list of names and experiments":

(From J. M. Stedman, Entomologist, Columbia, Mo.)

"I give facts as derived purely from scientifically conducted experiments and accurate determinations of the captured insects, and I now feel that I have done my duty in the matter. I pronounce, as all other competent entomologists do, that all and any trap latterns of whatever pattern using lights as the attractive agent are 'humbugs' when used in orchards and no more harm there than good, on account of the Ichnuemon flies ('stinging fly or wasp-lik insect') which they kill. I had five trap lanterns (one of them being Haseltine's Moth Catcher) in an orchard that was badly infested with codling moths, and kept them going for one hundred (100) consecutive nights, beginning when the trees bloomed out, and as a result of all of this, I caught only two codling moths. Is not this a low number of accidents, even? Would no one hundred have been low?

"To those trap-lantern agitators and a few orchardists, who claim codling moths are attracted to light and caught in trap lanterns, I would ask: Is it not a little strange that they who are not entomologists catch these codling moths, while entomologists all fail? It seems to me the secret of the whole trouble lies in the mistaken

identity of the codling moth, since there are a great number of similar looking but harmless moths that are caught by these traps.

"Our experiments prove that for the bulk of the injurious insects, especially in orchards, the traps are not only of no use, but are an actual detriment. We emphatically advise the public not to rely upon moth catchers to take the place of spraying.

"We wish now to impress upon the people the fact that these moth catchers absolutely will not catch—except now and then one by mere accident—the following common injurious insects, which the advocates of the moth catchers claim are caught: The Codling Moth; Colorado potato beetle; Plum Curculio: Gougers; Flat and Round-headed apple-tree borers; Peach-tree borers; Tomato-worm moth; Squash bugs; Canker worm moth; Cabbage butterfly, adult of the common cabbage worm; Bud-worm moth; "Grape-vine moth;" "Current moth;" "Slug moth;" Strawberry root-borer.

"In using the traps for the insects just named, and for thousands of other injurious insects that we have not named, one not only does no good, but actually does a great amount of harm; in the first place by failing to catch the insects wanted, and in the second place, by killing immense numbers of Ichneumon flies and other beneficial parasitic and predaceous insects. Hence, for the various reasons given, the indiscriminate and ready use of moth catchers renders them unsafe, and it is for these reasons that trap lanterns of all kinds have justly been called humbugs." In all our experiments in orchards with these moth catchers, we have captured only two Codling Moths and one Round-headed apple-tree borer; we have taken no Peach-tree borers, no Flat-headed borers, and, with the exception of the Tent-Cuterpillar and Fruit Leaf Roller, none of the other common injurious orchard insects.

"We recommend the traps for what little they are useful for, and condemn them for the harm they will do and for the danger connected with their use. We condemn the false and deceptive methods, statements and misquotations that are being used to further the sales of the moth catchers. We approve of the action of many agricultural and horticultural papers in refusing to advertise the moth catchers just so long as these erroneous claims are made for them.

"Taken as a whole then, the use of moth catchers by the general public will do more harm than good."

(Professor E. P. Felt, State Entomologist of New York, says:

"I wish to state that money invested it trap-lanterns of various forms, including those which have attractive sweets or other fluids, phosphorescent paints and the like, apparently to make them more effective, is a good investment only in a very few special cases, and before buying them the advice of an entomologist should always be sought.

"Expensive experiments conducted at Cornell University have shown that the trap-lantern can not be recommended as a practical means of controlling many insect pests. Beneficial as well as injurous insects are captured, and some pests, like the codling moth, are taken in very small numbers. Farmers are, therefore, advised to go very slow in buying trap-lanterns."

Prof. Forbes, State Entomologist of Illinois, and Entomologist of the Experimental Station, and Professor of Entomology in the Agricultural College, says: "I have received several inquiries concerning the Haseltine moth catcher, accompanied by their ludicrously ignorant circular;" and Prof. Slingerland, Entomologist to the Cornell University Experiment Station, in his article on the moth catcher in the Rural New Yorker for January 19th, says: "Most of the claims made for this new moth catcher or trap in the advertising circulars are preposterous; and the use of such terms as 'stinging fly,' and others shows that the inventor is not familiar with the insects which infest orchards and other crops."

Dr. L. O. Howard, U. S. Entomologist, Washington, D. C., says: "I have no hesitation in saying that the trap lantern methods—Haseltine's and all the rest—are failures as remedies for codling moth. I am very glad you are giving the facts about the moth traps."

It would seem that the above statements made by the best informed men of our country should be enough to convince any person wanting to know the truth about this matter.

I have brought this to your notice so that there could be no further controversy or question of the facts, and now the only thing to do is to let the people of our State know the facts in the case.

L. A. GOODMAN, Secretary.

HEADING YOUNG APPLE TREES.

By H. E. Van Deman.

There seems to be an increasing desire for information as to the better ways of heading young apple trees. The practice of some has been to head them from four to five feet high in the Eastern States, that it may be possible to drive teams under the trees in cultivating the land about them. But there seems to be a change gradually coming over the orchardists of that region in some degree, and the tendency is for lower heads. In the Central and Western States there is much less of this practice, and, perhaps, because of the more intense and longer continued sunshine and the more advanced ideas that prevail. The reasons for low-headed apple trees are properly stated about as follows: The lower the heads the less purchase the winds have upon the roots, and the less liability to leaning and blowing over. The lower they are the more easily and cheaply they can be sprayed. The same is true regarding pruning. The fruit on low headed trees is easier to gather than on those with high heads. On the other hand, the lower the branches the greater the difficulty there is in tilling the soil under them, but there are tools made with extension frames that largely obviate this.

Another very important matter is the form of the head. Some have held to the theory, and practiced it as well, of training the tops into vace form, or at least with very open heads. It is often that the main branches all diverge from one point, and sometimes the entire weight of the top comes upon one or two forks. This occasionally causes splitting and consequent loss or very serious injury to the trees when loaded with fruit or sleet. These open heads are likely to induce the Flat-headed borer to work upon the large branches, where that insect abounds, and sometimes sunscald is also invited. The more approved form is that which approaches the pyramid style. This requires the main branches to come out on all sides, and continually, from a central stem. This divides the strain on the branches and forks and gives better opportunity for the air and light to reach all parts of the tree than where the branches come out from one place. The manner of growth of a pine tree should be the ideal, although this is not possible to attain entirely, because of the natural difference in the habits of growth of the pine and apple; but

it should be approached as nearly as possible. There is rarely any danger of getting the central stem too tall, for the natural tendency is for it to stop and be merged into the spreading branches. If any tendency to too high a center should appear it is easy to check it by cutting back the stem. As the tree approaches bearing age the upward growth becomes less pronounced, and there is little occasion with most varieties to head back the top. The weight of fruit also tends to hold back and spread the tops of old bearing trees.

One of the main points to be most carefully and faithfully guarded is the proper forming of the head while the tree is very young. If the orchardist is able to understand his trees and foresee their future shapes he may avoid much cutting of large branches when they get old. To be able to do this one must know the peculiarities of each variety he plants. Some will need higher heads than others, and different training. When trees are first set the future form should be in the eye of the planter, and such branches as will finally be out of place should be cut off at once. In no case nor in any climate should the stem of the apple tree be cut out, but it may be cut back moderately, to correspond with the outer branches, which should also be cut back from one-third to one-half. Direction can be given to the shoots at the ends of these cut branches by being careful to have the last bud on the side towards which it is desired to grow. The more severe the cutting the stronger will be the succeeding growth. During the first few years of the life of the tree the rubbing out of sprouts and cutting away of small branches that are not needed will have a very beneficial effect upon its after life. Train up a tree in the way it should grow, and when it is old it will not be far from what it should be.—*Rural New Yorker.*

GROWING STRAWBERRIES UNDER CLOTH.

By O. W. Blacknall, Kittrell, N. C.

I have used thin muslin, what is known as tobacco plant bed-cloth, as protection for strawberries with great success. The natural habital of the wild strawberry is along hedgerows where the deep weeds and grass give considerable protection from frost. These

conditions are very closely duplicated by a covering of thin cloth, which allows free passage of sun-light, just as the overhanging weeds and grass do, but which by lessening radiation at night retains enongh warmth to count.

My experiments with cloth protection go back as far as 1886. They were exhaustive and conclusive of its effectiveness. Within the past year or two others have arrived at the same conclusion. Mr. A. T. Goldsborough grew his huge strawberries, breaking the world's record as to size, under cloth.

Better Pollenized.

My experience is that the berries not only grow larger, but that there are also more of them. I was at first fearful lest pistillate varieties would not then be sufficiently pollenized. I found just the opposite to be the case. Pollenization was absolutely perfect, even where only every fourth row was planted in a staminate variety. It far surpassed anything that I had observed in the open field. Why this should be puzzled me for a time. Fewer bees got to the blooms than would have done otherwise. The cloth, which had to be hung low to stand, lay limp and close over the blooms. Finally, happening to visit the field on a breezy day, the cause of such perfect pollenization was clear to me. The field of cloth was as billowy as the ocean. The faintest breath of wind entering one edge of the covering would pass under it the whole way heaving and rippling it as it went, but evidently not escaping till it reached the farther side.

This showed that the cloth, thin as it was, yet had the power to measurably confine the volume of air pouring under it, causing it to pass as a current among the plants and blooms. This current flowing amid the staminate blooms, of course became heavily ladened with pollen, pollenizing not only every pistillate blossom, but fructifying it so thoroughly that no part of it failed to be reached. All growers have observed worthless, deformed berries, these are usually the effect of insufficiently pollenizing which reaches only a part of the pistils of each blossom, perfect fruit being possible only when each separate one is impregnated.

Benefit of Extra Warmth.

However, perfect pollenization was by no means the only good

result of cloth protection. Even the slight increase of warmth served to give just the conditions that the strawberry needed to attain the highest excellence. The fruit, even of staminate varieties, was much larger and the yield greater than it would otherwise have been. The crop ripened fully a week earlier. The muslin cover especially if a kind treated by a solution of tar was used, protects the blooms from any frost short of a heavy freeze, something most unlikely to come in blooming time. I have known the heaviest "black frost," the most harmful kind, to freeze the soil half an inch deep, to come and kill scarcely a protected bloom, while all in the open air was destroyed as well as most of the buttons.

Taking the years as they come, I estimated that protection as the kind adds from 50 to 100 per cent to the yield of berries, makes them larger and more reliable, and ripens them earlier.

Must Not be Too Thick.

Care must be taken not to use a cloth too thick and impervious to sunlight. I doubt if a heavier quality, even if drawn off in the day and on at night would do so well. The tar treated kind, made in large quantities for tobacco plant beds, is just right. It should be put on about the time that plant growth begins in the spring, and remain till picking begins. I never found it profitable to pull it off and on to allow picking to be done, but always removed it for good at that time. Nor do I think that it would be advisable to do this even if practicable in other respects. The berries would probably not color so well with part of the sunlight cut off. As it is the plants run up much taller than usual and are of a lighter shade of green.

How to Fasten.

I found the proper fastening of the cloth to be somewhat of a problem, but finally solved it for all practical purposes. March is a month of both wind and snow. Therefore, the canvas must be anchored low, so that even the heaviest snow-fall would only press it closer but not tear it from their hooks, and the fastenings must be strong and close together so as to enable your field of canvas to weather even a hurricane.

I used small riven pine stakes sawed off to 18 inches in length. One end was sharpened so that the stake could be easily driven in

the ground to a depth of one foot, leaving six inches of the stake above ground. A gimlet hole was bored in the upper end and a six inch piece of small soft wire was run into the hole and secured by twisting one end around the stake. The other end of the wire was bent into a hook to hold the cloth. The top of the stakes was also rasped off smooth so as not to tear the thin cloth when the wind rubbed it to and fro across them. The stakes were of course prepared in-doors and provided with the wire hooks, ready to be driven down when needed.

After many tests I found that they should be in straight rows an inch or two under three feet apart, the width of the cloth, and that they should not be more than 54 inches, one and a half yards part in the rows. The stakes driven, the cloth is strung on smoothly, but not too tight, and the soft wire hooks twisted so that the wind cannot flap it loose.

The original cost of this protection was $150 an acre. But the cloth lasts three years and then has some value as a covering for tobacco plant beds which being small, are usually in protected places, do not require a cloth as strong as strawberry fields exposed to all the blasts of March. The stakes, if pulled up and housed at once, will last from five to ten years.

This reduces the average annual cost to about fifty dollars an acre or a little less.—*Rural New Yorker.*

SETTING STRAWBERRY PLANTS.

Many failures in the growing of the strawberry and in fact all the small fruits, have been due to the setting of poor inferior plants. Be sure the plants you set are sound with good root system and true to name. Do not purchase your plants of a grower who is situated in a much milder climate than yours, and whose soil and location are different than yours. If you set plants that are hardy, true to name with a good root system, with the proper care and precautions, there will be no reasons why a good stand of vines will not be obtained.

We are now ready to do our planting; our location has been found and ground placed in condition to receive the plants. We

have marked the rows both ways and take for granted rows are three and a half feet apart and will set plants in this case two feet apart in the row. This will take about 5000 plants both staminates and pistillates.

The best way for the new beginner to set plants is with a spade. A man and boy to compose a crew. The man handles the spade while the boy sees to the plant. At the intersection of the two marks made by the marker set the plant. Before setting, plants should be trimmed of old leaves and runners, roots cut back to three or four inches in length. This no doubt will be done if plants are bought from growers who understand their business. The man with the spade places it at the proper place and inserts it into the ground to the depth of five or six inches. He should then push the spade forward making room for the boy to put the plant in. The boy should take particular pains that the roots are well spread in a fan shape and that the crown is on the level with the surface of the soil. In this position the plant should be held until the spade is withdrawn and dirt packed securely around the plant with the foot. Many make a serious mistake in the setting of the plant. Be sure the roots are well spread, the earth well firmed about them and and crown on a level with the surface of the ground, neither to deep or to shallow.

OBSERVATIONS OF IRVING C. SMITH.

Our worthy secretary requests a report of the Michigan Horticultural Society meeting held in Frankfort, first week of March. He will have to content himself with the following notes, as there appeared no way of getting to Frankfort at the time of the meeting, except by way of Chicago, which is something like 400 miles around. The writer is none the less honored in having been appointed your delegate and trust he may at some future time occupy the place to some purpose.

Our cherry trees have come through the winter nicely and are very full of fruit buds. The Lyman Prolific Crab trees, set two years ago, are looking well and appear to have some fruit buds. We

are watching them with considerable interest, as we shall probably set more of them if they seem valuable. Currant and strawberry plantations are looking well with indication of strong growth this season. Have just set nearly forty apple trees and are just finishing the setting of 700 plum trees. Bud on trees and bushes are just beginning to show green, not open yet. General business outlook is good.

Green Bay, Wis., April 18, 1902.

NEW TRIAL ORCHARD LOCATED.

L. G. Kellogg, appointed by President Loope, has located one of the two new trial orchards which was to be planted this spring. The other one will be located next spring.

The new orchard has been located at Medford on the farm of Mr. S. F. Harris, a gentleman who has had a wide experience in the handling of fruit trees, and who is thoroughly interested in the growing of fruits.

Mr. Harris will lease from three to five acres of land, plant and care for trees upon the same, under the direction of the State Horticultural Society, without charge, provided said State Horticultutal Society furnish trees without charge and pay all freight and express charges thereon. There will be about 120 trees planted this spring covering the land which is in proper condition for the reception of the trees at present. A list of trees planted will come in our next issue.

EDITOR'S NOTES.

Subscribers receiving the renewal subscription order blank will know that their subscription has expired and should renew promptly.

S. H. Marshall, Madison, will increase his acreage of plums this spring. He will add 100 more trees, mostly Brittle-Wood No. 2, known also as United States. He will also set out 100 cherries including Large Montmorency, English Morrello, and Early Richmond.

Prof. E. S. Goff has been at Tuskega, Alabama, the past two weeks, lecturing on horticulture to the students of Hooker Washington School.

Two hundred and ninty-two students attended the short course in horticulture the past winter at our State University. One hundred and eighty-two were in their first year and one hundred and twelve were second year students. There are seven long course agricultural students at present studying pruning and landscape gardening.

Oats are successfully used as a cover crop at the Wisconsin Experiment Station. Planted on quite a slope they prevented any washing of the soil, held the snow and answered all the requirements of a cover crop.

A new book on horticulture has been placed before the public. It is written by Prof. E. S. Goff, and used by him as a text book for his students in class work. It is called "Lessons in Fruit Growing" and contains 212 pages, and is well illustrated. It treats of the tree fruits or orchard culture, apple, pear and quince; the plum, cherry, peach and apricot; small fruits, strawberries, cranberries, grapes, currants, gooseberries, and the cane fruits. The storage and preservation of fruit. Business management of the plantations. Marketing, and the employment and management of labor. Prof. Goff's apology for placing the book before the public is that while good horticultural books are much more numerous than they were a quarter of a century ago, the author has been able to find no single book that presents concisely the information he desires to give his students in fruit growing.

The students attaining the highest standing in horticulture, and who are entitled to the memberships offered by the State Horticultural Society are as follows: Mrs. M. A. Birge, Horicon, Wis., stood the highest and gets a life membership in the State Society. The following were the next highest in their order, and get an annual membership in the Society: J. G. Milward, Madison, Wis.; B. R. Ryall, Augusta, Wis.; H. W. Kent, Rusk, Wis.; T. S. Bigger, Fulton, Wis.; E. J. Meyer, Paynesville, Wis.; S. J. Kingsley, Cascade, Iowa; W. J. Morgan, Saginaw, Mich.; W. J. Klossendorf, Milwaukee,

Wis.; N. J. Swan, Wauwatosa, Wis. J. G. Milward, of Madison, Wis., won the Goff Prize, which consisted of books on horticulture, to the value of $5.00, given by Prof. E. S. Goff.

The Governor has designated Friday, May 9th, next, as Arbor Day. The purpose being to foster and promote the spirit of protection to trees and birds, and to cultivate appreciation of their value to mankind. As has been the custom, this day will probably be observed by all the schools, colleges and educational institutions, by the planting of trees and ornamental shrubbery and the adorning of grounds in general.

China Asters make an excellent border for flower beds. The best type to be used for this purpose is the Comet, in various colors.

Use the nasturtium, either the dwarf or climbing sort, for borders on vases, tubs and boxes, or for beds of flowering plants; in selecting seed get the mixed varieties which will give a heightened effect to the bed. A good creeper for bordering vases or boxes is the portulaca. It is best to sow the seed where the plants are to remain as they are very difficult to transplant.

Large crops are never produced from poor soil and careless cultivation.

Small fruits planted in long straight rows are easily cultivated and kept free from weeds.

Choice fruit is always in demand at good prices and the market is never overstocked. It costs as much to raise, pick and pack poor fruit; freight and express charges are just the same, hence there is profit only in growing the best for market.

After removing the winter protection from vines and bushes cut out all dead parts, trim off all broken ends and give the canes a general pruning. There is cause for these defects and whether from careless work in covering or whether from insects these parts should be removed.

A NEW MAGAZINE.

To the members of the Horticultural Society and readers of this magazine who are interested in outdoor life and work, "Country Life in America," a magazine recently published for the first time, will be found most instructive and valuable. It is edited by Prof. Bailey, of Cornell University, which secures its recognition as a standard work of its kind. Articles by well known writers, on horticulture, nature study, gardening, and other subjects, pertaining to rural life, are among its features. The illustrations are very numerous, unusally fine, and the work of artists in their line.

Prof. Bailey in his announcement says: "What, then is our field? To extend and emphasize the interest in country life; to point the way to nature; to portray the beauty of the land that lies beneath the open sky; to hear to health and relaxation; to stay the congestion of the city; to raise the tone of American farming; to offer specific help and advice to the home seeker, the vacation seeker, the gardner, the farmer, the nature teacher, the naturalist; to take account of current rural events, to record progress, and to make note of the literature; to make the country the complement of the city; to sound some sweet and joyous note that shall relieve the tension of our strident lives." A magazine with as broad a scope as this, surely will appeal to every one and will fill a long felt want in works of this nature.

CHARLES H. RAMSDELL.

All the windows of a house can be utilized for plant growing, if we are careful in our selection and adapt the plant to the window.

SPECIAL OFFER! $10 IN CASH

to be given to the one sending in the largest number of yearly subscribers to the WISCONSIN HORTICULTURIST. This offer holds good until the 1st of June, 1902, and is offered to members only of the Wisconsin State Horticultural Society. Remember the subscription to the HORTICULTURIST is 50c per annum, but in clubs of five, 40c. Send in your subscriptions as you get them and receive credit. The only paper printed in the State devoted exclusively to the culture of fruits, flowers and plants. Many new features for the coming year.