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JUNE, 1892.



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Canadian

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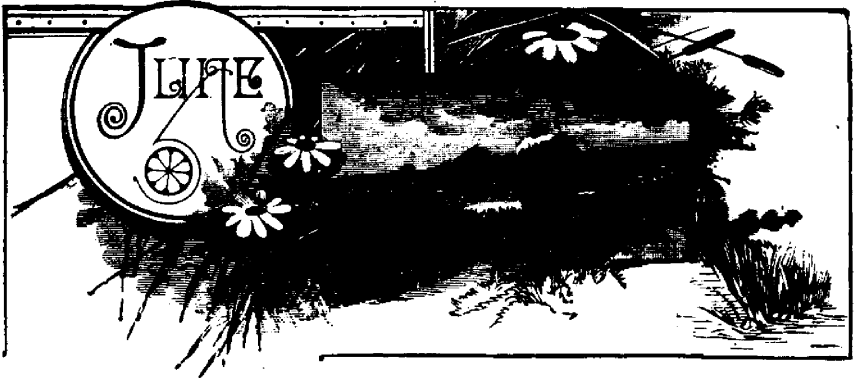
SCOTT'S WINTER.

THE
Canadian Horticulturist.

VOL. XV.

1892.

No. 6.



SCOTT'S WINTER APPLE.

IN a list of hardy apples, suitable for planting in the cold north, which appeared in the CANADIAN HORTICULTURIST for the year 1888, page 220, Dr. Hoskins, of Vermont, gave the following for winter, viz., Scott's Winter, McIntosh Red, Wealthy, Fameuse, Bethel of Vermont.

This list, at that time, met with some adverse criticism, but, although some varieties have since been deemed worthy of being added to the list, and one, the Fameuse, seems scarcely worthy of retaining on account of the scab, the majority of them have been gradually gaining ground in the confidence of the planters who live in the less favored regions of Canada

The Scott's Winter seems especially worthy of notice. The variety originated in the State of Vermont, a portion of which is as bleak and cold as our most northerly apple growing districts. The fruit is not large, averaging about the same as the Fameuse as it is grown in Ontario, or the Winesap, and it is about as handsome as the latter. It is roundish in form, with one shoulder rather prominent, a darker red than is shown in our colored plate, which, indeed, in other respects scarcely does justice to the beauty of the apple. The skin is partially specked with rather prominent dots over its whole surface. The quality is only fair, yet, when fully matured, it is a good dessert apple, while for cooking

purposes it is excellent. It keeps in good condition till about the end of April. The tree is a vigorous and rather upright grower, and bears abundantly every year.

Samples of this apple were first sent to the writer some three years ago, by Mr. R. W. Shepherd, of Montreal, and again last February. They came in excellent condition, and so commended themselves to our notice that we have decided to illustrate this number with a colored plate of this variety, as a frontispiece.

In sending these samples, Mr. Shepherd wrote as follows: "I have had many enquiries regarding this hard winter apple, and take upon myself to forward to you by mail to-day a box containing three specimens of the fruit. You will receive them, I hope, in the same good, sound condition which they leave me to-day, 23rd Feb. The specimens are fair, average size, and, up to the present, have been kept in a barrel in my town house basement-cellar, in which basement a hot air furnace has been actively burning all winter, there being only a lath and plaster wall between it and the cellar, so that you can see there were not any special advantageous conditions to preserve the fruit in good condition.

The Scott's Winter will average in size (most seasons) as large as Fameuse grown here. The trees from which these specimens were taken are about fifteen years old. In the same orchard, at Como, are Winter St. Lawrence, Canada Baldwin, and Fameuse, and there are none more healthy or prolific than the Scott's Winter. As to hardiness, I believe it surpassed either Canada Baldwin or Fameuse in this climate, and ranks next to Duchess and Wealthy.

From the standpoint of a fruit grower of Quebec Province, Scott's Winter, in my opinion, is, by far, the best late winter apple to grow, and its handsome appearance and freedom from spotting make it the most profitable winter variety and should be recommended where less hardy varieties fail.

Mr. A. A. Wright, of Renfrew, Ont., writes as follows regarding this apple: Fruit growers in the cold north labor under great disadvantages; only the very hardiest fruit-bearing trees can be grown with anything like success. Among apples, Scott's Winter holds a very prominent place, in consequence of the cold-resisting properties of the tree, as well as for the beauty and good-keeping qualities of its fruit. It is not of superior quality, but its appearance is so much better than the great majority of apples, that it sells readily, and is, consequently, a very remunerative crop. In autumn, when the tree is laden with fruit, it is really a sight to behold, and at a distance looks almost like a ball of fire, so highly colored is the fruit. It is not, however, the most desirable apple for the northern fruit grower, the Wealthy being, in many respects, its superior.

Mr. G. C. Caston, of Craighurst, writes: The Scott's Winter apple seems quite hardy here, and would, no doubt, succeed in all the northern parts of the province where any other apple will grow. It has the advantage of being a winter variety. It is of medium size, well colored, a very good cooking apple,

but does not rank high for dessert, nor does it market as well as some of the larger red apples. Yet, it will keep well until spring, a time when any fair to good red apple will sell well. Altogether, it is worthy of trial for the colder districts.

In reply to an inquiry just made, Dr. Hoskins writes: In reference to Scott's Winter apple, I probably cannot do better than to copy what so expert a pomologist and experienced fruit-grower as Secretary Gilbert of the Maine Board of Agriculture said of it, not long since, in the *Maine Farmer*: "Full medium in size, very heavy, with small seed cavities. Fresh, crisp, juicy, and melting; and, while quite acid, yet rich, and peculiarly agreeable for eating out of hand. Such a late-keeping iron-clad—if it does as well here as in its native State—ought to be in all the orchards throughout Northern Maine." Prof. Budd says it is rather hardier than Wealthy in the north western states (east of the Rocky Mountains). My own experience with it for over twenty years is every way favorable. I planted a considerable orchard seventeen years ago, half of Wealthy and half of Scott's Winter, set alternately in the rows. The Wealthys have nearly all borne themselves to death, while the Scott's are all perfect. It yields as many merchantable apples as Wealthy, without the tendency to over-bear and break down. The wood is remarkably strong to resist both the wind and the weight of crop. I am still planting it as my leading apple for profit, here. In a milder climate I might prefer something else, as better known in the great markets, yet, in 1890, my whole crop off it brought me \$4 per barrel at the orchard. I hope we may find an equally good apple and long-keeper among the Russians, but I hardly expect to do so.

HOW TO GROW QUINCES.

To be successful with quinces a deep, strong soil should be selected, which has a good drainage. It may be necessary in some cases to put in tile to obtain this result. Then run the sub-soil plow through at least 15 inches deep. The trees should be set in the spring, 10 by 10 ft. or in rows 12 ft. apart and in trees 8 ft. from each other in the rows. Especial pains should be taken to have the trees of good vigor, while the Orange or Champion varieties are to be preferred. Manure the ground heavily with rich stable manure, favoring the trees and spreading it broadcast. Afterward manure well annually. Stable manure is always the best and should be spread on evenly. Never stop manuring until you get 60 quinces per bushel, which is possible in most instances. Prune the trees from the beginning so as to have them models in shape, but use only the knife and never too much at one time. They give the best satisfaction when pruned so they will branch low. Borers must be specially guarded against. Examine the trees at least twice a year, using a corded knife, and soap about the base. Leaf-blight is another disease with which many trees are covered. To stop it begin early in the season with the Bordeaux mixture and repeat the spraying once in three or four weeks until August. This will save the foliage and secure good ripe fruit. Full directions for applying this mixture are given in one of the bulletins issued by the Storrs, Ct., Experiment Station.—P. M. AUGUR, *Connecticut State Pomologist, Farm and Home.*

GARDEN AND ORCHARD.

AN AMATEUR'S EXPERIENCE.



FOR over twenty years the writer of these rambling notes has been a member of the Fruit Growers' Association. During that period the Annual Reports issued by the Society, Beadle's *Fruit, Flower and Kitchen Gardener*, and later on the CANADIAN HORTICULTURIST, coupled with a number of nurserymen's illustrated and descriptive catalogues, became valuable aids in developing a taste for floral and horticultural surroundings. Like the most of new beginners my principal fault arose from going in for too many varieties, and it goes without saying that my ventures with the "latest" were not always crowned with success. Failures there have been—many of them in that line—still these rumors only served to strengthen the determination to succeed, exercise greater caution in my selections, and never to waver in a proper appreciation of what is left of the hardy, good and true.

Apples.—There are about forty different kinds in my orchard and garden. After studying the matter thoughtfully, I have come to the conclusion that the following, in the order named, are hard to beat in this section: *Summer*—Red Astrachan, Yellow Transparent, Early Strawberry, and Benoni. *Autumn*—Duchess of Oldenburg (the queen of apples in its season), Red Beitigheimer, St. Lawrence, Alexander, Fall Pippin, Maiden's Blush, Kentish Fillbasket, and Keswick Codlin. *Winter*—Blenheim Orange, Ontario, King of Tompkins, American Golden Russet, Ribston, Wealthy, Hubbardson's Nonsuch, Northern Spy, Pewaukee, Baldwin, Peck's Pleasant, and Grimes' Golden. Early Harvest and Fameuse spot badly. The former was cut down last fall; the latter, along with Early Joe, Colvert, Pomme Grise, and several others, will be converted by grafting into Blenheims.

Tetofskys, with the exception of one specimen tree, I topworked with Baldwins. Gravenstein, Greening, Swaar, Wagener, and Spitzenburg are too tender for these parts. Ben Davis and Hawthornden are great croppers, but the fruit is not much in demand. Chenango Strawberry, Mother, Swazie P. Grise, and Yellow Belleflower are home favorites in their respective seasons, though, as a rule, poor market sorts. Grand Sultan and Princess Louise have not fruited with me yet. Hyslop and Transcendant Crabs make splendid cider.

Next in order come the *Pears*. At one time my list called for twenty-three varieties; nearly one-half of which, like the "Flowers o' the Forest," are a' wede away. The remainder are placed according to merit: Clapp's Favorite, Bartlett

(topworked), Flemish Beauty, Louise Bonne (small but prolific), Beurre D'Anjou, Brandywine, Duchess d'Angouleme, Ananas d'ete, Beurre Diel, White Doyenne, and Elliott's Early. Kieffer keeps growing; I await its first fruiting with considerable curiosity. I trust there is no disappointment in store for me. I am used to that, however. Flemish Beauty and White Doyenne are liable to spot and crack. The former was substituted for Goodale at time of distribution. A friend close by received the latter, and it fruited and pleased him well until the tree was blown down in a wind storm.

Plums.—Away back in the seventies, this portion of South Perth was highly favored by abundant crops of this useful, and withal, delightful, fruit. The scene is changed. Instead of our thrifty matrons having to look in vain for a ready and profitable outlet for the heavy yields from their Lombards, Green Gages, Washingtons, Bradshaws, etc., which were, for want of purchasers, too often allowed to rot upon the grounds, they have now—in the most of cases—to depend on distant marts for sufficient of the same to meet their home requirements. The terribly severe winters and late frosts of 1877-'78 played sad havoc with the more tender sorts of apples, pears, and plums, and what remained of the last, excepting a very few, fell an easy prey to black knot and the curculio. Going over the roll call lately shows that Pond's Seedling, Imperial Gage, Prince's Yellow Gage, Quackenbos, Victoria, and some Lombard Seedlings, are still to the fore. Possibly an annual dressing each fall of lime, hen manure and hardwood ashes, has kept them in a thriving condition, aided, no doubt, by constant amputation of diseased parts and keeping a watchful eye after the mischievous little "Turk." The Saunders and Prunus Simoni have yet to make good their claims to favorable recognition. The Glass Seedling, however, is a conundrum to me. The same was heralded in by a great flourish of trumpets as hardy, productive, etc. True, nothing can be said against its hardiness; that is all right. But what about its fruitfulness? During these long years of hope deferred, it has never shown one specimen of its wonderful fruit. Perhaps, like the Northern Spy apple, it shows its moneyed value by age. If so, the Glass has considerable shortage to make up before it overflows with profit to the owner.

Cherries, particularly the Hearts and Bigarreau, have not the requisite stamina in them to withstand our chilling blasts and low temperatures. Black Tartarian, Napoleon and Yellow Spanish have been tried and found wanting. Early Richmond and Late Kentish are our mainstay for dessert and cooking purposes. Ostheim is doing well, and believe it will show its colors ere the "dog days" are over. Our locality is not suitable for the successful cultivation of quinces, peaches and apricots, consequently they are left alone by us to luxuriate along the sunny slopes of the Niagara peninsula.

Grapes.—Ah! who doesn't enjoy a bunch of this luscious fruit or a glass of excellent wine from the juice of the Clinton? This culture has been one of my hobbies, and my collection (amateur like, of course), is a pretty extensive one. Wilder, Lindley, Agawam, Merrimac, Salem, Martha, Creveling, Concord, Hart-

ford, Delaware, Isabella and Champion, formed my first investment. These were gradually supplemented by Burnet, Prentiss, Pocklington, Lady Washington, Worden, Brighton, Jefferson, Lady, Niagara, Moore's Early, Jessica, Vergennes, Moyer, and Mills. The first four of the Rogers came fully up to expectation; in fact, actually astonished the people living in this vicinity by their superior fruiting qualities. By degrees they became too much shaded by apple trees on either side of them, and had to be substituted and placed in a sunnier position, where they promise to repeat their former excellence. The Salem mildewed, and were rooted out shortly after they were planted. Have discarded Burnet, Isabella, Hartford and Creveling some time ago, and lately Pocklington and Lady, after several trials. If there is no improvement with Moore's Early this season, it will be numbered amongst the absentees hereafter. Martha, Delaware, Jefferson and Prentiss barely holding their own. I look upon Lindley as being the best red by long odds. Concord and Wilder still lead in blacks with us. About the whites, and especially the newer kinds, it is too soon to express a correct opinion regarding them. May do so later on. The vines are pruned and laid down in the fall, and usually have a sufficient covering of snow to protect them during the trying months of winter and spring.

Gooseberries seem to feel at home in this neighborhood. Downing, Houghton, and Smith's Improved seldom fail to produce good crops. Industry, Crown Bob, Ocean Wave, Pearl, and Whitesmith are, apparently, taking kindly to the change, and, from their first showing, evidently going to give a good account of themselves. So far they have been exempt from mildew.

Currants.—Fay and Victoria fill the bill nicely for wine and jelly. Cherry and White Grape are excellent table varieties, but there is not much money in either sorts. Lee and Black Naples will be dug up this fall if their fruiting qualities don't show to better advantage.

Raspberries.—Have tested most of the leading kinds, and now confine myself to the following Reds: Turner, Shaffer's Colossal and Cuthbert. Black Caps: Souhegan and Gregg. Yellows: Caroline, for hardiness and fruitfulness was considered a decided acquisition until Golden Queen entered the lists and carried off the coveted prize. How a plate of this delightful berry and Jersey cream would tickle the palate of an epicure!

Blackberries.—Taylor's Prolific and Kittatinny are not hardy enough. Lucretia Dewberry, and Russian Mulberry will probably be hoisted on to the brush heap before the summer comes to a close, as no good.

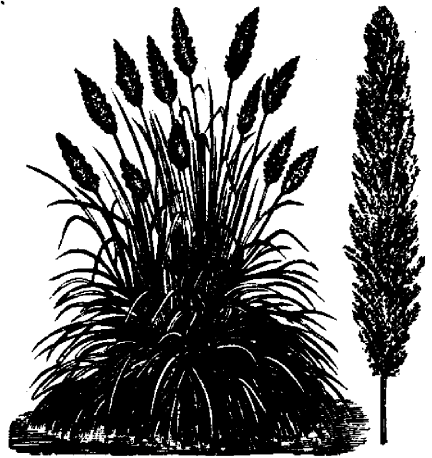
Strawberries.—It is natural to suppose some of the latest novelties would come in for a share of my attention. Col. Cheney, Jessie, Pine Apple, and Gandy's Prize, are having their innings at present, to be followed, in all likelihood, by something better in the near future. Jessie is a splendid berry, but a little shy. Have great faith in spraying the fruit trees with the copper carbonate; making preparations to give them an early application of these compounds this season. Ornamental trees, shrubs, hedges, roses, etc., may be briefly referred to in another article later on.

Russeldale, Ont.

J. D. STEWART.

PAMPAS GRASS (*GYNERIUM ARGENTEUM*).

THE accompanying illustration represents a tuft of the beautiful plant, Pampas grass, which grows so freely in California. Although of a tropical character, it is almost hardy enough to endure our climate with a little protection. The genus comprises three species, of which this variety is the most desirable. It flourishes best on a light, sandy soil well enriched. In England they grow it out of doors in sheltered spots. The huge spikes of flowers attain a height of from six to ten feet. The leaves are linear, and from four to six feet in length. These blooms are cut off in the early part of the summer and preserved in a dry state for ornamental use in decorations. Unfortunately, this plant is not sufficiently hardy for the outdoor garden in Canada, but some of our readers may succeed with it by giving it protection in the winter. Mr. John McAinsh, of St. Mary's, wrote in the *CANADIAN HORTICULTURIST* for 1880, that he has tried growing the Pampas grass out of doors. He was successful for two winters, by carefully covering it with a box about a foot in height, without top or bottom. He filled the inside with pea straw and banked up the outside with earth.

FIG. 45.—*GYNERIUM ARGENTEUM*.

THE cabbage worm is very easily and cheaply disposed of by the application of Bubach, either in powder form or in spray. This remedy seems to be sure death to most caterpillars. The tent-caterpillar also yields when a few puffs of the powder are blown into the tent at the time when the enemy is in camp, night or morning. Plants which have recently been set should receive careful attention. Frequent stirring of the surface soil will directly benefit them by promoting their growth, and indirectly prove still more useful by keeping the land clean. The newly set plants are comparatively weak, and cannot make a vigorous growth in land that is allowed to become filled with weeds or grass. If there are vacant places in the strawberry beds, they can be filled if strong plants are at hand, the blossom stems removed, the transplanting carefully done, and the plants protected from the sun for a few days.

OUTLINE OF PLANS FOR USING FUNGICIDES AND INSECTICIDES FOR 1892.

FOR THE APPLE.



PRAY for the destruction of the spores of the apple scab and leaf blight, with sulphate of copper (blue vitriol), one pound to twenty-five gallons of water, or sulphate of iron (copperas), one pound to two gallons. For the destruction of the tent caterpillar, canker worm and bud moth, use the Bordeaux mixture, one-half strength, with Paris green, one pound to 150 gallons, just before the blossoms unfold, and for the same and the codling moth, as soon as the petals have fallen. Make a third application of the Bordeaux mixture and Paris green in about two weeks from the time the petals fall, should there have been heavy rains since the last application; then use the ammoniacal carbonate of copper, one pound to 50 gallons of water, at intervals of from two to four weeks, according to the weather, until the middle of August. We would recommend the trial of sulphate of copper, one pound to 500 and 800 gallons of water, after the middle of June. Should no rain occur after the use of any fungicide or insecticide, no further application need be made until it does rain, but if the interval has been long, spraying should immediately follow a heavy rain.

FOR THE PEAR.

For the pear scab, leaf blight and cracking of the fruit, and codling moth, the same treatment should be given as for the apple, except that no Paris green need be used until after the petals have fallen, and only two applications of that need be made. If the pear tree psylla should appear, spray the trees thoroughly with the kerosene emulsion, one part to twenty parts of water.

FOR THE PLUM.

We would advise the same treatment as given to the apple and the pear, for the plum leaf blight, black wart and the fruit rot. For the plum curculio, use the Bordeaux mixture, one-half strength, with Paris green, one pound to 200 gallons. One application of the ammoniacal carbonate of copper should be made after the middle of August, to prevent the rotting of the fruit and the leaf blight.

FOR THE PEACH.

To destroy the plum curculio, spray with the Bordeaux mixture, one-fourth strength, and Paris green, one pound to 200 gallons. For the fruit rot, spray with the ammoniacal carbonate of copper, one pound to 50 gallons of water. Try the sulphate of copper, one pound to 100 gallons of water, for the fruit rot.

FOR THE GRAPE.

Spray with the concentrated solution of sulphate of copper every part of the vines and trellis before the buds unfold. Just before the blossom buds unfold, spray with the Bordeaux mixture, one-half strength, with Paris green, one pound to 100 gallons. As soon as the petals have fallen, spray again with the same; then at intervals of about two weeks use the ammoniacal carbonate of copper, one pound to 25 gallons. Try the sulphate of copper, one pound to 500 and 800 gallons of water at the same intervals.

FOR RASPBERRY AND BLACKBERRY.

For the anthracnose of the blackcaps, and the yellow rust of the blackberry, use the concentrated solution of sulphate of copper, before the buds open. Then spray with the Bordeaux mixture one-half strength, or the ammoniacal carbonate of copper before the blossom buds unfold, and two or three times after the fruit has been gathered, at intervals of two or three weeks. The first disease attacks the canes principally, and more attention in spraying should be given to them than to the leaves.

FOR THE STRAWBERRY.

Spray with the Bordeaux mixture, one-half strength, and Paris green, one pound to 100 gallons, for the leaf blight and the "spotted paria," as soon as growth begins in the spring. Just before the blossoms open, use the Bordeaux mixture, same strength, *but no Paris green*. After the fruit has been gathered, Paris green and the Bordeaux mixture should be used if the bed or field is to be carried through another season.

FOR THE POTATO.

As soon as the larvæ of the potato beetle begin to appear, spray with the Bordeaux mixture, one-half strength, and Paris green, one pound to 100 gallons. Use the same mixture as often as they appear in sufficient numbers to be injurious. If the weather should be warm and moist, applications should be made at intervals of from one to three weeks after the vines have blossomed, of the Bordeaux mixture, one-half strength, or the ammoniacal carbonate of copper, one pound to 50 gallons of water, even if there are no larvæ present. The sulphate of copper, one pound to 500 gallons, should also be tried on a small scale to test its value.—*Hatch Exper. Station, Mass.*

BLACKBERRY.—The Snyder and Ancient Briton have the lead. Do not plant unless you decide to cover in winter, which will bring crops that will surprise the novice. The Ancient Briton is fully equal to the Snyder in size, quality, and quantity of fruit, and the canes are smaller, tougher, and easier to cover.—*Orchard and Garden.*

FRUITS TESTED AT MAPLEHURST.



HAVING one hundred acres devoted to fruit culture, and a very extended list of varieties under cultivation, some occasional notes may be of general interest to our readers.

Out of fifty varieties of strawberries which we have been testing the last two or three years, we find that very few prove themselves worthy of cultivation for profit.

On consulting our field notes, taken last season, we find the Bubach heading the list as the best market berry of the whole lot. It averages larger than any other variety, and, besides, is very productive. It is pistillate and, therefore, needs a staminate variety planted near. One of the great points in its favor is its power of enduring the drouth, which plays such havoc with the strawberry crop. Its chief fault is, that it is somewhat soft to carry to distant markets.

LITTLE'S NO. 10 compares favorably with the Bubach in size and productiveness. The fruit is large, conical, slightly flattened, with several depressions. The color outside is a deep red and glossy; the flesh inside is similar. The flavor is sprightly and agreeable, excelling in this respect the Bubach. It has a perfect flower. This variety originated at Granton, Ontario.

THE EUREKA, a variety which originated in Ohio, has done well at Maplehurst. Mr. Craig, of the Experimental Farm, Ottawa, however, does not speak favorably of it. The plant is very healthy, and very productive, the berry not quite as large as the Bubach or Little's No. 10, but firmer. The shape is conical, chopped off at the point. It is a good quality.

THE LOGAN is a new berry from Indiana. This plant is a good thrifty grower and very productive. The berry is large, roundish, even form and of good quality. It is certainly a promising berry.

THE HAVERLAND is another variety standing in the first rank as a market berry. It is a vigorous, healthy grower and very productive. The fruit is quite peculiar, being very long and of a light red color. It is moderately firm, medium in quality and colors evenly over all the exterior. We regard this berry with more favor than we do the Warfield, a variety which is highly prized in Illinois, as being a market berry, and which is said to be a seedling of the Crescent.

MRS. CLEVELAND is another rather promising market berry. The plant is vigorous and healthy, and a fairly good bearer. The berries average medium to large.

THE JESSIE was planted with a great deal of expectation and carefully petted; and truly some of its first berries were wonderfully large and fine. A plate of them quite astonished two or three of our directors, who called one evening; they almost thought a carving knife was necessary to prepare them for eating. But, after the first few large berries are gathered from the plant, the

rest are quite small, and, the second season, there are very few large ones, even amongst the first berries. It is, therefore, not worthy of a place in the market garden.

THE PARRY is a fairly vigorous plant. Its berries are borne on long upright stalks, which stand stiffly above the leaves. On this account it appears to carry a heavier crop than it really does. It may, however, be called a productive berry. The fruit is large, smooth and rather attractive looking. It produces very few runners, however, and the rows, in consequence, soon become rather thin.

Among the list which we have put down as being discarded from the market plantation are the following: Ohio, Burt, Pineapple, Itasca, Cloud, Seneca Queen, Belmont, May King and Downing.

THE WOOLVERTON berry, which was on our list of distribution for a time, was originated by Mr. John Little, of Granton, Ont., and is considered by him one of his best seedlings. Mr. Crawford, of Ohio, has tested it and considers it a variety of great merit. The fruit is large, resembling the Bubach in form. Our plants of it failed to grow, and, therefore, we cannot report upon its merits.

MODERN FRUIT ROOMS.



THE most approved method is to have the building wholly above ground, and to double or treble the walls. In climates where the temperature does not go much below zero, a well-constructed double wall, double doors and double window sash would be quite safe. For greater security, supposing the walls to be wood, the inside faces of the double wall should be lined with felt. The roof should be also double, with provision for a ventilator if it should be found necessary to use one. This may not be required if windows are so arranged that there can be a current of air passed through now and then. Air should not be given except when the temperature outside equals that within; otherwise there will be a troublesome condensation of moisture, which is what we should try to avoid. The interior should have as many shelves as can be conveniently placed, on which the fruit is to be spread, and so arranged as to be easy of access for handling and observation. The fruit may be several courses thick on the shelves, even heaped, without injury, provided we secure the best conditions for preserving it; hay may be placed over the fruit if there is danger of frost penetrating, but this should be avoided, if possible, because a fruit house should be a show house equal to a greenhouse of pretty flowers; and, indeed, there are few more beautiful sights to which to invite friends than a well-ordered fruit house, with every variety on its own separate shelf, and presenting to the beholder the most glorious reasons for its existence.—*Ohio Farmer.*

FERTILIZERS FOR ORCHARDS.



S a fertilizer we have made use of unleached wood ashes. On most soils no other fertilizer need be used for a number of years, but on light or exhausted soils the application of perhaps twenty loads of decomposed stable manure, or, if this cannot be obtained, of fifty pounds nitrate of soda and two hundred pounds of fine ground bone per acre which, with one hundred bushels of ashes, will make a complete fertilizer. In case the fresh ashes cannot be obtained, two or three times the quantity mentioned of leached ashes would have a marked effect. Wood ashes have a tendency to solidify and compact the soil, hence they are excellent on light land, but care should be taken not to use them to excess on heavy soils.

Coal ashes have a similar effect on the physical condition of sandy soils, and may be used for this purpose, but they *do not* furnish any food for plants, that is of value.

For young trees, the quantities mentioned are much too large, unless the fertilizers are to be applied broadcast for other crops, but, in old bearing orchards, the amounts can often be increased with profit, and it should be spread over the entire soil, as the feeding roots of the plants are, for the most part, outside a circle ten feet in diameter drawn around the tree.

Where potash is needed in the soil, as is frequently the case with bearing orchards, and wood ashes cannot be obtained, it can be secured as muriate or sulphate of potash. These are waste materials from German salt mines, and sell at about \$40 per ton for the muriate and \$25 for the latter, the price varying with the amount of potash they contain. It is from these salts that the manufacturers of the high grade commercial fertilizers obtain their potash.

Two hundred pounds of muriate of potash will supply an abundance of potash for a bearing orchard, if the soil is moderately rich, while a much smaller quantity will generally have a very marked effect on young trees. The other materials most likely to be needed by trees, and in fact by all crops, are nitrogen and phosphorus, and in case stable manure is not readily obtainable to supply them, recourse can often be had with profit, to chemical fertilizers. As a rule, the best source for nitrogen is in the form of nitrate of soda or, as it is commonly called, Chili saltpetre. This costs from \$45 to \$50 per ton at the sea-board, and, as not over 100 pounds per acre are usually required, the expense is not great. Among the other materials rich in nitrogen, are sulphate of ammonia, a waste product of gas houses, and dried blood, etc., from slaughter houses.

As a source of phosphoric acid, fine ground bone is largely used, although dissolved bone black will give quicker effects.

From 200 to 400 pounds of these materials per acre should be enough.

As a formula for mixing the above materials, for an acre of apples or other fruits, we would then have

50 to 100 pounds nitrate of soda.
100 to 200 pounds muriate of potash.
200 to 400 pounds ground bone.

If 50 to 100 bushels of unleached wood ashes could be obtained, they would more than take the place of the potash, and would supply perhaps one-half of the phosphoric acid required.

Before using any chemical fertilizers to any extent, it is well to test the effect of each of the above materials on separate plats, in order to learn if they have any effect. Oftentimes one or more of them will be found to be present in sufficiently large quantities, and if more was applied it would only be wasted.

The soluble chemicals should only be applied in the spring, or, better yet, after growth has commenced; they should generally be scattered broadcast, and harrowed or dragged, rather than plowed in. Precautions should be taken, not to bring these chemical fertilizers in contact with the roots of trees, as the results might be disastrous.

L. R. TAFT.

*Bulletin 81, Agricultural College, Mich.,
March 1, 1892.*

HOGS IN THE ORCHARD.—Sheep leave their manure merely as a top-dressing for the orchard; hogs work theirs into the soil. Sheep harden the ground; hogs disturb the turf and leave it uneven, but you get finer fruit in consequence. Sheep eat all the tender twigs and leaves they can get hold of; hogs seldom touch the limbs. Hogs sometimes disturb the roots, but this is oftener beneficial than otherwise. An orchard set 50 years ago was not bearing fruit of any value. Two acres of it were fenced and some hogs turned in. The next year more of the orchard was included and more hogs allowed to run in it. They turned over every inch of the sod and kept down the weeds, and the trees bore a good crop. This year the fence was moved to include two rows of trees formerly in the sheep pasture, and the improvement is very marked. The difference in the two parts of the orchard where the hogs and sheep run is so much in favor of the former that it can be seen for half a mile.

Young orchards should be given a thorough cultivation during the first few years after planting, providing sufficient fertilizing material is supplied. Many of the most profitable orchards are on such steep hillsides that they cannot be cultivated, and in these is the place to let the hogs do the work. While an orchard will do well in sod if thoroughly mulched, yet it will do better if the sod is turned under, the soil stirred and loosened about the trees.—*Farm and Home.*

PEACHES FOR MARKET.

THINNING, PICKING, SORTING AND SELLING.



AS to the experiment with the borer wash, Mr. Hale found that 90 per cent. of the trees washed were free from the pest, while 90 per cent. of the unwashed trees suffered from their attacks. Speaking of this subject, he says :

After the first three years and our orchard had grown larger we quit using soft-soap and substituted caustic potash, as the only object of the soap was to smooth the bark that there might be less chances for rough places for the mother beetle to deposit the eggs which hatch out and make the borer. Potash answers the purpose just as well. We also add white arsenic, as it makes good feed for mice and rabbits that try to live on peach bark. Some clay or fresh cowdung is also put into the mixture as it helps to adhere to the tree better than when lime alone is used.

"Experience has taught me," said Mr. Hale to the *Tribune* reporter, "that raspberries or other plants take from the peach trees substance which should be theirs and induce the yellows and decay. So we give up the land entirely to the trees and after the second year we spread fertilizers broadcast all over the ground early in the spring and keep the ground free with harrow and single-horse cultivator. Every year, whether we have any fruit or not, the orchards have had from 1,000 to 1,200 pounds of fine ground raw bone, and 300 to 500 pounds of 80 per cent. muriate of potash per acre."

There is a vast difference in varieties as to hardiness. The Crawfords, early and late, gave us one light and one full crop in ten years, while Alexander, Smock and Hill's Chili produce good crops every year. Mountain Rose, Oldmixon, Stump, Keyport, Ward's Late and Stevens gave three full crops and two partial ones in ten years. More than 80 per cent. of our trees are about equally divided between Stump, Mountain Rose and Oldmixon. Therefore, although we had over 6,000 trees planted previous to 1881, it was not till 1887 that we had any considerable crop of fruit. Those that blossomed full were very closely pruned by the shortening-in and thinning-out process, cutting away fully one-half of the fruit that had started. Then early in July when the fruit was three-quarters of an inch or so in diameter we began thinning by hand-picking, leaving the best specimens not nearer than four inches apart. To accomplish this on some 600 of the trees we had to take out about four out of every five peaches.

This thinning was a slow and somewhat costly undertaking and some of the help on the farm as well as some of the neighbors thought we were a "little off" t, "wait six years for a crop of peaches and then destroy it when half-grown."

So to please them as well as to satisfy my own horticultural curiosity, a few of the full fruiting trees were left without thinning, with the result in the fall of about the same yield in baskets per tree from the unthinned as from those where four-fifths of the fruit had been thrown away when green. However, the fruit of the latter was of such large size and superior color and flavor that it readily sold on the average for more than double that from the trees where all the fruit had been allowed to grow, aside from the fact that the first named trees were not exhausted one-half as much, not having had to produce more than one-quarter as many pits, which contain the reproductive power that saps the vitality of plant as well as animal life.

The system of picking, sorting and selling the fruit is as methodical and perfect as the system of planting and cultivation. There are scattered through the orchards buildings where the pickers live, and in which the fruit is sorted and put in baskets made of an extra whiteness. Nothing is left undone to make the fruit tempting, that it may command the highest market price. The orchards are not picked until the fruit is fully ripened. Owing to the lowness of the trees most of the fruit is picked from the ground. Step-ladders are used to gather in the top fruit. The muriate of potash used so lavishly gives the peaches a high color, and the Hales' orchards when the product is ripe are beautiful to behold. The fruit is sorted into "fancy," "No. 1" and "seconds" by girls with light and nimble fingers, placed in their whitewood baskets and taken in wagons to Hartford, where they are displayed and sold in a warehouse rented by the Hales themselves, so that all commissions are avoided. "Fancy" peaches were three inches or more in diameter. Fifty per cent. of the product was of this description.

—J. HALE, in *New York Tribune*.

CURRENTS.—The best currant to grow for home use is the White Grape. Its fruit is sweetest and best for dessert use, its jelly has the best flavor, and it is superior to all others in quality for canning. If a late red berry is wanted, the Victoria is not excelled for northern culture. The Fay is larger, but it is more sprawling and delicate in habit and the fruit is poorer in quality. If you want first-class currants in size and quality, set in rows in the open sunshine, cultivate thoroughly, and manure heavily. In pruning, permit the new wood to come on and cut out the wood that is four years old or upward. The Black Naples currant has a value not realized, except by our settlers from England. By scalding the fruit for a few moments in boiling water, and then putting into fresh water for cooking, the peculiar flavor of the skin is removed, and when canned for winter use it is much like the cranberry sauce in flavor and color. In growing the black currant, it must be kept in mind that it is borne on wood of the preceding year's growth, and to secure a succession of new wood it is necessary to cut back the points of growth each fall. The Crandall has no relative value for any use.—*Orchard and Garden*.

SPRAYING CROPS.*



AT the present time there is no subject of more interest to fruit-growers than the proper way to spray fruit trees to protect the crop from the attacks of injurious insects. A very concise and handy little book has lately been published by Prof. Clarence M. Weed, of Hanover, New Hampshire, upon this subject. It consists of an introduction in which the methods, apparatus and materials necessary for spraying crops to protect them against their insect and fungous enemies are described. This is followed by four chapters, entitled: Part I., spraying the larger fruits, apple, plum, cherry, pear, peaches. Part II., spraying small fruits and nursery stock, strawberries, currants, gooseberries, grape, raspberry, nursery stock, Part III., spraying shade trees, ornamental plants and flowers, shade-trees, roses, flowers. Part IV., spraying vegetables, field crops and domestic animals. Prof. Weed's experience makes him a valuable guide in the subjects of which he treats. He was one of the very first experimenters to discover a combined insecticide and fungicide, which, in the case of the potato rot and potato beetle, has turned out very successfully, so that now both of these scourges may be treated at once with little more expense. The instructions are given in a short plain manner, and the book is well illustrated. Its convenient size and small price make it a welcome addition to the books of value within the reach of every farmer in the country. Bound up with it are advertisements of the makers of the best spraying outfits, which will be found of use to those wishing to buy these useful instruments.

J. F.

THE PEACH ROSETTE.—This formidable disease of the peach is fully described and figured in Prof. E. F. Smith's able and copious report issued by the Department of Agriculture. It seems to occupy the ground in the South that the yellows covers through the North and in the Central States, but it is more speedy in its work of destruction. It is equally fatal to budded trees and seedlings, cultivated, uncultivated and wild. It takes the Wild Goose and other wild plums. It runs its course in about six months, and does not linger. Commonly, it first appears in early spring. The leaves form compact tufts or rosettes, turn yellow in early summer, and afterwards fall. They do not afford enough shade to hide the branches, and the tufts are conspicuous and may be seen at long distance. They drop their fruit early; it is small, green and more or less shriveled. It has occurred abundantly in Northern Georgia, but not in South and North Carolina. It differs from the yellows in the absence of prematurely-ripening fruit, and in a less tendency to develop slender shoots from the large limbs. It is virulently contagious. Extermination is of course the only remedy.

*SPRAYING CROPS, by Prof. Clarence M. Weed: The Rural Publishing Co., New York, 1892, 75c.

BEGINNING GARDENING.

Large profits are often made by the gardener. They have to be large per acre, because if not, they would not afford a living for himself and family and some surplus to lay by for future use. Often the owners of near-by land think that what one man has done others can do, and so they begin to imitate as far as possible. They usually forget one most important fact. The successful gardener has been years bringing up his soil to the point where all the labor he puts on it will pay. The beginner may think that by carting on extra loads of manure, covering the ground as deeply as it can be plowed under, he can make the soil rich enough in a single season to secure paying results. What is the consequence? Unless the season be extremely wet the manure fails to rot, and drying the land still more, does little, if any good.

For many kinds of crops the experienced gardener would not think of applying coarse, unfermented manure from the stable. He uses such manure for the coarser crops, early potatoes, sweet corn and cabbage. The frequent and thorough cultivation such crops require works the manure through the soil and greatly helps in decomposing it. This fills the soil with vegetable matter rich in nitrogen. The second year stable manure is not applied, but a dressing of mineral manure, phosphate and nitrates of soda or potash. These are more immediately available than stable manure, and with the remains of stable manure left over make a better crop the second year than the first.

It is a great help in beginning gardening on ordinary farm land, if it can be begun the first year on a clover sod plowed in the fall, and as much fine manure as can be used as top dressing through the winter. Where all these advantages can be had it is possible, with a light dressing of nitrate of soda, to bring ordinary farm land into fair condition for gardening the first year. The chief difficulty will be, not in lack of fertility, but in excess of weeds stimulated to more vigorous growth by such excess of plant food. It is for this reason that the coarser crops, that can be cultivated mainly with horse power, are necessary, however thoroughly the land is fertilized. One year's thorough cultivation of such crops under high manuring will start and kill a large proportion of dormant weed seeds in the soil. Many years of perfectly clean cultivation, never allowing a weed to mature its seeds, will not destroy all. Most weed seeds need to be very close to the surface to germinate. Many years of successive plowings will every time bring new seeds to the proper conditions for germinating.—
American Cultivator.

ONE of the attractive features of the Australian exhibit at the Chicago Fair will be tree ferns from Sidney, New South Wales. These have always been a popular exhibit at London expositions. Chief Samuels has been assured by Arthur Renwick, Commissioner for New South Wales, that a number of rare specimens will be sent. The ferns vary in height from eight to fourteen feet. At the close of the Exposition many of them will be given to the park commissioners of Chicago.

STRAWBERRIES.

The bowl of strawberries on the farmer's table is one of the most delightful suggestions of spring, and the taste of them makes it a delicious realization. "Strawberries," writes the poet, "deserve all the good things that may be said of them. They are beautiful to look at, delicious to eat, have a fine odor, and are among the most healthful fruit that we have."

It is said of an eminent French writer, that he attributed his longevity to the free use of them, while good authority places them among the food remedies for fever, weak digestion and gout.

The usual mode of serving strawberries with cream and sugar is very palatable; but country housekeepers will find that a variety in preparing this delicious fruit will render it acceptable every day throughout the season. The following recipes will be found reliable:

Strawberries and Whipped Cream.—Place a layer of strawberries on the bottom of a glass dish, cover with pulverized sugar; then another layer of berries and sugar, cover the top with a pint of whipped cream, the whites of three eggs and a teacupful of sugar. Set on ice one hour before serving.

Strawberry Short Cake.—Stem two quarts of ripe strawberries, sweeten and mash. Make a quart of flour into biscuit dough, roll out an inch and a half thick, put into a greased baking pan, and bake very quickly. When done, take from the oven, split in halves and spread lightly with butter. Place the lower half on a dish, put half the berries on it, cover with the other half, spread with the remaining berries, pour cream around and serve.—*Farm and Home.*

FRAME FOR TOMATOES.—For keeping tomato vines from the ground, I have found it a good way to make a frame by driving posts in the ground each side of the rows of tomatoes leaving one foot or so above ground, and nail narrow strips of board to the sides of these, and on top of these, tack on barrel staves after splitting them into bits an inch or so in width. This makes a good frame for the vines to rest upon, and the tomatoes do not come in contact with the ground at all.—*Orchard and Garden.*

THE PROFIT IN RASPBERRIES.—Raspberries would hardly be a profitable crop at 5c. per qt., unless it was 5c. net, as it costs 1½ to 2½c. per qt., to pick them, to say nothing of expenses of marketing, which are as much more. An average crop is about 1000 qts. per acre for the three or four years which they bear fruit and they soon run out. They ought to bring 8c per qt., to make it a fair business. They do best on a good garden soil, but would grow on sandy land if there was moisture enough in the summer. Well rotted yard manure should be applied every fall and worked in around the roots with a fork. As far north as Nova Scotia and Northern United States they would have to be laid down through the winter, which is neither an expensive nor long job—*Farm and Home.*

The Garden and Lawn.

SUMMER TREATMENT OF CALLA LILIES.

A great many articles have been written on this subject, and it seems as if I had tried every plan given in three years gone by, and finally buried the last of seven nice callas, all killed by excessive kindness, I expect. A year or two ago I started in anew, and made some experiments of my own.

Last June I put a calla bulb in a bed with canna and caladium around a fountain basin, and it received the same treatment as they; it grew slowly all summer. In September I took it up and re-potted it in good, rich dirt. In a few weeks it began to bud, and has had flowers on all winter long. The last bloom was very large, measuring five-and-a-half inches across the top.

It has done the best of any of my callas. This year all the calla bulbs will be planted in the open ground, where they can get the full force of the sun, and only sufficient water to keep them growing slowly. I have not kept the plant as wet as I used to do, and have had more blossoms and larger ones. Keep the leaves washed free from dust, and also to help destroy any stray louse that may endeavor to find a resting-place there.—GYPSY in *Farm and Fireside*.

OUR NATIVE FERNS.

The ferns and brakes of this country are marvellous in beauty and variety. Even those who do not care to study them can get worlds of pleasure in bringing them from the woods and planting in odd spots about the home. The writer had two corners near a portico, as well as a spot nearly a foot wide in front of the house, where the grass simply would not grow. Plenty of ferns, of assorted sizes, were put in place of the grass, with some odd bits of broken stone scattered between them, interspersed with moss, and what was a constant nuisance came to be the most attractive spot on the grounds. The woods and their associations were constantly with us from early spring until Jack Frost came. Then, too, they were clipped from freely, to mix with cut flowers and for table decoration, and they seemed to like it, as the more we cut the more they grew. Four large fronds of ferns laid around the center dinner dish give a wonderful refreshing effect. Mr. J. S. Van Devoort, of Ohio, in the *Agriculturist* for March, says: "In trying to beautify our lawns and gardens, native plants are too much neglected. There is nothing that for so little work and outlay produces so pleasing results as tastefully arranged beds of ferns in a shady corner of the yard or garden. Various kinds of ferns may easily be obtained in moist woodlands. The proper time to go "ferning" is in early spring when the plants begin to

develop their circinate fronds. Remove the plants with a sharp spade, allowing as much of the soil to remain intact about the roots as possible ; place the roots in a spring wagon and remove them to the place where they are to grow. If the soil is similar to that where they grew, one cannot fail to have ferns, fine, large and beautiful, the first year. To meet with success in fern culture, one must study the plants in their native haunts, so as to be able to supply their needs as to soil, moisture, shade, etc. Ferns are perennial, and do not require transplanting. When once well established, there is nothing more interesting and beautiful in a garden than a native fernery.

SUMMER TREATMENT IN THE VINEYARD.

The checking of superfluous growth by summer pruning is important, as only four canes to each vine are needed for the succeeding year. What we need beyond these is simply foliage sufficient to perfect the present crop of fruit ; hence many suckers and superfluous shoots can be wholly removed, others shortened.

Frequent extreme changes in temperature tend to induce mildew. Sulphur is a specific. At first we bought a small quantity and used a sulphur bellows ; now we mix sulphur with air-slacked lime, about one part in five, and scatter by hand, dusting the vines and ground beneath quite generously. The use of sulphur is usually delayed too long. I would advise its use from June 20, at intervals, up to the period of ripening ; if delayed till the foliage is badly mildewed, the sulphur remedy is about the same as locking the stable door after the horse is stolen. When the foliage is ruined by mildew, sulphur is of no avail.

Grape rot is a source of much trouble to the vineyardist. The affected fruit has black spots upon one side, the work of a fungus which ruins the berries so affected. With varieties in some localities, occasionally this affection is so serious as to nearly or quite destroy the crop. Avoid fermenting manures ; use all available means to maintain a healthy condition of the vines. Remove and destroy all affected berries as soon as possible after they are discovered ; otherwise the spores of the fungus may be multiplied indefinitely.

Success with the grape is generally the result of intelligent care, continuously given, from beginning to end.—P. M. AUGUR, *Connecticut State Pomologist, Farm and Home.*

AMONGST those engaged in plant-growing, none are better acquainted with the advantages of keeping pot plants on a moist bottom than those who cultivate for market ; with them it is now a rare occurrence to meet with anything on dry stages, and the plants which they grow in little pots are marvels of skilful cultivation alike for their healthy foliage and for the quantity of the flowers which they produce.—*The Horticultural Times.*

✦ The Kitchen Garden. ✦

CELERY GROWING.

Would you kindly give very full directions for growing and blanching celery ?

A MONTREAL SUBSCRIBER.

In reply we cannot do better than give the following, from our contemporary, *The New York Herald* :

Celery demands good land, worked fine and made rich by heavy manuring for at least two years previously ; it is idle to attempt growing it on land that is poor and likely to suffer from drought ; choose only good, rich, mellow soil, that does not suffer from drought easily, and if possible, provide a means of watering it liberally in case of dry weather. It is most frequently grown as a second crop after onions, but may be made to follow also early potatoes, cabbage or beets and carrots.

The seed may be sown at the same time with the onions in April, or very early in May, putting it in with a drill in every fifth or sixth row instead of onion seed. Some seed is usually started under glass, sowing it about April 5 ; when sown earlier the plants are very apt to go to seed ; when sown under glass do not sow too thickly ; an ounce of seed is enough for two sashes ; cover the seed very lightly by sprinkling over it a little sifted loam, and keep the surface moist by occasional watering.

In order to avoid too frequent watering, which packs the surface, cover the bed all over with about half an inch of peat moss, which will need to be removed as soon as the seed begins to break ground, or the same result may be obtained by shading the glass whenever the sun is bright.

When the celery plants have four leaves, and before they begin to crowd and become drawn, they should be transplanted or thinned out so as to give them room. They may be set for a time at three inches apart in a bed, if the land is not ready for them, from which they may be transplanted to the field as late as August 1. The portion of the crop set after July 10, however, seldom grows large enough for sale in the fall, and is usually stored for sale in winter and spring.

It is important to keep celery growing steadily. If stunted by a dry spell or very hot weather it is very subject to a disease known as blight, which turns the leaves brown in spots, after which they die ; this disease in bad seasons often destroys a large part of the crop, but it is seldom very troublesome where the celery can be watered and kept growing in dry weather.

As soon as the early crop grown between the celery can be cleaned off, it will help the celery very much to run a small plow between the rows, throwing the earth first from the rows and then back again. This will make the earth mellow and encourage growth.

About a month before it is desired to have the celery ready for the table the earthing up should begin. Three men are required to do the first banking. One holds the leaves together, standing astride the rows, while two others shovel up the banks to about half the height of the leaves. After ten or fifteen days a second banking carries the earth quite to the tops of the leaves, after which the celery must have ten to twenty days, according to the weather, before it will be white enough to eat.

Of course in hot weather it will blanch quickly and slowly in cool weather, and since our weather in the fall is very capricious, it is not easy to keep up a constant supply of celery. In hot weather it will not keep, and in cool weather it blanches slowly, and consequently the market in fall is apt to be fluctuating in price.

By the 1st of November we must make arrangements to store all celery that is not ready for immediate sale. This is done in pits covered with boards, and these again covered with eel grass, leaves or other litter, and with care and skill it may be kept till April in good order. In keeping it much depends on the weather, and also upon the location of the pit and the way it is managed.

The best place for a celery pit is on the north side of a fence or building, where the effect of the sun is not felt, and the covering should be just enough to keep out frost ; the cooler, the better it will keep, so long as it does not freeze.

GOOSEBERRIES.—The great drawback to the successful raising of gooseberries in this country is mildew. It is quite possible, however, to furnish conditions under which the plant may flourish equally as well as in more favorable localities. For instance, we know that the gooseberry delights in a moist, rich and cool soil, which we are able to furnish by deep ploughing, heavy manuring, and mulching the soil thoroughly. To afford protection from the sun, partial shade and a northern location may be chosen ; the northern side of a barn or other building, or even of a board fence, is a great advantage in location. The centre of the bush may be kept open by careful pruning, so that light and air can be admitted freely. Whilst it is not always possible to avoid mildew, especially in seasons when the weather is so favorable to its development, there are many painstaking gardeners who are very successful in growing English varieties which, it is almost impossible to raise, under ordinary circumstances, in this trying climate. The best fertilizing material that we have yet found for the gooseberry, is well-rotted cow manure, applied liberally and well mixed with the soil.—*Orchard and Garden.*

LET the cultivation of the peach be early and often during May, June and July, and then quit, weeds or no weeds. Crowd the growth of wood early in the season, that it may stop early in the fall and have an abundance of time to ripen up early and well, and both wood and fruit buds will stand several degrees more of freezing than it is usually thought possible.

TOMATOES BY THE ACRE.

Tomatoes yield the best crops in heavy loam, that will not pack or bake. The plants, except for early planting, can be raised better out-of-doors, in garden beds. The ground should have a dressing broadcast of 800 bushels to the acre of good, well-rotted barn-yard or hog-pen manure, well and thoroughly plowed in and harrowed down. When the season is well settled, harrow the ground, and furrow out five feet each way; and put in plenty of fine, well-rotted manure at the crossing of the furrows, using about eight hundred bushels to the acre in the hills. Tread down well and cover with soil about three inches deep. Set the plants well down in the ground, pressing the soil well up to them. It is best to wet the roots when setting, as the soil adheres better. Keep the ground clean and loose with the cultivator and the hoe, drawing the soil or hilling them at each dressing.

Tomatoes are marketed by packing in crates holding a strick or Winchester bushel, made of two ends and one middle piece, each three-quarters of an inch thick, eight inches wide and fourteen inches long; with the slats nailed on three inches wide, 22 inches long, and three-quarters of an inch thick. Good heavy mason's lath will answer for slats, leaving a space of one inch for ventilation between them. For a long distance from market they should be picked just as they begin to show a red tinge at the blossom end; but for near-by they must be riper or so they will be ripened when they arrive in the market. Care should be taken not to pack any cracked or wormy ones, as they spoil the rest, and injure the sale of the whole. For Philadelphia market they are usually shipped in five-eighths stave peach baskets, covered with cloth, which are returned to the shipper.—*American Agriculturist*.

HOW TO GROW TOMATOES IN PERFECTION.—Because the generous nature of the tomato yields bountifully with seemingly little care, the general impression prevails that the plant requires but little attention. This is a sad mistake, for there is not a vegetable in the garden that is so gross a feeder, nor one that so readily pays for all the food and care given as the tomato. To grow it to the greatest perfection, the hills should be dug out to the depth of two-and-a-half feet; at the bottom there should be a half bushel of well-rotted manure; above this let the soil be an equal mixture of loam and manure thoroughly mixed. The hills should be at least six feet apart. Let the situation be open, warm, airy. When the fruit begins to set, mulch with clean straw or very small brush. Under these conditions six plants will furnish sufficient tomatoes for a family of twelve persons. Whatever variety may be planted in this manner, the result will show specimens for size, smoothness, and esculent properties, unknown to the variety when grown in the ordinary manner.—*American Agriculturist*.



The Canadian Horticulturist

SUBSCRIPTION PRICE, \$1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

NOTES AND COMMENTS.

TREE WASH.—For washing the trunks of trees to drive away borers and to destroy such insects as may be upon them, carbolic acid and kerosene emulsion is excellent. It consists of one quart of soap, one pint of kerosene, two quarts of water and one pint of carbolic acid.

THE CHERRY AND PEAR TREE SLUG should be watched for carefully and remedies should be applied immediately. Dry dust, coal or wood ashes, plaster, slacked lime, will destroy them; but, if the trees are large and numerous, arsenites may be more readily applied.

NOZZELS FOR SPRAYING.—For orchard spraying the Nixon nozzle makes a mist-like spray and does excellent work, but for the vineyard, and especially with the knapsack sprayer, the Vermorel nozzle is the best, being easily cleaned if clogged. This it is particularly apt to do in applying the Bordeaux mixture, and, therefore, in the use of this fungicide, the Vermorel nozzle is decidedly the most desirable.

PLUM CURCULIO.—Bulletin 83, of the Michigan Agricultural College, notes that the "Little Turk" sometimes appears upon plum trees before the flowers open, and, as it has recently been decreed in the interest of bee keepers that no spraying be done while the trees are in bloom, it will be wise to give an application to our plum trees just before the blooming time, in order to destroy any curculio that might be waiting around to begin its mischievous depredations.

PROTECTING YOUNG TREES FROM MICE.—In bulletin 17 of the Massachusetts Agricultural College, a simple recipe is given for protecting trees from mice. The advice is to paint the trunks of the trees late in the fall, from eighteen

to twenty-two inches from the ground, with a mixture of Portland cement and Paris green ; one tablespoonful of the latter to a gallon of the paint. Only a small quantity of the paint should be mixed at a time, and it should be made thin enough to apply readily with a common paint brush. If mixed with skim milk, the paint adheres better than if mixed with water.

GIRDLING GRAPES.—Dr. Fisher reports, in the same bulletin, that he has been experimenting in girdling grapes in several plots in his vineyard, each plot containing one hundred and twenty vines. As a result of his experiment, he has come to the conclusion that wherever a grape will ripen fairly by the natural processes, girdling is a complete draft upon the gains of the present. With him the increase in weight of fruit was more than offset by the waste, through split berries, and the consequent extra time required to prepare the whole for market. There was no gain in the price from the ten days' earliness. The Concord does not reach the market early enough to command the early prices. Another evil result of girdling was a diminished crop from the vines the ensuing season.

PASTURING STOCK in orchards that have been recently sprayed, is usually considered exceedingly dangerous. We have, ourselves, as a rule, been very careful to avoid turning in horses and cows into an orchard which has been sprayed with Paris green or London purple. It appears from experiments that have lately been carried on in certain experiment stations, that there is much less danger in this regard, than we had supposed. Prof. Cook, of Michigan, pastured sheep and horses under trees that had been sprayed with four times the usual amount of poison, without their receiving any injury. The fact is that the poison, which we apply to the trees of our orchards, is so extremely diluted that the amount falling upon any particular point is almost imperceptible.

LATE KEEPING GRAPES.—We have received from Hon. R. W. Scott, of Ottawa, a package of Agawam grapes, which were grown in the open air on the north-west bank of the Ottawa river, and have been kept in cork dust for eight months, during all which time Mr. Scott states that they have had a supply of grapes of various sorts for the table. He packed five kegs of Delaware, which lasted until Christmas. For the following two months he relied on Lindley and Roger's No. 9, and during March and April he used the Iona and the Agawam. When properly ripened the two last have always proved the best keepers. Mr. Scott does not see why we should not have a constant supply of grapes nine months of the year, by making a proper selection of the varieties, packing them in dry cork dust when the grapes are perfectly ripe, and keeping the kegs in a moderately cool, dry cellar.

APPLES IN LIVERPOOL.—A circular from Messrs. Woodall & Co., dated 3rd of April, gives high quotations for Canadian apples in England. It states that

arrivals have been on a small scale during the month of April, and the shipments are nearly over, but there has been a good demand for Canadian apples and extreme prices have been realized. Some samples, which were excellent in quality and condition, sold from 34s. to 38s. per barrel. This seems encouraging. The season has been the largest on record, the receipts at Liverpool, alone, being nearly one million barrels, and the demand during all the shipping period has been so good that the apples have brought a higher range of prices all through the season than usual. Canadian Baldwins opened the season at 19s. 6d., and since then the lowest prices touched for sound stock was 14s. 6d. The heaviest receipts were in the month of November, amounting to about one quarter of a million barrels, ninety thousand of which were received in one week. But the demand was so good that they were readily bought without causing any decline in the prices. Canadians will be interested in noticing that Canadian Ben Davis apples are quoted at a lower price than either the Baldwin or the Spy.

From this circular it would appear that the arsenic scare, which has been raised by the *Horticultural Times*, has, after all, had very little effect upon apple consumers in Great Britain. They evidently have too much good sense to be so easily deterred from purchasing a good article.

THE EVILS OF THE BLACK KNOT.—Bulletin 40, of the New York Agricultural Experiment Station, is devoted to the black knot, and gives some instances of the terrible nature of this disease.

Mr. G. D. Powell, of Ghent, gives the following as his experience: "The black knot has about swept the plum growing interest out of existence in the Hudson River Valley. I planted an orchard of one thousand trees and fought off the knot for seven years. Each year there would be some formation, but we persistently kept it off. Last spring there was none to be seen on my trees when they were in bloom, every particle having been taken off. But on the first of September, the trees were completely covered, and the entire tops had to be destroyed. The whole trouble came from some old trees adjoining my farm, which were neglected by my neighbor."

Mr. G. Brandon of Athens, N. Y., says, that some time ago there was a plum belt three miles wide on each side of the Hudson River, beginning at Cedar Hill, near Albany, and extending to the southward some thirty-six miles. He himself had an orchard of 6000 trees. At that time it was no uncommon thing for a steamer to carry thence, from one hundred to five hundred barrels of plums to New York, at one trip. For four days' picking, in one week, he once received \$1,980. In 1884 he netted \$8,000 from his plums, but the next year he rooted out over five thousand trees, on account of the plum knot.

We extract these instances merely as a warning to Canadian plum growers, hoping that all may be aroused to seek more effective legislation for the destruction of this dreadful fungus.

THE FRUIT EXHIBIT IN LONDON, ENGLAND.—Mr. W. White, of Ottawa, sends a clipping from the *Canadian Gazette*, of April 21st, concerning the exhibit of fruit which is to be made in London, England, in the autumn of the present year. In the elaborate preparations which our country is making for the exhibit of our fruits at the Chicago Exposition of 1893, there is a danger of overlooking other almost equally important exhibits which are within our reach.

Great Britain is the principal apple mart for the apples of Ontario, while very few of our apples go to Chicago, or to any other country of the world. We should, therefore, lose no opportunity of making known to the people of Great Britain the superior excellencies of the apples of Ontario. London is an enormous city, containing according to the latest reports, nearly five million inhabitants; the importance, therefore, of taking advantage of the opportunity which will be offered to us next September is too evident to be passed by without careful consideration. We, therefore, call the attention of the fruit growers, not only of our own Association, but of the Fruit Growers Associations of British Columbia and Nova Scotia, to the notice that next September there is to be an exhibit of fruit in London on the largest scale ever attempted there. It is to be under the auspices of the Fruiterers' and Gardeners' Companies, the Royal Horticultural Society, the British Fruit Growers' Association, and other kindred societies. According to the *Canadian Gazette*, published in London, England, the corporation of the City of London has lent the vacant land of the Thames embankment for the purpose, and a temporary building will be erected for the exhibit which will last at least one week. The exhibits will be classified under three heads, and prizes to the amount of over \$1,500 will be offered for the best specimens. The classes will include dessert fruits, orchard, house-grown fruits, collections of fruit trees, English market fruits, hardy fruits grown in the open air, farm, orchard and plantation grown fruit, cottage garden and allotment produce, foreign and Colonial fruit and jams. Canada should not fail to be well represented, and the Canadian associations may be able to use this exhibition to dispose finally of any false impressions left by the recent arsenic scare. Canadian fruit, as we now know, was not included in the allegations, but it would be well to seize this and every opportunity to bring home to the English consumers the superiority of the Canadian product.



❖ Question Drawer. ❖

FRUIT STORAGE.

SIR,—I have been trying some time to get some reliable information about the building of a good cellar, for the keeping of fruit and vegetables. We have a cellar under our house, but do not wish to keep them there, and, if we did, the cellar is too hot. I am recommended by Mr. Bruce, of Hamilton, to write to you for information, as you are an expert in such matters. I want a first-class cellar, and if we can make one suitable in every way, I am willing to spend some money upon it. I wish to keep all kinds of fruit, besides vegetables for table use, and for one cow.

JOHN PENMAN, *Paris, Ont.*

The scientific principle, which is the basis for all methods of keeping fruit in good condition, is that the apartment be kept dry and cool. Too much moisture favors the growth of the germs of decay, while, on the other hand, too dry an atmosphere has a tendency to absorb the juices of the fruit to a great extent, thus causing the shrivelling of the skin. This, however, is avoided in the case of such varieties as the Russets, which are particularly subject to this trouble, by keeping them in close barrels, where the moisture given out by the fruit itself is sufficient to keep the apples from shrivelling when thus confined.

The temperature should be kept down very little above freezing point. For apples 34° is counted a suitable temperature, but grapes may be kept in a still cooler atmosphere.

Any means by which these ends may be secured, will keep fruit in satisfactory condition. It is quite evident that the house cellar will, in most cases, be too warm for keeping fruit. If the house cellar must be used, the apartment intended for fruit and vegetables should be separated from the rest of the cellar by means of a close brick wall. Serious objection to the use of the house cellar for fruit and vegetables is, that the gases generated by the vegetable matter render the air of the cellar foul, and unfavorable to the health of the family.

In order that the temperature of the air in the fruit cellar may be entirely under control, it needs to be very carefully separated from outside influences by double walls, double doors and double windows, thus enclosing a dead air space between. This may be effected by the use of a lining of building paper, so put on as to enclose a dead air space between it and the stone walls, and also between it and the floor above.

In ordinary cases the temperature of the cellar may be controlled by careful management of the cellar windows, which may be opened at night and closed during the warm days of the spring and fall. A still better mode, however, is to arrange for the admittance of fresh air through a pipe coming up from beneath the floor. The opening from this should be near the ceiling where it would at once displace the warmer air. This latter should be carried away through a pipe

which starts near the floor and runs up through the roof. By means of such an arrangement of pipes, the temperature inside can be quickly reduced at any time as low as that outside. It will evidently require to be so arranged that when the temperature inside has been sufficiently reduced it may be tightly closed up. In places where the winters are very cold, it is well to introduce the air through an underground passage.

Of course, it will be necessary to keep a thermometer in the fruit cellar so that the temperature may be kept as even as possible.

Such a cellar properly managed, will be well adapted to keep fruit in good condition during the greater part of the year. Of course, in the summer, when the nights are too warm to furnish cool air, the arrangement will fail of perfect success.

In the CANADIAN HORTICULTURIST for 1889, page 283, there will be found an article written by J. J. Thomas on "Fruit Rooms and their Management." A perusal of that article will be very serviceable to any one desiring a more elaborate and costly fruit house, than is herein referred to.

THE CRANDALL CURRANT.

SIR,—I had two bushes of the Crandall currant given me this year, and I have looked through my books and reports and cannot find anything with reference to it. I am not at all acquainted with it, and would like to know whether it is a currant worthy of a place in the garden?

MRS. JOHN GEORGE, Port Elgin.

A late report of Cornell Experiment Station speaks of this currant as follows: The Crandall is a simple variation of the Buffalo or Missouri currant (*Ribes aureum*), known in yards as the "flowering currant." It does not appear to be a well "fixed" variety. Some of our bushes produce berries little larger than those of the red currant, while others give fruits five-eighths of an inch in diameter. It is also variable in period of ripening on our plants, although the soil is uniform throughout the row.

Our bushes were fairly productive, but a heavy crop could not be expected from young plants. The habit of the plants indicate probable high productivity.

The plant is hardy and vigorous, and so far our specimens have been free from insect attacks, although the currant worm was very abundant upon adjacent rows of common sorts. The bushes attain to a large size, and need more room than other currants.

The fruits are large and fair, bluish-black and polished. They separate from the stem, and are, therefore, picked and sold singly, like gooseberries and cherries. The flavor is sweet and agreeable, though not pronounced. There is none of the grossness of flavor characteristic of common black currants. It makes good

stews, pies, and jellies, whether used green or ripe. In jelly we prefer it to other currants.

The variety is wholly distinct from every other. It represents a new type of small fruit, which, when further selected and improved, must come to be a staple.

GAS LIME AS A FERTILIZER.

SIR,—Have any of your readers had any experience in the use of gas lime as a fertilizer?
W. WHITE, *Ottawa, Ont.*

Gas lime has no great excellency as a fertilizer. Its action is chiefly chemical on the soil, liberating the fertilizing elements. The lime, however, is especially useful in the growing of roots, as, for instance, mangles, and turnips. After exposure to the weather the fresh lime in it is changed to sulphide of lime or gypsum. It is not wise to apply this substance too liberally, as in that case it may destroy the vegetable growth.

PRIMULA OBCONICA

SIR,—Is the *Primula Obconica* poisonous, and if so in what way?
A MONTREAL SUBSCRIBER.

It would appear that *Primula Obconica* is covered with minute hairs which are liable to penetrate the skin of persons handling them, and so poison them, though not dangerously. Florists in packing this plant have, in some cases, had their hands and arms swell with the poison.

* Open Letters. *

POMME ROYAL AND OTHER APPLES.

SIR,—As to the question regarding the Blenheim Orange apple, I have found it to be a very fair, moderate bearer almost every year, but better each alternate year, and with my neighbors it is an apple that is well liked.

The King has borne very well for me in the town of Goderich, on a gravelly soil but on my farm, which is a clay loam with clay sub-soil, it is shy of bearing. Both these are noble apples.

I have the Pomme Royal in town, which used to ripen earlier. The fruit was much finer than some varieties grown on the farm. Whether it is because of the soil or because grafted on different stock, I cannot tell. I grafted it on a bearing tree that was a seedling. It appears to me that stock influences the graft.

WALTER HICK, *Goderich.*

BISHOP BOURNE APPLE.

SIR,—I do not remember whether I ever sent you scions of the Bishop Bourne apple to introduce into Ontario after trial by yourself, and approval. The apple is much like the Princess Louise in size, shape and color, if I may judge from the representation of the latter in the CANADIAN HORTICULTURIST. It is in fair condition for eating in October, and I have kept it perfect until March. My children all prefer it to any other variety. The Bishop Bourne apple was named from Bishop Bourne of England. It was grown by Wm. Sutton, of Cornwallis, N. S., from seeds of the Newton Pippin. It is described in "Downing's Fruits and Fruit Trees," edition of 1872. It has been very little propagated, but I think it would become a very popular apple wherever it succeeds, on account of its beauty and good quality.

The Andrews, or Major Sweet, is a popular and productive kind, and it is considered quite profitable. Its season is from November to February or March, and always saleable when it is known. This apple is a seedling originating in Yarmouth, N. S., grown by one of the first settlers, Major Andrews. After being known for fifty or sixty years, and lately coming into competition with about one hundred and thirty kinds, it is preferred in the home market to any other kind for a pleasant eating apple. It is described in "Downing's Fruits and Fruit Trees," third appendix.

I send you scions of both these varieties.

C. E. BROWN, *Yarmouth, N. S.*

APPLES FOR THE NORTH.

I received a number of new Russian varieties from the Experimental Farm at Ottawa, this spring, for testing. These varieties are Little Hat, Saccharine, Red Raspberry, Bode, Hare Pipka, Blushed Calville and Sugar Sweet. I am well pleased with the appearance of these new comers, so far as one is able to judge from their appearance. The smooth dark-colored bark, the texture of the wood, etc., leads me to think they will be quite hardy here. The trouble with the Russian varieties is that there seems to be very few long keepers among them. If we could get a tree of the Duchess type, that would keep like the Spy or King, it would be a great acquisition. But I have great faith in the Russians, as the trees best suited for the colder sections of this Province; and I believe we shall yet get just the varieties we require among them. There is a prospect of a good fruit year so far as one is able to judge at present. Fruit trees of all kinds are full of blossom buds. Grape vines came through the winter in good shape. Strawberries wintered well; and although they suffered considerably from the cold winds and hard frost of early spring, they are looking well now, and give promise of a good crop. More attention will be given to spraying fruit trees this year in this country than ever before; people are finding out the necessity of it.

G. C. CASTON, *Craighurst, Ont.*

CANADA'S GREAT INDUSTRIAL FAIR.

SIR.—On revising the prize list for our next Exhibition, our Committee have added prizes amounting to fifty dollars (\$50) for the best exhibit of fruits grown in the Dominion of Canada, by any Electoral District Society, Horticultural Society, or Fruit Growers' Association. They have also increased the prizes for plants in pots by nearly three hundred dollars. The prizes for the best display of plants in pots are now very liberal, being \$75, \$50 and \$25.

H. J. HILL, *Secretary, Toronto.*

TO A "WEEPING WILLOW" IN GRIMSBY
CEMETERY.



BENEATH the mossy bosom of
 the sod,
 With slow and reverend hands
 we laid to rest
 Our loved ones side by side.
 Sweet thought of God
 That raised thy head, child of our
 mother's breast.
 Thy pendant frondlets droop so kindly o'er,
 And sigh amid the sough of summer
 breeze ;

While softly surging wavelets on the shore
 Are murmuring sweetly, minor symphonies.
 Kind sympathizer, burden-bearer, friend ;
 Love, like an autumn mist, rests on thy leaves,
 In unshed tears ! with ours thy love doth blend
 While the fell Angel gathers up his sheaves,
 Thy beauteous fringe, thy heavenly drapery,
 The sleeper mantles, as love's mystery.

Grimsbly,

O. G. LANGFORD,
In McMaster Monthly.