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Picking Strawberries at Appleton in Wisconsin, Oct. 26, 1900.

The Wisconsin Horticulturist.

VOL. V. NOVEMBER. NO. 9

OFFICERS OF THE STATE HORTICULTURAL SOCIETY FOR 1900.

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THE SPIRAEAS IN NORTHERN WISCONSIN.

Charles H. Ramsdell.

The spiræas include some of the most important ornamentals known to the horticulturist or gardener. They are in such variety that there is rarely a situation found where some of them could not be used to good advantage. They range in size from the delicate goatsbeard spiræa, a foot high, to the vigorous growing ninebark, 6 or 8 feet in height. There is such a difference in foliage, habit and flower that one would hardly say they were of the same family.

Of course, like all other gardener's pets, some are hardy, some are not. The following varieties have been tried in Menomonie, Dunn Co., probably as trying a region to plants as any in Wisconsin.

At the head of the list should stand Van Houttei spiræa. Of medium size, 4 to 5 feet, with a delicate blue-green foliage and large heads of white flowers in May and June, its effect, in masses or singly, can be excelled by none other. It will kill back occasionally in the more severe winters. It grows best on clay loam, although on sandy loam it does nearly as well. It is a strong grower and stands drought well.

Spiræa prunifolia, or Bridal Wreath, is about as hardy as Van Houttei, but it is a slower grower and needs a more protected situation. It belongs more properly to the garden and looks best standing singly.

The Thorn-leaved Spiræa (spiræa crataegifolia) is nearly like Van Houttei although it does not bloom as freely. In other respects it is about the same.

Goatsbeard spiræa (spiraea auruncus) is a rather tender herbaceous variety, but bears the largest heads or spikes of white flowers of any variety. Its foliage is not conspicuous, rather the exception in spiraeas. This also does best on garden soil.

The dwarf kinds, red and white (bumalda and callosa alba), both do well here. They blossom very freely more or less all summer. Their low habit of growth renders them valuable for the border of a bed of taller growing shrubs. They winter kill very easily and need trimming almost every season. Still their vigorous growth makes up the loss. The large flower heads are very noticeable but the foliage while useful is not so important as of Van Houttei.

The Golden spiraea (Spiraea opulifolia aurea) is as hardy as any, of vigorous growth, thick foliage and useful

as a contrast against darker varieties. Its blossoms are unimportant.

For a quick growing mass of green foliage for banks or slopes, few excel the Ninebark (Spiraea opulifolia). As its leaves are rather coarse, it is better used at a distance from the point of view. Being a native, it is entirely hardy. The red flowers are noticeable but not conspicuous.

Spiraea arguta is nearly hardy and very striking in June with its heavy masses of bloom nearly covering it. It grows about three feet high. The ash leaved variety (Spiraea sorbifolia) grows well here, kills back occasionally but its foliage and flowers are not important as ornamentals.

The common meadowsweet, Spiraea salicifolia, growing in swamps and meadows, is one of this family. It is a hardy native but it is of little use ornamentally, although the white flower heads are pretty and interesting when found growing wild.

Hardhack, or Steeplebush, spiraea tomentosa, is not native or common in this vicinity, hence its hardiness is unknown. It is of little use to the horticulturist.

The new species, Anthony Waterer, has not been tried here.

Stout Manual Training School,
Menomonie, Wis.

"Mamma! mamma!" she cried, "Tommy's making faces at me." "Ain't doing anything of the kind," retorted the boy. "Why, Tommy," corrected the indulgent parent, "I saw you myself." "No you didn't," persisted the boy. "I couldn't make a face if I wanted to. All I did was to screw up the readymade one I've got."—Chicago Post.

A BLUE FLOWER FOR THE WINDOW.

Some fine specimens of the Giant Browallia in Mr. William Toole's collection of plants at our County Fair attracted much attention. Through the courtesy of Mr. Toole one of these plants now adorns our window. The flowers are "true blue" with a white star in the center and are beautiful. The plant requires a rich soil. Mr. Toole pots it in leaf mould, not the fine black earth which is found on the surface, but the fibrous, porous soil which lies immediately beneath the surface soil. The earth in the pot should be kept quite moist, never allowed to dry out; and yet care must be taken not to overwater so that the soil becomes sodden and sour. To insure bloom it must have sunshine.

REPORT ON NURSERY INSPECTION IN WISCONSIN, 1900.

To Professor W. A. Henry, Director, Agricultural Experiment Station, Madison, Wisconsin.

Sir:—Pursuant to instructions the following nurseries in the state of Wisconsin have been personally inspected by me to ascertain whether or not they were infested by San Jose scale (ASPIDIOTUS PERNICIOSUS), or other dangerously-injurious insect or plant disease.

The state of Wisconsin may again congratulate itself that its nurseries are yet apparently free from that dreaded pest, the San Jose scale. This scale, or any other dangerously-injurious insect or plant disease was not found on my inspecting tour. At one place a near relative of San Jose scale, that is, the cherry scale (ASPIDIOTUS FORBESI) was found, but there were but very few of the scales, and these were found on a few trees only.

The severe winters appear to be the greatest difficulty which Wisconsin nurserymen have to encounter. The past two winters have been especially hard on nursery stock, and

many nurserymen have experienced severe losses by winter killing. At Waupaca, Fort Atkinson and Sturgeon Bay a great many young trees were killed. These yearly losses must be very discouraging to those engaged in the business. In several nurseries the weeds were allowed to grow, so that during the winter they might serve as a mat to protect the roots. It is only by experimenting that the problems peculiar to the state will be solved.

The small fruit trade, especially in strawberries, appears to be in a very flourishing condition in the state.

METHODS OF INSPECTION.

It is an absolute impossibility, unless one has command of unlimited time, to inspect every tree, bush and plant in a nursery. In the case of trees, about every tenth row was thoroughly inspected, and if dead trees were found, the cause of death was ascertained as far as possible. All sickly trees were also thoroughly inspected. A fact worthy of mention is the bright and clean appearance of the bark of all the fruit trees observed in the state. If scale insects are present they give a rough and smutty appearance to the bark. While going through the rows of trees, side excursions were made so as to really zigzag through the blocks of trees.

In inspecting strawberry beds those plants that had curled leaves or that appeared wilted received especial attention.

Of course a strict search was made for scale insects, especially the San Jose scale, but other insect pests, such as leaf-eating larvae, were noted. A close lookout was kept for blight and fungous diseases.

DETAILS OF NURSERY INSPECTION.

Following is a list of the nurseries inspected in the order of inspection and a brief summary of the lines of trade in which they are engaged:

Great Northern Nursery Co., Mr. Martin Foley, Presi-

dent, Baraboo, inspected Aug. 25, 1900. General nursery stock, fruit trees, small fruits and ornamentals.

Thayer Fruit Farms, Mr. John L. Herbst, Manager, Sparta, inspected Aug. 27, 1900. Deals in small fruits only.

Z. K. Jewett & Co., Sparta, inspected Aug. 28, 1900. General nursery stock, giving special attention to apples, and also has a considerable number of peach trees.

George Hanchett & Son, Sparta, inspected Aug. 28, 1900. Small fruits, especially strawberries.

Henry Lake Sons Co., Black River Falls, inspected Aug. 29, 1900. General nursery stock; grow apple trees extensively, also shade and ornamental trees. Stock passed winter in good condition.

Hatch & Bingham, Sturgeon Bay, inspected Aug 31, 1900. General nursery stock, especially apple trees. Many trees winter killed.

The Evergreen Nursery Co., Sturgeon Bay, inspected Sept. 1, 1900. Stock consists mainly of evergreens, but also a few fruit trees. A few trees were killed by the winter.

Hawks Nursery Co., T. J. Ferguson, Manager, Wauwatosa, inspected Sept. 3, 1900. Ornamental stock chiefly; very few fruit trees. Part of stock is on Schultz farm five miles from Wauwatosa.

Riley & McKay, Waterloo, inspected Sept. 4, 1900. General nursery stock, chiefly ornamentals.

Coe & Converse, Ft. Atkinson, inspected Sept. 5, 1900. General nursery stock, mainly small fruits. Lost a great many apple trees by winter killing.

J. M. Edwards & Son, Ft. Atkinson, inspected Sept. 5, 1900. General nursery stock. Lost many apple trees last winter.

F. C. Edwards, Ft. Atkinson, inspected Sept. 6, 1900. General nursery stock.

W. H. Bright, Ft. Atkinson, inspected Sept. 5, 1900. General nursery stock, especially small fruits.

A. D. Barnes, Waupaca, inspected Sept. 8, 1900. General nursery stock, giving special attention to apple trees. Lost a good many apple trees last winter.

G. J. Kellogg & Sons, Janesville, inspected Sept. 10, 1900. General nursery stock, particularly small fruits. White grubs killed a few strawberries in one bed.

W. B. Davis, Magnolia Road, Janesville, inspected Sept. 10, 1900. Deals in small fruits only.

F. K. Phoenix & Son, Delavan, inspected Sept. 11, 1900. General nursery stock.

NOTES ON INSECTS OBSERVED IN THE STATE.

Oyster-shell bark-louse (MYTILASPIS POMORUM).—This insect is too common to need any description. The insect is found wherever old apple orchards are found, but very few were found on nursery stock.

PULVINARIA.—This is the name of a genus of scale-insects which secrete a large cottony mass in which the eggs are laid. The cottony mass is very conspicuous, but the scale itself is a flat, elliptical, brown insect at one end of the mass of cotton. These insects were found in abundance at Wauwatosa and Ft. Atkinson on some maple trees along the roads.

The Scurvy bark-louse (CHIONASPIS FURFURUS).—These are small, white, flat, pear-shaped scales. They occur on apple, pear and cherry. A few specimens were noticed in a number of places in the state.

LECANIUM.—This is another genus of scale-insects. The adult insects are brown and hemispherical, and look like small turtle shells. They are found fastened to the twigs of all kinds of trees. Very few specimens of this genus were observed in the state. They are common in greenhouses.

LACHNOSTERNA.—The White Grub, the larva of the May beetle, is familiar to all. The grubs do much damage in strawberry beds, especially if they are planted in old sod fields. At the Great Northern Nursery Co., Baraboo, these grubs did much damage by eating off a ring of bark from the roots of young trees. As many as three grubs were found working at the root of one tree.

The Cherry scale (ASPIDIOTUS FORBESI).—The female scale is nearly circular, and of a dirty grayish color in fresh specimens, but darker when dried. The exuviae are usually slightly to one side of the center and covered with excretion. This species was described by Professor W. G. Johnson.

The Fall Web-worm (HYPHANTRIA CUNEA).—The webs or tents of this insect were found on young apple trees at Sturgeon Bay. The light-brown, hairy caterpillars live in these tents and feed on the leaves. This species should not be confounded with the Apple-tree Tent-caterpillars which build their nests in the spring. The moths are snow white, but there is a variety in which the wings are marked with brown spots.

Yellow-necked Apple-tree worm (DATANA MINISTRA).—The caterpillars are quite large; black, with yellow stripes running the length of the body. On the top of the thorax just back of the head there is a light brown spot. They live on apple, oak and hickory. The larvae if alarmed throw up their head and tail in a threatening manner. These caterpillars were found on apple trees at Black River Falls.

The Red-humped Apple-worm (OEDEMASIA CONCINNA) caterpillars found on apple trees at Black River Falls. The caterpillars are brown and black with a red head and a red hump on the back of the first segment of the abdomen. They gather in thick clusters on the leaves and branches when they are not eating.

PHYLLODESMA AMERICANA.—This is a slate-gray larva or caterpillar about two and one-half inches long that mim-

ics the bark of the tree on which it is found. The caterpillar feeds on apple, cherry, maple and several other trees.

ACRONYCTA AMERICANA.—A white, hairy caterpillar with four pencils of black hair on the forward part of the body and one pencil of black hair near the opposite end. They feed on maple, elm and other forest trees.

The Clover-seed Midge (CECIDOMYIA LEGUMINICOLA).—My attention was called by Mr. Hatch of Sturgeon Bay to the peculiar appearance of the clover heads. On opening the heads we found a small, pink grub which is the larva of a two-winged fly. The larvae live in heads of clover and destroy the immature seed. The full-grown grubs or larvae drop to the ground to undergo their transformations.

W. C. THRO,
Inspector of Nurseries.

SHALL WE PLANT YOUNG TREES WHERE OLD TREES HAVE DIED?

F. C. Edwards.

Editor Wisconsin Horticulturist:

A question confronts thousands of our people in the Northwest today,—Can we plant a young fruit tree where an old one has died and have it thrive and do well? I would say under proper conditions MOST DECIDEDLY YES, where you have no other place to plant trees. In the first place ask yourself the question, what has that tree taken out of the soil in which it has stood during its life? and if you burn up those trees and scatter the ashes where they grew, you have partly solved the problem. One great factor in the growth of trees is the use of ash or ashes; put back all that the tree has taken out of the soil.

The fruit that those trees have produced is another

drain on the soil. NATURAL MANURES, not leached, will reimburse what the fruit and wood have taxed the land. You can use up to two tons of unleached ashes and two tons of slaked lime per acre on such land with great profit.

Animal and plant life in their lower forms are very much alike in this respect, that a balanced ration produces nice growth and good results in either.

Cultivation in the young orchard up to the first of August is just as necessary as it is in a cornfield, if you want healthy, thrifty trees; and to enable the trees to throw off disease a steady healthy growth must be maintained. The same rule applies to animal life as we can all testify.

I am safe in saying that one-half of all the fruit trees planted in Wisconsin are planted in old orchards; grass is allowed to grow at its pleasure and the trees die, to the planter's displeasure. Soil must be restored to its normal condition by ashes and manure, and the trees aided by cultivation.

In our plantings of apple grafts which grow to 3 or 4 years, the age of sale, the plat is never again planted to grafts till this particular piece of land has been given back the things that the trees have taken out of the soil. If we neglect this we are sure of a failure, viz.: poor stand, crooked trees, and uneven, scrawny growth.

Please understand me, I do not advocate planting young fruit trees in an old orchard when you can possibly use a piece of land previously used in growing other produce, as the ordinary planter will not exercise as good judgment as he does in raising other farm crops. But I do say that if you have only the old orchard, where old trees have died, in which to plant young trees, consider the items mentioned in these few remarks and I am sure success will crown your efforts.

Ft. Atkinson, Wis.

HERBST'S BERRY BULLETIN FOR NOVEMBER.

By this time the small fruit grower should have his vines, berry brush and plants well along in winter quarters. The old canes in the berry brush should have been trimmed out, the grape vines pruned and the strawberry bed ready to cover. Don't delay this work, as winter is approaching and much damage is done before the heavy snow falls. The thawing and freezing of the late fall rains do much damage to small fruits as well as to the tree fruits. A good many advocate the covering of the strawberry field after the ground is frozen. Do not wait until then, but cover before hard freezing. After the bed is covered ashes can be spread on at intervals during the winter.

Improve the spare time this winter by drawing fertilizer on the ground where you intend setting new beds next spring, as you will be too busy when that time arrives.

It is not too late for fall setting of the blackberry, red raspberry, grape, gooseberry and currant. This can be done up to a general freezing.

Plant only those varieties that have been tried and found profitable. If you wish to try newer varieties plant only a limited number, test them and if they succeed with you plant more. Don't plant more than you can take care of. Don't neglect what you do plant, as nothing is more distasteful to the eye than a neglected berry patch or strawberry bed.

A canvass of the successful fruit growers of the state show the leading varieties as follows:

Apples—Duchess, Wealthy, N.W.Greening, McMahon.
Plums—De Soto, Hawkeye, Wyant.
Cherries—Early Richmond.
Grapes—Concord, Worden, Delaware, Moore's Early.
Currants—Victoria, White Grape, Red Dutch.
Gooseberries—Downing, Houghton, Red Jacket.
Blackberries—Ancient Briton, Snyder.

Black Raspberries—Gregg, Older, Nemaha.

Red Raspberries—Loudon, Cuthbert, Marlboro.

Strawberries—Warfield, Bederwood, Enhance, Crescent, Clyde.

J. L. HERBST.

Thayer Fruit Farms, Sparta, Wis.

ORCHARD MANAGEMENT.

Bulletin No. 59, issued by the Illinois Agricultural Experiment Station, is a valuable treatise on the management of orchards. Wisconsin orchardists may profit by the following:

REASONS FOR UNPRODUCTIVE ORCHARDS.

Observations and studies carried on in these many fruit plantations above referred to, and also on the Experiment Station grounds at Champaign leads the Station to offer the following as some of the many reasons why the Illinois orchards are often unproductive.

(1) Too many growers are expecting a crop to be given them without putting forth any efforts themselves after the trees have been set. The apple trees require the same careful attention as do other farm crops.

(2) Lack of moisture is a common cause of failure to the apple grower in this state, especially in southern Illinois. This is because grass and other crops are allowed to compete with the trees for the moisture supplied by rains. Water is just as essential to the apple tree on a hot summer day as it is to the laborer in the harvest field.

(3) Injuries resulting from attacks of insects or of fungous diseases are a very common cause of failure. These depredators will probably always consider that they have as much right to the products of the farm as does the farm-

er himself. For this reason he must get his artillery and ammunition and fight the enemy.

(4) Lack of fertility is a very common cause of failure in southern, western, and some sections of northern, Illinois. The apple orchard can not produce a profitable crop unless provided with an ample supply of nitrogen, potash, and phosphoric acid.

(5) Some orchards in this state which have come to the notice of this Station are unprofitable because of improper pruning or lack of pruning. Light and air are essential for the development and ripening of the apple.

(6) Many varieties of apple trees have been planted without any thought given to their adaptability to the particular soil or climate. Loss in apple growing is often wholly a matter of varieties.

(7) Trees propagated from unproductive stock have been responsible for many failures. Scions should be selected from bearing trees or those which have demonstrated their ability for productiveness.

(8) Sterility as a result of planting an orchard of only one variety is a common cause of failure, in part at least. Cross fertilization is desirable with all fruits.

(9) Excessive climatic conditions, as the February freeze of 1899, or the killing of the blossoms by frost, are oftentimes responsible for unproductiveness.

"Don't you know you will have more money to spend if you succeed in establishing the social system I advocate?" "Don't want no more money to spend," answered Farmer Corntossel, coolly. "I've paid off the mortgages an' kin raise all I want to eat. What I'm gatherin' in now is money to put in the bank."—Washington Star.

ORCHARD CULTIVATION.

The orchardist should cultivate his orchard for the same reason that the dairyman feeds and waters his herd. All work, whether it be the developing of an apple or the secreting of milk, implies waste. All labor expended, even in maintaining life, means a loss of vital force which must be supplied. The dairyman's herd would not be productive were not this waste supplied in the form of food and water. Left to themselves as were the buffaloes, they doubtless could maintain life. So with the orchard; if left to itself, as is often the case, it may live and even produce fruit. But if it is to be productive in a commercial sense, it must be liberally fed and watered. This is best and most economically done by good cultivation. Cultivation, then, is the first and fundamental principle which needs not even the exception to prove it a positive rule for successful orcharding.

All intelligent cultivation of the orchard rests upon the fact that the soil is a storehouse of plant food and also a reservoir for catching and holding water. If the orchard is not cultivated the root system of the trees can not penetrate deeply into the soil for its food and water supply. The first great benefit, therefore, coming from this operation is the pulverizing of the soil, thus giving a greater root-feeding area and at the same time deepening the soil itself. All of this implies an early warming and drying of the soil in the springtime, because when the texture of the soil is poor, that is, when the soil particles become cemented together as the result of heavy rains or injudicious plowing, the land is cold and the root system can not penetrate it or even appropriate the plant food within reach. The first great office of tillage then is that of improving the mechanical condition or the texture of the soil. For this reason this station is opposed to the application of fertili-

zers to orchard soils until the land has been so improved in its physical condition that the plant can use what is already in the soil.

The second great office of cultivation is that of supplying or saving the moisture which is needed in such large quantities by orchard fruits.

But this increasing of the water-holding capacity of the soil must be supplemented by a retentive force which will check capillarity at the surface of the soil. The water moves by capillary attraction to the surface where it is evaporated—explained in the same manner as the upward movement of oil in the lamp-wick, or of ink in the blotting-pad. By the breaking up of these capillary spaces next the surface, evaporation will be checked. In the same way a mulching of the surface prevents evaporation. No mulch is so good and economical as a dust mulch procured by cultivation. This same operation having broken up the capillary pores conserves the moisture by checking the evaporation. But it is useless to commence this checking process late in the season when drought is already apparent. No amount of cultivation at this time can correct the fault which should have been prevented weeks before. The careful orchardist will cultivate early in the spring—or as soon as the land will permit it—repeating the operation at least once a week, unless frequent rains should make such an operation needless. As soon as a shower has passed and the land has become crusted and dry on top the harrow should be put to work remaking this dust mulch. Cultivation should commence early in the season, but can usually be stopped early in August, at which time the trees have completed their growth and have commenced to ripen up their wood and fruit prior to the inactivity of winter.—From Bulletin No. 59, Illinois Experiment Station.

ILLINOIS APPLES FOR BUFFALO.

The state horticultural society is planning to make an exhibit of fruit next year at the Pan-American exposition. It is the intention to make the exhibit continuous from the opening, May 1, until the closing, Nov. 1. Apples for this show must come mainly from this season's crop, and Sec. L. R. Bryant of Princeton wants the growers of Illinois to select and place in cold storage 100 barrels. If every fruit grower will do his part the task will not be a difficult one. Not less than one peck of any one variety should be furnished and a full barrel is preferred.

UNCLE SAM'S TRUCK PATCH.

Uncle Sam has a truck patch over on the Potomac flats which has been started recently for the purpose of experimenting with various plants newly introduced into this country by the Department of Agriculture. It covers about twenty-five acres, and just at present a considerable part of this area is devoted to the cultivation of a number of valuable kinds of pot-herbs which Secretary Wilson wishes to add to the list of those already known to American housewives. Before long supplies of the seeds will be distributed all over the United States, and anybody who wants to raise them will have a chance to do so. Many is the dish of soup or stew to which they will lend flavors, at once delicious and novel, for the benefit of everyday people.

One of these pot-herbs is a vine from India, called in that country "basella," and commonly grown on poles, though it does very well running over the ground. It has exquisite pinkish blossoms, small and somewhat resembling those of the trailing arbutus or mayflower, and these are replaced in due time by cunning little fruits that look like

tiny blackberries. It is one of the most delicious of all pot-herbs, and a notable point about the plant is that it keeps on growing all summer long, continually producing fresh leaves for the housewife's use. The vine, by the way, is related to the well-known "Madeira vine," which is familiar in houses.

Another of the new pot-herbs is the so-called "New Zealand spinach," which has been well known in Europe for ever so long. It looks not very unlike the ordinary table spinach, and undoubtedly will be a great acquisition. Then there is a kind of sorrel, with large leaves that have a rather agreeable sour taste when one bites a piece. It is related to the familiar American sorrel, but quite a different plant. Of course, everybody knows the common okra, which is so important an ingredient of gumbo soup—that dish of delightful flavor originated in the South. But Uncle Sam is raising, in the truck-patch aforesaid, a European okra which is like ours much magnified, having great pods eight inches in length, and not less tender by reason of their size. Here is a novelty that is sure to command attention from the woman who does her own marketing and knows a good thing to eat when she sees it.

One of the most curious plants in the truck-patch is a kind of sedge which looks for all the world just like the coarse marsh-grass that grows in swampy places along the seashore. But pull up a clump of it, and knock the earth away from the roots, and you will find attached to the latter a lot of queer little tubers, each of them about the size of a hazelnut. These are an excellent table vegetable, when suitably prepared, and in Europe the children are fond of eating them raw, in which condition they taste somewhat like cocoanut. "Chervil" is the name of the plant.

The nasturtium, so famous for its beautiful bell-shaped flowers, has long been well known as a pot-herb, the leaves

being utilized for that purpose, while the blossoms are employed for salads, and the seeds make delicious pickles. Trials are being made with certain varieties, with a view to developing them as advantageously as possible.

Another interesting plant, set out in rows in the truck patch, looks like a gigantic thistle, but is in reality the so-called "globe artichoke." This kind of artichoke is largely eaten in Europe, but is hardly known in this country outside of Louisiana, where it is quite extensively cultivated for the New Orleans market, being highly appreciated by the Creoles. The plant is not at all related to the Jerusalem artichoke, which is in reality a sunflower.

There is a small field of gourds, of various sizes and most eccentric shapes, some of which are produced by plants that have been brought from China. They have no important economic use in this country, but are ornamental and curious.

A small area of the patch is planted in sorghum of so fine a variety that the stalks contain something like 25 per cent of sugar. When one cuts a piece and chews it it is much like sugar candy—decidedly sweeter in fact than sugar cane. If a means could be found of extracting the sugar economically, we could easily produce in this country all we wanted of that substance; but, unfortunately, the sugar, when separated from the woody fibre of the plant, is so mixed with gum and other impurities as to be impossible to reduce to the shape of a marketable commodity at a low cost.

Hemp from Japan, of a kind which grows very tall and is remarkably productive of fibre, is being grown in the patch. After being rotted it will be carded and spun, so as to show its usefulness. If only this kind of hemp could be produced on a reasonable scale in this country, it would take the place of jute, and we might consider that we were

able to grow our own bagging materials. At the present time we import $50,000,000 worth of fibres of various kinds every year—an obvious absurdity.

One small bed in the truck patch is devoted to a crop of "burdock," which is known in the United States as a rather pestiferous weed. This kind of burdock, however, comes from China, where the people find the leaves edible. It is being cultivated here in order to find out what difference there is between the Chinese burdock and our own plant. Perchance it may prove to possess merits hitherto not recognized. For, after all, a weed is simply a plant that has not yet been proved useful to man.—Boston Transcript.

FARM MACHINERY IN OUR AGRICULTURE.

Is this use of machinery a disadvantage to farm laborers? On the contrary, it is beneficial. It is a question as old as machine invention. Industrial conservatism and prejudice declare in the affirmative. The facts of industrial progress declare in the negative. The farm laborer's lot is made easier by these inventions, his hours of service shorter, his mental faculties are stimulated, and he becomes a more efficient worker, a broader man and a better citizen. Have improved implements reduced the number of laborers? Not necessarily. They have enabled a given amount of work to be done by fewer men, but they have greatly increased crop acreage, and made higher cultivation possible, and more operations for soil amelioration and farm improvement. Prof. Davenport, before the Industrial Commission, testifies that agricultural machinery intensifies the labor put on the land, and enables farmers to use more per acre than they otherwise could, more labor in drainage, in physical amelioration of soils, in fertilization by ammonia gath-

erers, in many things absolutely essential to increase of yield and profit. The old-fashioned farm, by old methods, cannot produce enough to find the means of employment of this necessary labor.

This fact should be deemed a conclusive answer, that where we find the largest use of agricultural implements we find the greatest prosperity among farmers, and the least discontentment and dissatisfaction among farm laborers. And in the districts where they are least used there is debt and destitution, and unprogressive conditions generally—the lowest wages, the lowest scale of living, discomfort and unthrift. It is certainly an advantage to laborer as to landowner, and whether either likes it or not, it is inevitable, in the order of progress, and those who will not use it must go to the wall.

There is another consideration that should not be forgotten. The influence of farm machinery on agricultural labor has been great in improving its efficiency. Forty years ago, where a reaper was sold, a mechanic was sent, sometimes a hundred miles, sometimes two hundred, to set the machine up and teach some one how to run it, and that was a large element in the higher cost then of such machines. Now there is scarcely a farm where such teaching is needed. The good farm laborer is now a good mechanic, and uses his brains and his experience in many ways unthought of forty years ago.—Country Gentleman.

A neighbor meeting a little one in the street, said: "Good morning, my little dear. I never can tell you and your sister apart. Which of the twins are you?" And the little one made answer: "I'm the one what's out walkin'."—Credit Lost.

A FEW GRAPE NOTES.

The Eaton grape has borne some very large clusters, as well as berries an inch in diameter. When fully ripe it loses its acidity, while its superabundance of juice is most refreshing. A visitor said his first impression on tasting it was that his mouth was drowned. Its quality, however, is not lasting and though worthy of a place in all collections, it can have little value as a market grape.

White Mountain grape I found ripe, in the neighboring town of Agawam, on August 26. I shall try to find a place for a vine of this variety, and displace the Moore's Early, which has a reputation and is in demand far beyond any merits I have been able to find in all the years I have fruited it. Unless a family wishes to have more than a dozen vines the number of better varieties will not have been exhausted.

Campbell's Early improves with age. We have fruited it three or four years, and until this season, it has not impressed me favorably. It ought not to be called, or classed, as an early grape, though it begins to color the first part of August. Becoming black in September, our neighbor's children were encouraged in their helpful way, to assist in disposing of them. Such as remained high out of reach, continued to improve in flavor, until the most fastidious of our family admitted it had characteristics peculiarly its own, which have advanced it several points as a promising new grape. We question the size and fullness of its clusters being at their best when growing alone.—Rural New-Yorker.

What we call ragweed is "hogweed" in Maryland. It requires a large share of the alphabet to print its scientific name—Ambrosia artemisiæfolia!—Rural New Yorker.

STORING ONIONS.

My plan of keeping onions through the winter is this: Be sure they are perfectly dry when cribbing them, as that is one of the main points to be considered. If they are to be disposed of before cold weather comes, they can be kept in any dry place where they have plenty of air. The best place is a crib built in the same manner as a corncrib, so the air can circulate freely through them. Onions to be kept for the winter market, must be kept at a low temperature from the time they are first put in storage, keeping them at thirty-five to thirty-two degrees; there is no danger of the temperature being too low, just so they are kept from actually freezing, and are nice and dry.

We keep our onions in a cold storage house built especially for the purpose, capable of holding 7,000 bushels when full. It is built on the shelf plan, each shelf holding about fifty bushels. The shelves are built with slats, and so arranged that the air can circulate freely all around the onions. I have kept them when the temperature was below zero without any damage. Should the onions become frozen by chance, they should not be handled, but kept in the dark until thawed. It is not freezing that does the damage, but handling them while frozen. Above all things, moisture and heating in bulk should be guarded against. For winter storing they should not be over two feet deep on the shelves, better less. If too warm they sprout and rot.—Ira Grater, Ohio, in Farm Journal.

So pack that when thy purchaser shall come and scan the tip-top layer he may know that all the way, down to the lowest notch, and through the middle they are all the same.—Rural New-Yorker.

GROWING AND STORING WINTER SQUASH.

Though many people raise Winter squashes for their own use, but few have gone into the business largely on account of the limited market, and the difficulties in producing and storing them. One's first attempt to raise Hubbard or other Winter squashes is not likely to be encouraging. He plants a few hills in the garden, and is fortunate if, after running the gauntlet of bugs, beetles and borers, he has enough left for a respectable Thanksgiving pie. Where large quantities are grown they cannot be marketed at once and provisions must be made for storing where they can be kept dry, have plenty of air and nearly an even temperature—50 degrees being about right. To get these conditions a special squash house must be built where a fire can be kept, and the whole thing watched carefully. This industry is carried on to quite an extent in eastern Massachusetts, and on Long Island. Mr. A. Van Sicklen, of Jamaica, L. I., is an extensive grower, raising at times 5,000 barrels. His father was one of the first to build a squash house in this country. Mr. Van Sicklen showed me three well filled houses. The squashes are stored in racks or on shelves around the sides and through the center of the building, the idea being to arrange them so that no large bulk will be together, and to allow a free circulation of air. A fire is needed, even though the weather is not freezing, for squashes will not stand much chilling, and they should not become so damp as to be sweaty on the outside. Like many other branches of farming, there is not nearly so much profit in this business as formerly. Squashes have sold at $6 or $7 per barrel, but $1 is considered a good price now, and at present they are selling at 50 to 75 cents. After deducting the labor and waste, there is not much money in them at this. Mr. Van Sicklen plants them as a second crop, following early potatoes or something of the sort.

Plenty of manure is needed, so that they may make a quick, strong growth and have a fair chance for life in the race with their enemies. Poultry people have often been disgusted by the actions of young turkeys, which, without any visible cause, will suddenly conclude that life is not worth living. Squash vines will sometimes act in the same way, wilting and dying all at once. Some root disease is supposed to be the cause, but the trouble is not extensive, and the exact nature of the disease has not been studied out.—Rural New-Yorker.

FOR THE HOUSEHOLD.

HOW MUCH TO PROVIDE.

In preparing for church suppers and similar entertainments, the following estimate of the amount of provisions required may be useful. A writer in the New York Tribune is our authority:

For fifty guests, the chicken salad will require five medium sized chickens and twelve heads of celéry; 100 sandwiches, 1½ pounds of coffee and three pints of cream, two gallons of ice cream, two moulds of jelly and five loaves of cake will be needed. If escalloped oysters are on the menu, one gallon of oysters, two pounds of crackers and one pound of butter will be wanted for them. With sandwiches five dozen biscuits and 2½ pounds of butter will be sufficient; eight pounds of boiled ham with two pounds of butter will be an ample allowance for 100 minced ham sandwiches.

AN EASILY MADE SALAD DRESSING.

Take a large plate and put onto it 1 large tablespoonful of butter, 1 even teaspoonful of ground mustard, 1 saltspoonful of salt. Rub these together until smooth. Add 1 teaspoonful of flour (rounding full) and 2 tablespoonfuls

of sugar; rub these into the mixture until it is again smooth. Then drop on to it a raw, unbeaten egg and again rub smooth. Meanwhile have one cup of vinegar slowly heating in a graniteware dish on the stove; when it is quite warm but not boiling stir into it the mixture, stirring constantly until it begins to boil; let it boil one minute then take from the stove, and let it get cold. When you are ready to use it, take the quantity that you wish and thin it with an equal quantity of sweet cream. This dressing will keep several days before the cream is added.

BEET SALAD.

Boil red beets until tender, peel them and cut into small cubes. When cold pour over them the above cream salad dressing. Let stand an hour or so before serving. This is pretty when served in a dish garnished with green nasturtium leaves and tendrils or with curled parsley leaves.

THE THANKSGIVING TURKEY.

The young cook sometimes puzzles over the proper length of time to cook her turkey and perhaps finds it underdone in consequence. Fifteen minutes to the pound is about right, but it is well to allow an extra half hour for emergencies. A grating in the bottom of the pan will prevent the under portion of the fowl from burning or cracking. If it begins to brown too fast, cover with a sheet of heavy paper, unless you have a covered roasting pan.

An old fashioned southern cook has a new—to us—way of cooking a turkey. When the fowl is well started toward cooking she mixes a dough of flour and water, rolls it out on the board and spreads it, blanket fashion, over the turk. When the bird is nearly done it is carefully lifted off, the bird basted with butter, and browned to the required complexion. The dough blanket must not remain on until the bird is done or the skin will adhere to it and the appearance be spoiled.

THIS AND THAT.

Ellwanger & Barry, Rochester, N. Y., exhibited 118 varieties of pears at the Paris Exposition.

On looking over their seedling apples, I am ready to believe Secretary Philips' eloquent praise of the workers of Wisconsin.—W. H. Guilford in The Fruitman.

The green cabbage worm often conceals itself in the heart of celery before it is stored for winter. Look out for it, or it will destroy your celery in its winter quarters.

The surplus fruit and vegetables—apples, pears, onions, turnips, potatoes and squashes—from some Massachusetts farms were sent to Boston for free distribution among the poor.

The principal cause of failure in fruit growing is that after the trees are set and have grown a year or two the planter becomes discouraged and neglects the orchard for a year or two when a profitable fruit year again stimulates his interest in fruit growing, generally too late to bring out his trees again. The quitter should never plant an orchard.—The Ruralist.

Upon the recommendation of the war department the agricultural department is preparing an order setting apart as forest reserves the island of Romblon, which is north of the island of Panay; also the island of Pauitaui, which is one of the extreme group of the Jolo islands of the Philippine group. Officers of the army who have been investigating the islands have found that these are the richest lands in the world for rubber trees, and it is the intention of the Washington authorities to have the trees preserved and cared for.

PREMIUM LIST FOR THE WINTER MEETING.

The Wisconsin State Horticultural Society in accordance with the action taken at its summer meeting, expects to hold its Annual Meeting in Oshkosh, Jan. 14, 15, 16, 17, 1901. The Executive Committee have decided to offer the following premiums:

Best display seedling apples, 1st, $5: 2d, $3.

Best winter seedling, $1.

Best plate of any meritorious variety of apples, correctly named (for example, best plate of Wealthy, best plate of Fameuse, best plate of Willow Twig, etc.), 1st, 50c; 2d, 25c.

Largest apple, 1st, $1.

RULES.

1. No premium shall be awarded to inferior or decayed fruit.
2. Four apples shall constitute a plate; seven crab apples.
3. All plates must be correctly labeled; blank labels and plates will be furnished by the Society.
4. Competition is open to all. No entry fee will be required, but all persons receiving premiums must be, or must become, members of the State Society.
5. All exhibits must be in place before noon of the second day of the meeting.

ESSAYS.

The Society will pay premiums for essays on the following subjects:

Planting and Care of an Apple Orchard, 1st, $3; 2d, $2.

Planting and Care of Raspberries and Blackberries, 1st, $3; 2d, $2.

Planting and Care of Strawberries, 1st, $3; 2d, $2.

Planting and Care of Grapes, 1st, $3; 2d, $2.

Planting and Care of Flowering Shrubs, 1st, $3; 2d, $2.

RULES AND CONDITIONS.

1. Any person may compete for any or all of the above premiums.

2. Each essay must contain not less than 1000 nor more than 2000 words.

3. All essays must be sent to the Secretary, J. L. Herbst, Sparta, Wis., on or before Jan. 1, 1901.

4. Use paper WITHOUT PRINTED HEADING and write only on one side of each sheet.

5. Send name and post office address of writer on a sheet separate from the essay, but enclosed in the same envelope.

The Secretary will number each essay and send it without the address to a judge designated by the President.

The essays are to be judged from a practical rather than from a literary standpoint.

COMING CONVENTIONS.

Northeastern Iowa Horticultural Society, Nov. 27-29, at Iowa Falls; Secretary, C. H. True, Edgewood, Iowa.

Minnesota State Horticultural Society, Dec. 4-7, at Minneapolis; Sec'y, A. W. Latham, 207 Kasota Block, Minneapolis, Minn.

Iowa State Horticultural Society, Dec. 11-13, at Des Moines; Secretary, Wesley Greene, Des Moines, Iowa.

Michigan State Horticultural Society, Dec. 4-6, at So. Haven; Secretary, C. E. Bassett, Fennville, Mich.

Illinois State Horticultural Society, Dec. 11-13, at Champaign; Secretary, L. R. Bryant, Princeton, Ill.

Northern Illinois Horticultural Society, Dec. 4-5, at Yorkville; Secretary, A. W. Bryant, Princeton, Ill.

Southern Illinois Horticultural Society, Nov. 27-28, at

Kinmundy; reduced rates on railroads and at hotels; for program and premium list address the Secretary, E. G. Mendenhall, Kinmundy, Ill.

Indiana State Horticultural Society, Dec. 18-20, at Indianapolis.

National Irrigation Congress, Nov. 20, at Chicago.

Live Stock Show, Dec. 1-8, at Chicago.

American Farmers' Institutes Association, Dec. 15-17, at Delavan, Wis.

Wisconsin Cheesemakers, Jan. 23-25, at Madison.

Wisconsin Agricultural Meeting, Feb. 4-6, at Madison.

Wisconsin Dairymen's Association, Feb. 12-16, at Mondovi.

THE STEIN VERSUS HIRSCHINGER CASE.

Nurserymen and fruitgrowers throughout the country have been interested in this lawsuit which was tried at the October term of the Sauk County court. It attracted widespread attention on account of the high standing of both parties in the community, as well as because of the legal questions involved. Both gentlemen, J. G. Stein and Hon. Chas. Hirschinger, are members of the State Horticultural Society. In 1894 Mr. Stein bought of Mr. Hirschinger 400 apple trees which both parties supposed to be Duchess, buying them under the customary nurseryman's guarantee. When the trees began to bear fruit about 300 of them proved to be some unknown variety. Mr. Stein, on account of having spent much of his time in caring for this orchard, sued Mr. Hirschinger for $1,000 damages. Among the expert witnesses summoned were R. J. Coe of Fort Atkinson, Geo. J. Kellogg of Janesville, A. J. Philips of West Salem, A. G. Tuttle, Wm. Toole and others of Baraboo. The case was decided in favor of the defendant.

EDITOR'S NOTES.

Congratulations would be in order, most assuredly, if some one of our readers should win a premium on all five of those prize essays! There is a chance to earn fifteen dollars with which to buy your wife a Christmas present for next year!

Mr. H. E. McGregor, in a recent letter, alluding to our warm October, writes: "Possibly this winter may settle the controversy whether it is immature wood or lack of moisture that makes our bushes and fruit trees winter so poorly. In the middle of February 23 years ago, this writer hauled a load of flowering house plants through the streets of Appleton for nearly a mile in an open wagon without any covering, and they were not injured any. These mild seasons seem to come around about every 20 years and perhaps this may be the time for such a pleasant visitation."

While in Milwaukee County we noticed in an old orchard, set nearly half a century ago, a freak of nature. A seedling apple tree had been grafted with Northern Spy. A few years ago the top blew off and a new growth came out from the trunk. This year the new growth is bearing the original seedling apples.

In this same Milwaukee County orchard are some plum trees grafted with cions obtained from a neighbor who brought the cions which produced these from Germany. The trees were loaded with large reddish purple plums, not so dark a shade as the Lombard. They were so full of fruit that some of the branches were bowed to the earth and had to be propped. The trees passed through the winter of '98-'99 unharmed.

We noticed that the plum trees close beside the house were almost free from curculio, while the same variety out in the orchard were badly stung.