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Fig. 1695.—Pond Road, near Yarmouth, showing old French Pollard Willows.

THE CANADIAN HORTICULTURIST.

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No. 12



YARMOUTH GARDENS.

FIFTEEN hours on the old Atlantic brings us from Boston into Yarmouth harbor, the most southern part of Nova Scotia. Beautiful scenery and cool summers make this a favorite resort from the heat of New York and Boston, and thousands take advantage of this feature. The summer fogs are also very constant, making the climate to resemble closely that of England. This condition of things explains why it is that strawberry growing has lately been found so remunerative, so that thousands of crates are sent in their season to the Boston market. Roses grow here in the greatest perfection, and indeed the gardens are a perfect wealth of bloom, never drying

and baking as they do with us in July and August. In some gardens we saw beautiful specimens of *Lilium rubrum* in the middle of October, and any quantity of dahlias, gladioli, tuberoses and begonias, still in the height of their beauty. In Mr. Caie's garden we saw also sweet peas 6 feet high on a summer house, full of bloom at this date, no uncommon thing. One remarkable feature of Yarmouth is her



FIG. 169b.—HAWTHORN HEDGE, 60 years planted.

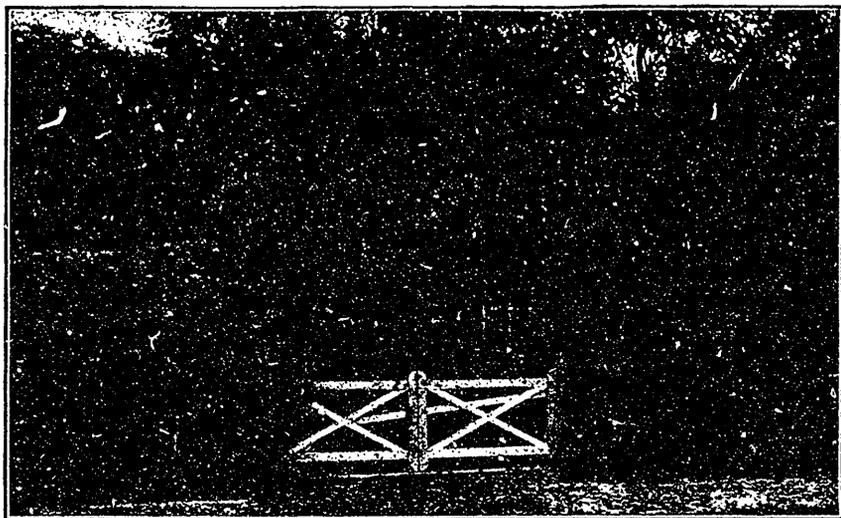


FIG. 1697.—HAWTHORN HEDGE AT YARMOUTH.

hawthorn hedges, which will not endure the hot dry climate of Ontario. Here they grow most luxuriantly, and are used in place of fences around all the best places. One of which we took a snap, Fig. 1696, is 60 years planted, and well worthy of especial notice. Even in the cemetery many lots are surrounded with hawthorn hedges, some with white spruce,

which is much more enduring than the Norway, and one we noticed was enclosed with a fine beech hedge, the first we ever saw in Canada. This Yarmouth Cemetery was very pretty, but the enclosing of the lots with hedges is, in our opinion, a mistake, spoiling the unity of design, and giving stiffness of effect. Another fault, if we may criti-

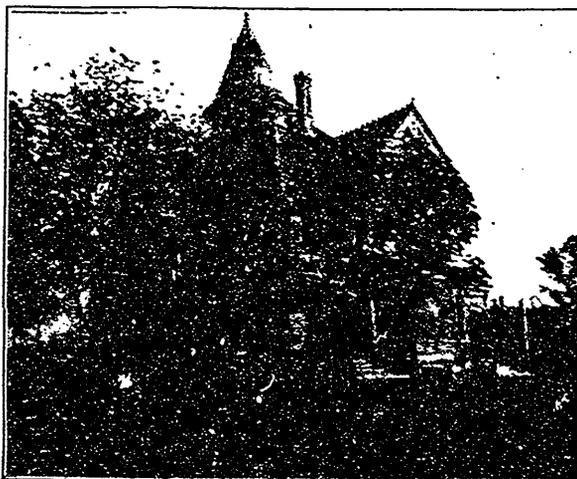


FIG. 1698.—RESIDENCE OF MR. WYMAN, YARMOUTH, N.S.

YARMOUTH GARDENS.

cise what is really a place of many attractions, is the numerous walks and drives, which make gravel almost more conspicuous than greensward, and an old fashioned habit of raising mounds over the graves instead of simply marking with a low head and foot stone, which makes it such a difficulty to keep the lawn well mown. Another thing that reminds one of English conditions is the English ivy which also grows here most luxuriantly. Climbers are in common use here, the Japan ivy on the

year for wood, and still their health and vigor is not impaired. Our frontispiece shows this road, with Yarmouth in the distance and Pond Lake on the right, a fresh water lake only separated by a few feet at one end from the salt waters of the great Atlantic.

Any mention of Yarmouth from a horticultural standpoint would be incomplete without some reference to Mr. Charles E. Brown, a graduate of Harvard and one of Yarmouth's most public spirited citizens. He received us with



FIG. 1699.—YARMOUTH HARBOR, SHOWING LANDING OF D.A.R. STEAMER, AND THE OLD CEMETERY IN THE FOREGROUND.

churches, and in addition the honey-suckle, the climbing rose, and the Virginia creeper on the houses.

The trees used in the streets are hard and soft maples, Sycamore maples, elms, beeches, Balm of Gilead, Silver poplars, etc., and here and there a fine hawthorn, allowed to develop its full size and beauty.

Along the old road from Yarmouth to Hebron numerous old Pollard willows are growing, planted a century ago by the French. The tops are cut year after

that extreme cordiality so common among horticulturists and others of congenial tastes, and lost little time in making us acquainted with his garden, which is well described by the old Latin phrase, "multum in parvo." Almost every apple tree has several varieties top grafted upon it, and over seventy varieties have in this way been tested and reported on for Southern Nova Scotia. He finds the following worthy of planting, viz., Duchess, Primate, Keswick

THE CANADIAN HORTICULTURIST.

Codlin, Gravenstein, Wolf River, Wealthy and Ontario; the Primate especially for a fall eating apple, the Keswick Codlin for cooking, and the Ontario and Duchess for market. The Spy is small and inferior in quality all through the Province. At Yarmouth the apple tree is not vigorous; it is much subject to moss and fungus, and especially to the old English apple tree canker. Mr. Brown's gooseberry bushes do well; he has tried English varieties, *e. g.*, Yellow Amber, Industry, White smith, White Champagne, Red Warrington, and has never been troubled with mildew.

In the vicinity of Yarmouth neither plums nor grapes will ripen in the open, and no one attempts to grow them except under special conditions. The former Mr. C. E. Brown says he has ripened trained espalier style on the side of his house. We saw an espalier at the home of Mrs. P. D. Kinney, a Washington plum, well trained to nearly cover one end of her house, and which has yielded about one bushel in a single season.

Grapes may be ripened under glass without heat as in England, and there are about twenty of these cold graperies about Yarmouth, all well filled with such varieties as Black Hamburg, Red Chasselas, Tokay, etc.

During our tour in Nova Scotia we met some of the progressive apple growers of that province, from whom we gained much information. The Annapolis valley is justly famed as an apple growing country, and has already gained a good name for Nova Scotia apples in the great markets of the world. Owing to the moister climate of this province the fruit ripens later than in Ontario, so that the Ribston and the Wealthy are counted winter apples, and the Spy

and Baldwin keep longer than the same varieties grown in Ontario.

Red Astracan and Duchess are grown a little, and shipped to Newfoundland via steamer, but the commercial orchards are chiefly winter apples, such as we grow in Ontario. The one grand exception is the Gravenstein, which has been largely planted, and is freely exported to England. This apple is worthy of a larger place in Ontario orchards; the tree is one of the most thrifty growers, and quite productive of the very finest apples. The Blenheim closely competes with it in favor, and it is questionable which is the more to be commended.

Three well-known varieties have been condemned in Nova Scotia as well as in Ontario, *viz.*: the Fall Pippin for spotting, the Ribston and the Spitzenberg for want of vigor in tree. Another is on the black list for spotting, *viz.*: the McIntosh Red. Two most worthy varieties seem too little known, *viz.*: the Wealthy and the Ontario. Both these varieties have been tested by Mr. Chas. E. Brown, and have succeeded even at Yarmouth. For several years he has been reporting on them most favorably, as varieties of the highest excellence for all purposes, but as yet they have not been much planted.

The Baldwin is a great favorite among winter sorts, bearing great crops each alternate year, just as it once did in Ontario; but perhaps it would fail if they were to plant whole orchards of this one variety as we have done. The King, they tell us, bears very well and is counted a profitable variety, as are also the Spy, Ben Davis and Nonpareil. The latter closely resembles our Roxbury Russet, but is larger and darker colored.

Nova Scotia apple growers have an

YARMOUTH GARDENS.

especial advantage over their Ontario brothers, in comparative immunity from Codling moth. In orchards at Berwick it is estimated that not more than ten barrels in one hundred are affected, while in some of our Ontario orchards, this season, forty out of one hundred is not too high an estimate.

The best Nova Scotia orchards are the cultivated ones, and those which also get an occasional dressing of pot-ash. Mr. Chute, of Berwick, says he seldom crops an orchard after it is over ten years of age, but cultivates and manures his orchard as the only crop.

Apple packing is commonly done in the orchard as the picking progresses, but some bring all apples to a central packing house. No. 1 are large perfect apples, No. 2 are small perfect apples, but no attempt at grading to definite sizes has yet been made.

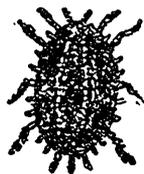
It would certainly be well if Nova Scotia and Ontario could agree in this matter, so that grade No. 1 would mean everywhere apples not less than $2\frac{1}{2}$ inches in diameter, excepting possibly the Fameuse, which should be allowed No. 1 not less than $2\frac{1}{4}$ inches. No. 2

would then mean apples below these sizes respectively, or otherwise inferior.

The prices of winter apples are from two and a-half to three dollars a barrel, or about the same as in Ontario, and the buyers have little advantage over us, having about 15 cents a barrel to get them to the seaport of Halifax, while we have from 30 to 45 to Montreal, the ocean freights being about the same.

Apple barrels are cheaper than ours, the common kind being made of spruce, fir or pine, with half-rounds of young birch trees for hoops, the price being about 18 cents each. The size is $2\frac{1}{2}$ bushels, the old American pony barrel, but this will soon have to be discarded, for in 1900 the new Dominion regulations will compel the use of a standard barrel.

Plums, grapes and even peaches are grown to some extent in the Annapolis valley, but the black-knot has largely cleared out the former. When properly looked after, such varieties as Bradshaw, Arctic, Lombard and the Japans, Burbank and Abundance, have proved very successful.



THE MEALY BUG. —

What is known as the Mealy bug is a flat, tender, yellowish insect, of the form shown in the engraving, and is covered with a white, mealy substance, from which the common name is derived. It is especially troublesome to Coleus, strobilanthes Dyerianus, and many soft-wooded plants. It is not difficult to eradicate. Remove and destroy all that may be found, then syringe the plant two or three times a week with soapsuds to which has been

added a little kerosene, say two tablespoonfuls to a gallon of suds.—*Parks' Floral Guide.*

HENS AND APPLES. — L. Cook, of Mass., says he enclosed a half dozen unproductive canker worm infested apple trees as a chicken yard, and as a result the insects were cleared and the trees produced good crops of fine fruit. R. N. Y. says, "The hen has a golden claw. She is a professor of Agriculture too, and teaches clean culture and lots of it, with high feeding for a fruit orchard."

APPLE GROWING IN THE ANNAPOLIS VALLEY, NOVA SCOTIA.

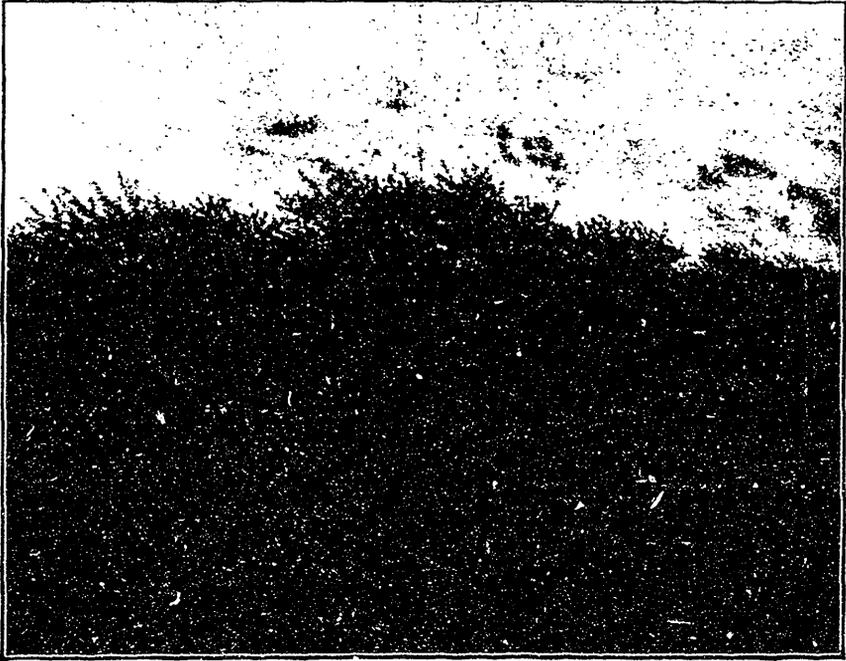


FIG. 1700.—CLEAN CULTIVATION in an orchard set fifty years ago.

THE first beginnings of apple orchards in Nova Scotia seem to have been made as far back as the days when the French Acadians occupied the lands of the Annapolis Valley, for no relics of old times are so common as the old French apple trees which stand, either singly or in groups, in almost every locality where French settlements are known to have existed. Later the English settlers from New England brought seeds and scions and planted them about their homes, but it was not until about 1850 that anything was planted which would now be considered as an orchard. Even as late as 1870 the whole valley exported only about 17,000 barrels and the largest

part of the orchards now bearing were set within the last twenty-five years. So that in reality this industry has been of especial importance only in comparatively recent years.

Unquestionably natural conditions of soil and climate are important factors in producing the peculiarly fine apples for which Nova Scotia is noted, yet to growers themselves is also due a large measure of credit, for they practice the latest and most approved methods in every department of this business. Young orchards are cultivated from the time they are set until they reach a bearing age, the most common practice being to grow some root crop between the rows for a number of years

APPLE GROWING IN THE ANNAPOLIS VALLEY, NOVA SCOTIA.

and each year to grow less and less giving more room to the extending roots of the trees. Among the best growers this cultivation is continued each year even after the orchard has grown old in the service, the cultivation beginning as early as possible in the spring and continuing till the latter part of July, when usually some cover crop is sown. Buckwheat is the one most

up earlier in the spring, which is an important consideration in a climate where the season is so short as in Nova Scotia. On the other hand spring plowing gives much less danger of winter killing through the roots being exposed to the frost, and if the orchard is sown to a cover-crop all the leaves are retained on the land as well as the snows of winter.

Spraying has become a regular part of



FIG. 1701.—PICKING APPLES AND SORTING IN THE ORCHARD.

used though clovers are coming into favor. In the matter of plowing of orchards growers are divided in opinion, some favoring fall plowing, while others prefer to wait until spring. There are unquestionably advantages to either method. Fall plowing covers in the decaying fruit and leaves, thus lessening the danger of infection from such sources and it causes the land to warm

the season's work in most orchards and though there are still those who are skeptical as to its value, it is every year becoming more general. Most growers spray from three to five times using Bordeaux mixture and Paris green, and a few have tried winter spraying. Another practice which is becoming more popular each year is the use of a solution of potash applied to the trees either as



FIG.—1702.—A YOUNG GRAVENSTEIN TREE, fifteen years set.

a wash or a spray. It is particularly valuable in destroying bark lice and clearing up the trees generally, but just what its effect is upon fungous pests has not been definitely determined. There are some indications however, that it is equally as effective as Bordeaux mixture in fighting the black knot of plums and the black spot of apples.

Of the varieties of apples grown in Nova Scotia none are more popular than the Gravenstein, it is generally healthy, comes into bearing fairly early in life, and continues to give large biennial crops as long as it is cared for, and even longer. The only possible objection to it is its season, for a winter apple of equal quality would soon distance all our present winter sorts. The Banks or Red Gravenstein, a bud variation from the orthodox Gravenstein, is gaining in popularity because it com-

bines with the superior quality of the ordinary Gravenstein, the bright red color which people demand who judge an apple by its appearance alone (and this includes about nine tenths of those who buy apples.) Other deservedly popular sorts are King, Ribston, Blenheim, Baldwin, Golden Russet, Nonpareil, Northern Spy, Fallawater, and Rhode Island Greening; while Wagener, Ontario, Stark, Wealthy, Mann and Ben Davis are, for the present at least, gaining in popularity.

In gathering apples baskets are used almost altogether, and the fruit is either sorted and packed in the orchard or taken to the apple house and stored until it is ready to be shipped when it is packed. In disposing of their apples growers are about equally divided between selling to buyers here in the valley or shipping for themselves to the

COLD STORAGE MATTER.

English markets. The great bulk of the apples of Nova Scotia go to London and are consumed there though many go to Liverpool and a few find their way from these two ports to other large cities of England.

Throughout the valley there are now numerous large warehouses along the railroad line, built either by speculation, by co-operation companies of the growers themselves or by English commission firms, in which growers may store their

apples for the season or deposit them while waiting for cars to take them to Halifax which is especially convenient in handling winter varieties.

Nova Scotia has, no doubt, much to learn concerning apple growing, but it cannot be denied that there has been a wonderful advance in all lines since the advent of commercial orcharding in the province.

F. C. SEARS.

Wolfville, N. S

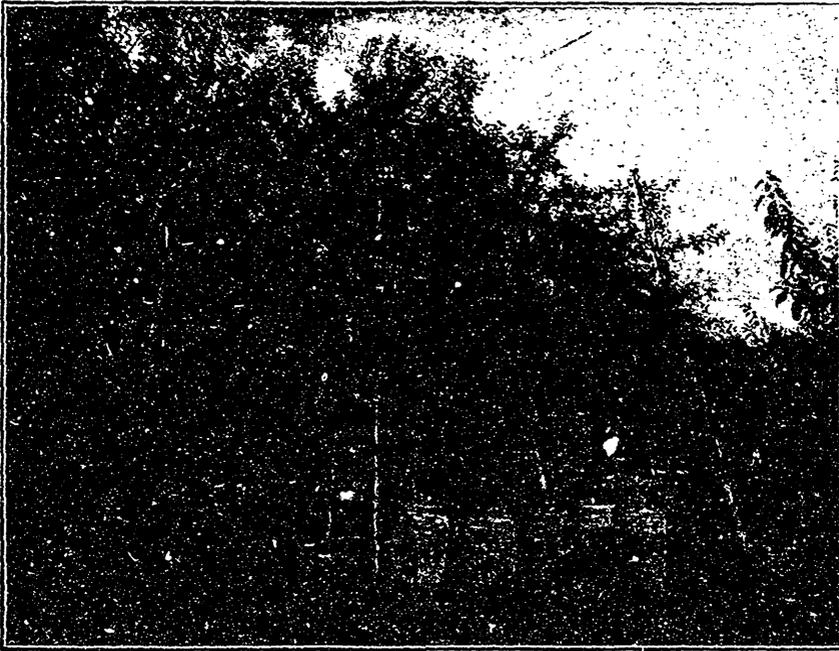


FIG. 1703.—PICKING BALDWINS which are taken to the Apple House and Stored to be Repacked later.

COLD STORAGE MATTERS.

THE accompanying table shows the temperature in degrees Fahrenheit for preserving some of the most common horticultural products, and indicates the packages in which they should be expected to keep.

Product	Temperature	Package	Time
Apples, sun'r.	38 to 42	Boxes	2 to 4 mos
Apples, win'r.	32 " 35	Bbls. or bxs.	5 " 8 "
Pears	33 " 38	Boxes	1 " 5 "
Peaches	34 " 38	Crates	2 to 4 wks
Grapes	38 " 40	In sawd't bxs.	6 " 8 "
Plums	35 " 40	Crates	2 " 4 "
Berries & cherries	40	Quart boxes	1 " 3 "
Tomatoes	38 " 42	Crates	2 " 4 "

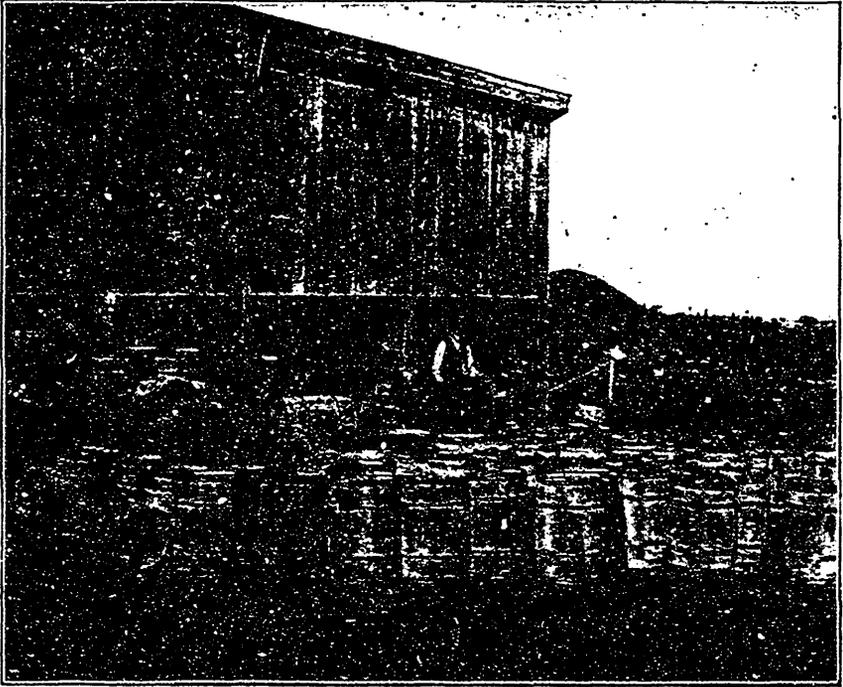


FIG. 1704. —SORTING AND PACKING RIBSTONS as they come from the orchard.

The length of time fruit and vegetables will keep differs in different sections and the degree of cold may vary. Some varieties of California fruit will keep in cold storage longer than the same varieties grown in the East. Fruit grown at low altitudes and near the coast keeps longer than fruit grown in the interior. Ice temperatures of the same degree will not do in preserving fruit; in practical cold storage other conditions must be reckoned with, viz., humidity, circulation of air and the quantity of nitrogen present, and of the latter the less the better.

Fruit should be in as small a package as possible. Each piece should be wrapped. Winter varieties keep longer in cold storage than summer varieties.

Where practicable let apples remain in the packing houses a few days before packing for cold storage and immediately before that operation go over the fruit and cull out all unsound fruit. After the "sure decays" have been removed, wrap and pack the balance.

Cold storage does not and cannot improve the condition of fruits or other products. At best it can only hold them at approximately the condition they were in when put in the cold rooms. It cannot save from decay fruit which is imperfect or unsound. A few decaying specimens are liable to ruin the whole package. Sound fruit only will keep in cold storage.—California Fruit Grower.

CENTRAL EXPERIMENTAL FARM NOTES—III.

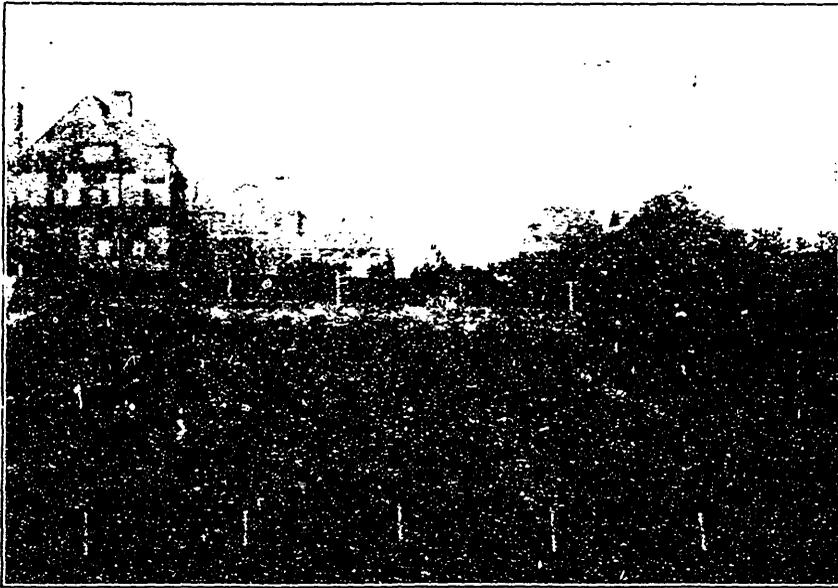


FIG. 1705.—VARIETY TEST OF CELEBY at Central Experimental Farm, 1899, with offices, chemical laboratory, and buildings in background.

THE weather has been very changeable during the past month—at one time bright, then overcast, and quite frequently wet. While occasionally there was frost at night, it was not until the 12th of November that the temperature sank low enough to interfere materially with outside work. On the nights of the 12th and 13th, there were 15 and 18 degrees of frost, respectively. It may, however, be some days before the final “freeze up.” It is when severe frosts begin to occur that one realizes the importance of having a good cover crop in the orchard. At the experimental farm a fine covering of common Red Clover may be seen in most of the orchards. Experiments were tried in sowing the clover seed weekly in different parts of the orchard, beginning

on 10th May, and continuing until 31st May. There was a good catch from the first three sowings, but that sown on the 31st did not do well. Sowing was then discontinued until July 4th, and from that time until the 16th August clover was sown at intervals. There is a good cover crop of common Red clover from seed sown as late as 25th July, except on sandy loam, where it did not make sufficient growth. There was a very dry time after that, lasting about a month, the result being that the seed sown later than 25th July did not germinate until September and then only a small proportion grew. This land has been given a top dressing of manure which will afford somewhat the same protection as the clover would have done. To be certain of a good cover crop, clover should not be sown later than the mid-

dle of July where the conditions are somewhat like those at Ottawa. Twelve pounds of seed per acre, sown broadcast have given good satisfaction. No nurse crop has been found necessary, as a rule. In one of the higher parts of the orchard where the soil is light, Lucerne or Alfalfa seed was sown broadcast on the 25th of July at the rate of 15 pounds to the acre, the land was then rolled. The succeeding days were very hot, the soil—which is quite sandy—was almost burning to the touch, yet the seed germinated and did not appear to be injured. Just as a few young plants were beginning to appear there was a severe wind storm which blew the surface soil in clouds of dust, yet the Lucerne, though thinned considerably, continued to grow, and it is now from 7 to 12 inches in height; a little thin, perhaps, for a good cover crop, but sufficiently thick to hold the snow well. In this instance, where the land was very exposed, a nurse crop might have proved beneficial. Lucerne stands considerable frost without injury and grows until late in the season.

Some replanting was done in the forest belts during the past month. In several places the trees which were planted nine years ago did not make satisfactory growth, owing to winter killing and unsuitability of soil. These were removed this autumn, and replanting with other kinds was started. The trees have been planted much closer than they were before, being now $2\frac{1}{2}$ by $2\frac{1}{2}$ feet apart. A large proportion, however, are only intended to serve the purpose of shading the ground and killing the side branches of the permanent trees: Rose-Mary-leaved willow, Ninebark (*Neillia opulifolia*), Box elder and Sugar maple being used for this purpose. The permanent trees will be mainly composed of White Pine, Black

Walnut, and White Ash, although others will be planted in the spring. It is expected that by this system of planting no cultivation will be necessary after two years.

The grape vines have already been pruned and covered for the winter. Considerable attention was given to the pruning of the vines both this year and last, and as soon as possible all the old arms will be removed and the "high renewal" system or a modification of it, adopted. In order to have as thick a covering of snow in the vineyard as possible the canes, when cut from the vines, are allowed to remain on the wires all winter. These break the force of the wind and drifting snow and cause the latter to settle, thus affording greater protection to the vines.

Celery did very well here this year. Market gardeners in the neighborhood complained of Celery rust, and the crop of one in particular was ruined by it. The celery at the Experimental Farm was covered with the Bordeaux mixture until autumn, and although no unsprayed plants were left as a check, yet there is no doubt but that the Bordeaux mixture prevented it. About 50 so-called varieties were tested. Of the earlier sorts, the Golden Self Bleaching, Paris Golden Yellow, and improved White Plum are the best.

The annual note taking on the hardiness and growth of the trees, shrubs and herbaceous perennials in the Arboretum and Botanic Garden is now almost completed. There are over four thousand specimens of trees and shrubs alone growing there, and to examine each one and make the necessary notes takes considerable time. The information gained however, is valuable; for instance, trees and shrubs which were not injured by the winter of 1897-98 may have been by that 1898-99, and, after several years'

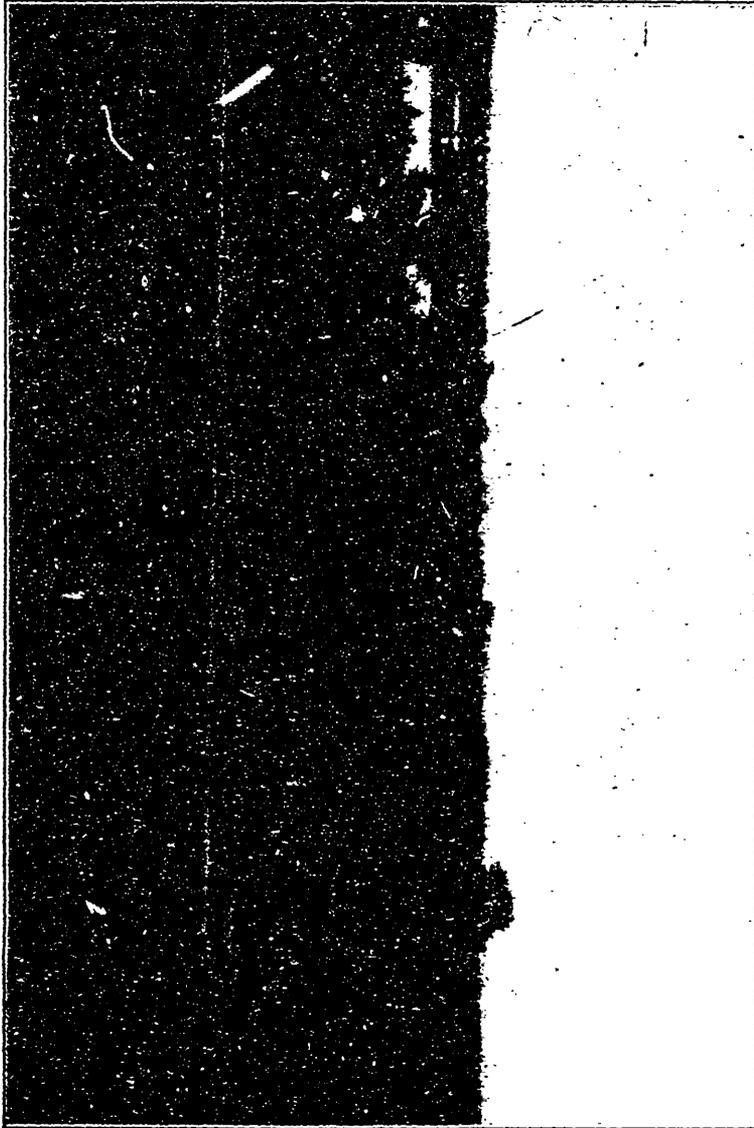


FIG. 1706.—GLIMPSE OF ANNOUETUM AT CENTRAL EXPERIMENTAL FARM, 1899.

records are taken, the average will give and has given, a fairly accurate idea of the hardiness of the different species and varieties. It is interesting to note the greater degree of hardiness of individual specimens of some trees and shrubs which, when first planted, killed back one half or more each year and which appear to be getting hardier every year. Illustrations of this are the Smoke tree (*Rhus Cotinus*), Flowering Dogwood (*Cornus florida*), English hawthorn (*Crataegus Oxyacantha*), a few individuals appearing to get hardier each year.

A specimen of the Cucumber tree (*Magnolia acuminata*) on the ornamental grounds, brought from London, Ont., by the director twelve years ago, killed back badly until last winter when it was hardy to the tips. When possible, seeds are obtained of these hardier specimens and sown, and we have now young seedlings of some of them, among which will doubtless be individuals hardier than their parents.

W. T. MACOUN,
Horticulturist, Cent. Exp. Farm, Ottawa

APPLE STORAGE.

PROPER storage for fruit is an important adjunct of the apple growing business. In certain circumstances it is indispensable. For this reason apple growers have given considerable attention to the construction of storage houses and to learning the best methods of keeping the fruit. From information collected and sent out by the horticulturist of the Vermont Experiment Station it seems that apple storage houses are becoming rather common in the principal apple growing sections of Vermont, particularly in Grand Isle County.

These houses are built without means of artificial refrigeration. They can be kept cool enough from the outside atmosphere; and can usually be kept warm enough if the walls are carefully built. A small stove is usually kept in the storage house and is called into use on specially cold nights.

Old barns or granaries are sometimes converted into apple storage rooms. A good cellar is occasionally used to advantage. Adequate protection from the

cold weather and suitable ventilation are the principal requisites.

The most important condition in storing apples is the temperature. The storage room should be kept very near the freezing point, ranging preferably from 33 to 35 degrees Fahr. Even a degree or two below freezing will ordinarily do no damage. Temperatures which will ruin potatoes and other vegetables are entirely favorable to apples; and, conversely, temperatures which are suitable to potatoes are too high for apples.

This last consideration explains why a great many folks have difficulty in keeping apples in their cellars. The same cellar which keeps vegetables perfectly will not give best results with apples.

This is something to which every farmer especially ought to give attention. For every farmer certainly ought to raise apples enough for the family. Even if there is no fruit to sell, there ought to be enough to furnish a full supply throughout the winter.—Vermont Experiment Station.

PRINCE EDWARD ISLAND.

NOTES ON THE PAST SEASON'S WORK.

ALTHOUGH our sister Province of Nova Scotia is rejoicing in a bountiful fruit crop, perhaps the largest in years, this would be considered in the true sense of the term "an off year" in Prince Edward Island. There will, therefore, be but little fruit for export to the British market, which gave our trial consignment of last year such a hearty reception. But although we have not a great deal of fruit to show this fall, this important industry has none the less occupied the attention of our people. Considerable planting out of new orchards, top-grafting, replacing and fitting-up of old ones has been done. Then more attention than ever has been given to the all-important work of spraying. We have, too, with the assistance of that excellent work "Fruits of Ontario," and by the aid of experienced horticulturists within and without the Province, come to have the most of our apples identified, and this is a very important matter and one not so easily accomplished as amateurs imagine. The various names given to some one variety by a half dozen experts would soon convince the incredulous that some apples at least are difficult enough of identification.

This work of naming is particularly practical just now with us, because the fruit industry is comparatively new, and, as I said in a former article, the trees sold here, as well as being inferior from many other points of view, were in few cases true to name. Only the other day was it discovered that a farmer in the eastern portion of the Province, who had bought and planted Baldwins and Russets, had now an orchard bearing the most beautiful Starks and Kings.

His case was one of the happy mistakes which are made by those of us who take stock on faith, but I fear for one like this, we have ninety-nine in which only the veriest trash replaces the well-known good apples desired. This mistake has emphasized the fact, however, that Prince Edward Island can grow splendid Starks. In our shipment last year some of those apples were forwarded as Baldwins, and the British merchant, in returning a top figure for them, declared them the best Baldwins on the market, and held the demand for them to be unlimited. Mr. McLaughlin, a most efficient graftsman from New Brunswick, put on quite a number of Stark grafts here last year, which we are hoping will shortly put us in possession of the fruit which the British merchant so much wants.

For the first time I heard the other day from Senator Ferguson, who had been attending the exhibitions in Nova Scotia and New Brunswick, that the Ben Davis tree was regarded as slow growing, delicate and of short duration in Nova Scotia, and that in the eastern part of our Province it was not vigorous. I send you a sample of my own Ben Davis this year, an off year, when I have taken a barrel of this same sample off a tree but seven years planted. And the Davis has so out grown all other trees in my orchard as to make the casual visitor believe that it was planted many years previously. It is a grand grower here, and what is still better, a grand bearer, neither lice nor spot affect it at all; as to the duration of the tree itself, we will have to ask some Ontario orchardist, who has the experience and a place for the Davis in his

affections. I am inclined to the belief that it will live long here and do well in any part of the Province.

As you know, the Federal Government sent us a man last year to prune, spray, graft and pack, we thought. Well, very little practical good came out of the mission. We had not the right man and instead of being in the charge of the Association, which has an interest in fruit raising only, he fell into the hands of the politicians. I need not tell you the result. His mission has been a complete blank. He only attempted to spray, anyhow, and it has come to this, that a man with a proper machine and the formula can spray after one attempt, if he understands his machine and is possessed of ordinary intelligence, as well as the best of them. And the orchardist who attempts to raise fruit now without spraying is a back number. All then must learn to spray for themselves.

As to grafting, our Association secured a very considerable number of good scions from Nova Scotia and elsewhere last fall, and expected that the specialist sent down from Ottawa would put them on a number of orchards throughout the Province at a minimum of cost. He never touched them, and consequently the most of them were lost. A Mr. McLaughlin came over to us later, and some of them he secured and put on for us at 3 cents a piece. This was perhaps a little dear, but many, knowing they were growing unprofitable trees, were glad of his assistance at any cost. He is a good man, knows his business, and while we are not able to see yet whether his scions are true to name, we believe him to be thoroughly honest. I am told that he put on some 30,000 scions. That ought to effect much good. The season was too far advanced when he came, and, therefore, he could not get all around.

There can be no doubt but that pruning is an important matter in orcharding. An amateur will never cut out enough wood. All our Island trees are not half pruned. We expected the services of an experienced man to show us how to prune and leave us his own work for an object lesson. We were again disappointed.

As to packing fruit, this year there is little or none of it to be done. The Lake Huron, our first cold storage (and dear only knows what kind of cold storage) steamer this season sailed for England last week. She took only about 100 bbls. of apples, shipped by Mr. Sharp, our Vice-President. The government man, we don't know what he is doing at all, or if he is in the Province. At any rate, his mission was a frisco, and pity it was too, when the right man in right hands could have done so much. The moral is: keep politics a thousand miles away from experimental work, whether agricultural or horticultural, if you want to do anything serviceable.

Those of us who sprayed this year found the greatest possible benefit from it. Unfortunately we desisted too soon. Seeing the crop to be small, many let the last spraying slip, and but for that the result would have been perfect. The fruit, however, was comparatively clean and well-sized, the foliage bright and verdant till the frosts came. Henceforward everybody who wants a crop of good fruit will have to get his pump out in the early spring, and follow the spraying calendar to the letter till the end of the season. This is the only law to follow for success. It is a hard enough law, but it is imperative. *Dura lex sed lex.*

With the next a good year, the fruit industry will go on here with leaps and bounds. Many good orchards are being planted out; the people are caring for

SAN JOSE SCALE.

those planted out better; all are getting a more intelligent knowledge of horticulture through your excellent publications and the Fruit Growers' Associations, and now all we want is capable and honest nurserymen to fill the growing

orders. Unfortunately Prince Edward Island, which ought to raise at least its own trees, is deficient in thoroughly equipped nurseries.

A. E. BURKE.

Alberton, Oct. 27, 1899.

SAN JOSE SCALE.

A MEETING of prominent fruit growers was held at Grimsby, on Friday evening, 27th October, 1899, to discuss the report of the San Jose Scale Commission.

A communication was read from Mr. Owen of Catawba Island who has had much experience in treating trees for San Jose Scale with whale oil soap, two pounds to the gallon. This he said could be applied in the winter to trees that are hardy, but not to peach trees, which must be treated just before the buds open in the spring.

One hundred and fifty trees per day is all that can be properly treated with the whale oil soap. Every part of the tree must be thoroughly drenched.

Even eggs of insects can be largely destroyed by applications of whale oil, and the leaf curl of the peach is totally destroyed by its use.

Previous to spraying, the orchard must be thoroughly pruned as a preparation. The trees must be severely cut back; all dead and weakly limbs, and superfluous wood must be removed, and in cases of badly affected trees leave only four or five feet of the limbs should remain.

Insect parasites are not to be relied upon for the destruction of the scale so well as whale oil soap.

A communication was also read from Professor Webster, who says he attaches much importance to the application of whale oil soap. He has found that it so cleans up orchards that they are very much more vigorous and healthy, and able to throw off all fungous diseases. The result is so evident that it would pay to apply the whale oil soap even if there were no San Jose Scale.

To entirely destroy the scale, it might be necessary to continue the treatment for several years.

He also states that one hundred and fifty to two hundred trees per day is all that can be treated in a day with a good pump with two lines of hose and two nozzels on each.

He also said that an ordinary tree will require $1\frac{1}{2}$ gallons of the mixture, containing about three pounds of whale oil soap, at a cost of three cents a pound, or nine cents per tree for the soap alone.

After considerable discussion the following resolution was unanimously adopted:

"We desire to express our great satisfaction with the efforts made by the Department of Agriculture to destroy that most serious enemy of the fruit grower, the San Jose Scale. We regret exceedingly that any suspension of the working of the Act should have taken place thus allowing the pest to spread with great rapidity.

"In view of the uncertain results of the work of the Experiment Stations in the United States in the treatment of orchard trees with whale oil soap for the destruction of the scale, we recommend,

"That there be no relaxation of the inspection of orchards or of the destruction of infested trees, but that the work proceed with all vigor, while it is possible to prevent the spread of the pest;

"That in case of valuable orchard trees only exposed to infection, the owner have the choice of having his trees destroyed with compensation, or of having them treated for a certain length of time for the destruction of the insect, and in case of failure, of having them destroyed without compensation;

"That the owner of an infested orchard, who wishes to have exposed trees treated instead of destroying, be required to thoroughly prune the orchard trees exposed, in such a manner as may be required by the inspector, as a preparation for the spraying;

"That all nursery stock be thoroughly fumigated with cyanide of potassium gas, under the eye of an inspector, before it is allowed to be sent out."

COW PEAS.

A ROTATION of cow peas and potatoes may be followed among the trees, while they are growing to bearing size.

We started the use of cow peas in one corner of the farm on a poor, thin, sandy field. It was so notoriously poor that the neighbors selected it as a place for burying their dead horses. Our first work was to chop this field up with the Cutaway harrow; it was covered with briars and dried mullein stalks. We applied at the rate of three hundred pounds of kainit and five hundred pounds of basic slag per acre. The same quantity of dissolved phosphate rock would have answered as well, except that the slag contains a large amount of lime, which we find very useful on poor thin soil that has been exhausted of organic matter. After Cutawaying this field, we broadcasted five pecks to the acre of Early Black cow peas, which were worked in with the Acme harrow; in August we cut a part of this growth and used the vines for mulching strawberries, but most of the growth was permitted to die down on the ground. A small amount of nitrate of soda applied to the cow peas will quicken up and improve their growth, but too much nitrogen would be unprofitable. The cow pea is one of those plants that absorb nitrogen from the air. My conviction is that when you sow this crop on land that is very rich, or where you use a large amount of nitrogen in your fertilizer, the plant will, from choice, take the nitrogen out of the soil, and will not prove so valuable as a soil improver. We are now raising the second crop of sweet corn after that crop of cow peas, and there is no question in my mind that the growth

of vines was fully equal to twenty loads of stable manure per acre. Where the vines were worked into the ground the corn has a better color and is far better able to withstand the drouth. I have noticed both in corn and potatoes that where a thick mat of cow peas was turned into the ground the crop was far better able to withstand a drouth. In this respect I think green manures are superior to stable manures, as the latter appear to dry out more quickly and are not so useful for holding moisture. The objection to the cow pea is that it requires practically the whole season to make its best growth. I have, however, sown the peas, after a crop of early potatoes and secured a fair growth before frost. We have also sown the cow peas among the currants, raspberries, and other bush fruits, with very fair results. The first sharp frost, however, kills the cow pea, and in order to make it most useful it is necessary to give it an entire summer for its growth, although it may be sown after such crops as early peas or lettuce. My advice, however, would be to use the cow pea on the poorer lands of the farm. Where one has considerable idle land, it would be safe to keep one-fifth of the farm constantly in cow peas, which would be a cheap and effective way of manuring. My advice would be to use at least seventy-five per cent. of the potash and the phosphoric acid on the cow pea crop, with perhaps a small amount of nitrogen. The balance of the fertilizer I would use on the crop following the cow pea, and in my experience potatoes or sweet corn have given the best results for this purpose.—Report Mass. Horticultural Society.

MELONS FOR MARKET.

LOCATION AND SOIL—While melons can be grown on almost any kind of soil, they cannot be grown successfully as a field crop unless the soil and location are favorable. Light, porous, sandy loam is the best and it must be full of humus, or decaying vegetable matter in some form, to secure the best results. Do not be afraid of the soil being too dry or too light, but in such cases use extra care to provide an abundant supply of humus in the soil, which is most easily supplied by plowing under a good clover sod; or the field can be sown with rye in September and the whole plowed under in the spring. The melon is a lover of drouth, and while it attains a large size in a moist season or situation it will not be of as good a quality. I always raised a big crop and the best melons when the season was hot and dry. The field should be high enough to secure good drainage, and if level is the most easily cultivated and least liable to washing by heavy rains.

Melons can be successfully grown on slopes, as this not only insures a good drainage in a wet season, but the crop grown on a southern slope is materially assisted in early ripening thereby. If the land is rather wet on level soil, it can be made better for melon culture by back-furrowing a strip of land two or three rods across. This will make the land slope gradually to both sides. If the soil is too heavy, melons can be grown successfully, for a small patch, by mixing sand in the soil in the hill, or by covering the surface of the hill before planting with about three inches of sand. Freshly broken woodland is very good for raising melons, as such soil is usually very light and full of leaf mold. I have also had great success in growing mel-

ons on land used for hog pasture, as the hogs had worked the ground well over, which made the soil loose and friable, and it was well enriched by their droppings.

Manuring.—When stable manure is used broadcast before it is well rotted it should be plowed under in the fall or early spring for best results, so that it may become well composted with the soil. I manure mostly in the hill, for a limited amount of manure will go farther that way and also give good results. Well rotted manure should be used for enriching the hills, as this tends to give the vines a strong, quick growth from the start, and it aids them in resisting the attacks of insects and ripening the crop early in the season. For very light, sandy soil I would advise using some rich manure, as of cattle, hog or poultry, for making the compost for the hills. As stated before, a good clover sod, plowed under, makes one of the best manures for the melon crop.

Preparing for Planting.—The ground should be thoroughly prepared. Where plowed in the fall, it should be plowed again in the spring and worked fine with the harrow and roller. If not fall-plowed it should be worked with a disc or common harrow until the surface is well pulverized for three or four inches. This is most important where coarse manure has been spread broadcast in the spring, for it will then be well mixed with the soil. Then plow deep and finish again with the harrow and roller. Mark both ways, seven feet apart between the rows for watermelons and three and a half by seven for muskmelons. If hill manuring is necessary, dig a hole eight inches deep and eighteen inches across for each hill and put in one or two shovelfuls of manure.

Then some earth should be mixed with the manure, and the hill leveled with some fine soil so that it will be about two inches above the surface. On a large piece of ground of several acres the hills can be made more easily by plowing a deep furrow one way along the mark made by the marker. This will remove enough soil at the intersections for making the hills, if not, double furrows can be made, and a wagon load of manure following, the amount needed for each hill is placed at each intersection of the furrow and the crossmark.

Planting.—For success, seed must be pure. If several varieties are planted, each kind should have an allotted strip of ground with a driveway separating it from the rest. In this way melons will be pure and not mixed as when several kinds are planted without separation. If the soil is very loose and dry it should be packed with the foot. This is very important in a dry season, but if wet or heavy this is not necessary. Round off the hills so that it will be about a foot in diameter, then shove the spade down into the centre of the hill, slanting, so that it will be about two inches beneath the surface and cover an area of eight inches by the width of a spade. Now lift out the spade with the soil upon it, scatter from a dozen to twenty seeds over this inclined space and throw in the soil, patting it with the back of the spade. The seeds will be covered from one and a half to two inches deep. This is the best method I have ever tried for planting melon seeds, for some of the seeds are sure to grow, whether the season be wet or dry, and if the first plants are spoiled by insects, more will appear in a few days. Melon seeds should never be planted immediately after a rain, as the soil will bake and form a crust. Where it is desired to prolong the ripening season of some

early melons, successive plantings should be made every two weeks until the middle of June. In some seasons this late planting will be cut off by frosts in the early fall, but, as a general rule, in two seasons out of three, it will produce a good crop.

Picking and Marketing.—Watermelons should not be picked until ripe. Picking green melons is both a net loss to the grower and spoils further sales. It is better to be patient and leave the fruit on the vines until they are ripe. Let your competitor sell the green melons, and keep your reputation up for growing good, sweet-flavored and large sized melons; for then your selling is half done.

To be able to tell when a melon is ripe requires close observation and some experience. I will give some of the indications I use in telling this, but it must be borne in mind that not all of them are always present in every melon, and there is also a difference in the appearance of different varieties, and then, also, the indications may vary in different seasons. Note carefully the sound, color and stem of the melon. When struck lightly a ripe melon sounds somewhat dull, as your boot does when tapped lightly with the fingers. Another test is to press on the melon with the thumb; if it is unripe the rind will be soft, if ripe the rind will be hard. Pressing lightly with the palm of the hand is another test; if ripe it will yield slightly to the pressure and a sharp cracking of the flesh is heard. Melons turned yellow on the under side are usually ripe. When the little curl at the stem of the melon is dry, it sometimes indicates ripeness, but not always. The color of the melon should be carefully noted. When the color turns dull and roseated on the top of the melon, it is surely ripe. The color is always glossy on a green melon.

THE ABUNDANCE PLUM.

Melons should be picked in the morning when they are cool and before the sun has made them warm, for they can then be kept longer and in better condition.

In marketing melons I have found it the best method to sell to the retail dealer. If the melons are warranted to him to be good and ripe, and he can rely on the grower to replace them if green or bad, he will be a staunch friend of the grower. Always patronize

home industry instead of sending your product away to some distant wholesaler, for you run the risk, after paying the freight, of getting some of your shipments classed as bad and in a long run losing a good share of your expected profits. It also gives your home dealer an opportunity to dispose of some of his goods in trade for melons, as the grower can conveniently take such goods in exchange as he has present need of.—
Rept. Minn. Hort. Soc.

THE ABUNDANCE PLUM.



OUT of the great company of plums the public has sorted the two Japs, Abundance and Burbank, as some one neatly puts it. There may be nothing specially new to tell about these, yet there are two interesting items which a Country Gentleman correspondent says he has never seen in print concerning the Abundance plum, and these he gives as follows:

The first is that the crop does not all mature at once. In fact, in looking over the tree while the fruit is yet green it will be found that the plums vary greatly in size. This seems to be a difference in age because it is maintained to the full period of maturity. Hence the crop of a single tree never ripens all at once or anything like it. While some of the specimens are fully ripe others will be hard, green and not even grown out. While this may be an objection to it as a market variety, because of the increased labor of gathering, it certainly is a most valuable feature in the family orchard or garden where the entire crop is not wanted at once.

Another point which, if it has been noted, has escaped my attention is that in order to secure the best flavor and the highest coloring in the Abundance plum it must be picked early and ripened in the house like a Bartlett pear. If allowed to become soft and fully colored

on the tree, half the flavor is gone, and the bees and wasps will often be found garnering the little which remains. It may be gathered while yet green, and if placed in a dark drawer it will color up beautifully with a delicate bloom and reward you with a flavor of surprising excellence. It is very juicy, sweet and rich, and I can compare them with nothing so well as the old genuine Green Gage, which I have always regarded as the standard for flavor and quality. While the flesh does not part so readily from the stone, which is very small, it does not cling to it as tenaciously as others of this species. Like the Green Gage, it is breaking and buttery in the mouth. And I have often seen specimens of that grand old variety ripened in the full sun that were colored much like the Abundance. In the Abundance I think we have its full cousin at least as to flavor, while the brilliant coloring is more attractive, and its general vigor and productiveness make it more desirable.

The little knight of the crescent calls around on time, of course, and leaves his well-known autograph. But that is the last of it for this thick skinned Japanese member of the Prunus family. The plums grow right along and ripen up sound and perfect without either eggs or larvæ of any foe. Why not plant the Abundance plum?



Flower Garden and Lawn. ❀

A STRAW may show which way the wind blows, so little pointers indicate character.

An untidy yard about a home indicates a slovenly habit of the owner, while well kept grass and tastefully grouped trees and shrubs reveal the abode of cultured taste. The architecture of a house is an important feature, but in my opinion, better a plain house, devoid of Corinthian, Doric or Ionic touches and showing neither Elizabethian or Queen Anne style of architecture, than a lawn of no interesting features. The setting of the home on a velvety lawn, among grand old trees and shrubs with pleasant views, will far outvalue the architectural features of a house.

We in Ontario, especially the middle classes, are away behind in this study, and it is time that an interest was awakened in it. Here is work for our Horticultural societies, and we hope they will in time prove leading spirits in all that is good in horticulture and landscape art.

First in importance is a first class lawn. This is the back ground of the picture and the very making of the place. It should be of as great breadth as possible, and not cut up with roadways, flower beds or ribbon beds. Let the paths and drives circle about the lawn, and be half concealed by clumps

of shrubbery, and not make one's eyes sore with a dreary waste of gravel right in front of the best windows. Nor is a bed of scarlet geraniums in good taste in the middle of a good lawn. They should be rather on the side or the rear, half hidden among green trees. Indeed, a flower bed of any kind is not in place on a front lawn, for during more than half the year it is bare earth, a mere blot on the landscape.

Prof. Bailey of Cornell University, gives some good hints in Bulletin 121. He says, "The trouble with home grounds is not so much that there is too little planting of trees and shrubs, but that this planting is meaningless. Every yard should be a picture. That is, the area should be set off from every other area, and it should have such a character that the observer catches its entire effect and purpose without stopping to analyze its parts. For myself, I had rather have a bare and open pasture than the common type of yard with bushes and trees scattered promiscuously over the area. Such a yard has no purpose, no central idea. It shows plainly that the planter had no constructive conception, no grasp of any design, and no appreciation of the fundamental elements of the beauty of landscape. Its only merit is the fact that trees and shrubs have been planted; and this, to most minds, comprises the essence and sum of the orna-

THE GARDEN AND LAWN.

mentation of grounds. Every tree and bush is an individual, alone, unattended, disconnected from its environments, and therefore meaningless. And, if a landscape is a picture, it must have a canvas. This canvas is the green-sward. Upon this, the artist paints with tree and bush and flower, the same as the painter does upon the canvas with brush and pigments. The opportunity for artistic composition, and structure is nowhere so great as in the landscape garden, because no other art has such a limitless field for the expression of its emotions. It is not strange, if this be true, that there have been few great landscape gardeners, and that, falling short of art, the landscape gardener too often works in the sphere of the artisan. There can be no rules for landscape gardening, any more than there can be for painting or sculpture. The operator may be taught how to hold the brush, or strike the chisel, or plant the tree, but he remains an operator; the art is intellectual and emotional and will not confine itself in precepts.

The making of a good and spacious lawn, then is the very first practical consideration of a landscape garden. This provided, the gardener conceives what is the dominant and central feature in the place, and then throws the entire premises into subordination with this feature. In home grounds this central feature is the house. To scatter trees and bushes over the area defeats the fundamental purpose of the place, the purpose to make every part of the grounds lead up to the home and to accentuate its homelikeness. Keep the centre of the place open. Plant the borders. Avoid all disconnected, cheap, patchy and curious effects.

Planting to increase the apparent size of a lawn is also a worthy object. This may be done in several ways. The

trees and shrubs should be so placed so to hide the boundary fences and unsightly buildings, and at the same time leave in full view any interesting object, especially such as a lake or mountain, a park or distant landscape. Then trees should not be out of harmony with the surroundings. An immense Norway spruce, beautiful as it may be, is out of keeping when it almost fills a small lawn. A heavy belt of dark hued evergreens makes a small lawn look shut-in and contracted, when, if lighted up with a quantity of light green deciduous trees and shrubs, the effect would be quite different.

I am not a lover of the old geometrical square and rule gardens, where all lines are at straight lines, and all is stiff conventionality. I believe we can find harmony in variety, and beauty in artful disarrangement. I dislike the straight walk from the gate to the front door, and prefer to come in at a corner and approach the door along a path half screened by trees. I do not like to see a yard like a grocer's balance, where, if the owner has a cut-leaved weeping birch on one side, he must always plant another opposite to balance up; nor a front yard like one I once saw where all the trees and shrubs in the front lawn were disposed in four straight rows like an apple orchard. I like to see groups of such shrubs as will harmonize placed here and there, and thickets planted near the gates, and along the boundaries. For this purpose both trees and shrubs must be employed, the former to give height and breadth to the mass, and the latter to fill in and give completeness to the base and nearer portions.

The frequent practice of shearing shrubbery and trees is, as a rule, to be condemned. Hamilton shows quite a number of remarkable instances of these

deformities. The gardener has been trying to improve on the master who gave the trees their forms, and to my mind he has not improved them. Instances can be seen at many of the railway station gardens of shrubs and trees thus sheared, and I remember seeing many years ago near Hamilton city, a whole yard full of sheared Norway spruce, looking like so many barrels set down in the yard and painted green. True, some very curious gardens of this kind are to be seen in Europe, which are marvels to behold, but their beauty is only in their queerness.

To show that I am not alone in this, I quote from Bailey. He says: "The pruning knife is the most inveterate enemy of shrubbery. We have not the slightest objection to the shearing of trees. The only trouble is in calling the practice art, and in putting the trees where people must see them. If the operator simply calls the business shearing, and puts the things where he and others who like them may see them, objection could not be raised. Some persons like painted stones, others like iron bulldogs in the front yard, and the word "welcome" worked into the door mat, and others like barbed trees. So long as these likes are purely personal, it would seem to be better taste to put such curiosities in the back yard where the owner may admire them without molestation."

With regard to the massing of shrubs, he says, "Be sure that the main plantings are made up of hardy and vigorous species, and have lots of them. Then get the things which you like. I like bull-thistles, lilacs, hollyhocks, burdocks, rhubarb, dogwoods, spiraea, elders and such careless things. But others have better tastes. There is endless merit in the choice of species, but the point I want to emphasize is that the arrange-

ment or disposition of the plants is far more important than the kinds. In most home grounds in this state, the body of the planting may be very effectively made by the use of bushes taken from adjacent woods and fields. The masses may then be enlivened by the addition here and there of cultivated bushes, and the planting of flowers and herbs about the borders. It is not essential that one know the names of these wild bushes, although a knowledge of their botanical features will add greatly to the pleasure of growing them. Neither will they look common when transferred to the lawn. There are very few people who know even the commonest wild bushes intimately, and the bushes change so much in looks when removed to rich grounds that few people recognize them. I have a mass of shrubbery which is much admired, and visitors are always asking me what the bushes are; yet I dug the roots in the neighborhood.

A word should be said about just how to make a group. Dig^o up the entire area. Never set the bushes in holes dug in the sod. Spade up the ground, set the bushes thick, hoe them, and then let them go. If you do not like the bare earth between them, sow in the seeds of hardy annual flowers, like phlox, petunia, alyssum and pinks. The person who plants his shrubs in holes in the sward does not seriously mean to make any foliage mass, and it is likely that he does not know what relation the border mass has to artistic planting. I have said to plant the bushes thick. This for quick effect. It is an easy matter to thin the plantation if it becomes too thick. I should generally plant all common bushes as close as two feet each way, especially if I get most of them from the fields so that I do not have to buy them."

THE GARDEN AND LAWN.

What trees shall I plant, is a question so often asked, we must give a few hints in reply. For clumps and thickets where you wish to hide any ugly barn, or other objectionable features, nothing is better than the well-known Norway Spruce, Hard Maple, or if you choose some of the quick growing willows or poplars. For thickening up a border, a great variety of trees and shrubs can be added, and at little expense, if you will go to the country and ask permission to take home some of the many excellent natives that grow so freely in our woods. You will find the White pine, Hemlock spruce, White spruce and Arbor Vitæ very common along the Niagara Escarpment, and of deciduous trees, not only the ones referred to, but also fine young elms, beeches, oaks, basswoods, ashes, hickories, birches and poplars. Besides these, you will find some interesting trees for special planting, as, for example, *Cornus florida*, with its showy dress of large snow white flowers appearing about the first of June, and its shrubby sister *Cornus stolonifera*, with its bright red twigs, beautiful even in winter.

Another striking native is *Platanus occidentalis*, commonly called the Buttonwood, with its peculiar bark of white and drab. Another, a smaller tree, is *Amelanchier Canadensis*, or Juneberry, with early white blossoms and edible fruit. *Liriodendron tulipifera*, called the Tulip tree from the shape of its flowers, is also a native, not uncommon in the Niagara district. It grows to a height of upwards of a hundred feet. *Sambucus pubens*, the Red berried elder, is beautiful in fruit and well deserves a place in the outside boundary of the lawn.

For single specimens there are a good many beautiful trees, such as Wier's Cut Leaved maple, Scarlet oak, *Catalpa speciosa*, Cut leaved Weeping birch, Copper beech, Purple birch, Maiden Hair tree.

Among the evergreens, the dwarf Arbor Vitæ are very good, as *Thuja siberica*, *globosa*, Tom Thumb; but for single specimens in a small yard, we know of none prettier than *pyramidalis*, a beautiful upright grower which needs no pruning to keep its pyramidal form. It is beautifully adapted to prominent positions near the house, at the corner of a path or near the porch. Similar use can be made of some of the upright Junipers, e.g., those known as the Swedish and Irish Junipers. *Juniperus Virginiana* is pretty for its berries, but the color is almost too dark a green to suit me.

Pinus Cembra, a Swiss pine, is a pretty, slow-growing conifer for the small lawn.

Of the spruces, I believe I would prefer our own White spruce, *Picea alba*, to the grand, but too rapid growing and less durable *Picea excelsa* (Norway Spruce, which is too rampant for small yards, and yet we often see these giant plants as a hedge for small lawns, close along a narrow walk, by people who never realize that it will grow to an enormous size, and unless cut back annually, cover an area on the ground of thirty feet in diameter.

Of exotic shrubs valuable for Ontario, the following are hardy in the latitude of Hamilton, *Viburnum opulus*, *Syringa vulgaris*, *Persica* and others, *Philadelphus Coronarius* (Mock Orange), *Rhus Cotinus* (Purple Fringe). The Spiræas, *Dierrevilla Japonica* *Weigelia rosea* *Prunus nana* (Flowering almond), *Forsythia*, *Hydrangea paniculata grandiflora*, Paul's Double Red and White Thorn, *Prunus Pissardii* (Purple leaved plum), *Lonicera Tartarica* (Tartarian honeysuckle), *Symphoricarpos racemosus* (Snowberry), *Viburnum plicatum* (Japan Snow Ball), *Ligustrum vulgare* (privet), *Mahonia aquifolia* (Dwarf holly evergreen), *Pyrus*

Japonica (Japan Flowering Quince),
Caragana arborescens (Siberia Pea tree),
Cotoneaster Vulgaris.

Of climbers, Tendril, *Ampelopsis quinquefolia* (Virginia Creeper), *Ampelopsis Veitchii* (Japan Ivy), *Akebia quinata*, *Clematis Virginiana*, *Clematis Coccinea*, *Clematis Jackmani*.

Twiners, *Lonicera Halleana*, *Celastrus scandens*.

I have thus indicated several lines of study which each one of us who has a lawn, large or small, may pursue with

absorbing interest and delight. There will be no money reward, but the health and the pleasure derived, and the increased vitality and inspiration for other duties accruing to you in thus coming in touch with some of Nature's pets, will be a richer reward than any one of you has ever imagined, especially if he has been thus far solely occupied with the hard lines of business life.

L. WOOLVERTON.

Before Hamilton Horticultural Society.

THE BABY PRIMROSE.



FIG. 1707. —PRIMULA FORBESI.

THE primrose genus furnishes several of the most charming and useful house and garden plants in cultivation. In its various species, which are widely distributed throughout both hemispheres, there is a diversity of habits and growth hardly excelled in any other genus. While some of the best known species have been in cultivation

for centuries, new ones are discovered and introduced from time to time. The latest of them, the *Primula Forbesi*, or Baby Primrose, is shown in the accompanying illustration.

Its blossoms are very dainty and graceful, not quite one half inch in diameter, and of a pleasing rose-color, with eye or center of pale gold-yellow. They are borne in tiers on erect and delicate stems ten to twelve inches long, and remain in bloom for several weeks, fresh buds opening from day to day. For cut flowers they are particularly valuable on account of their great staying qualities. The plants begin to bloom when quite small and continue to throw up dozens of flower spikes from a dense clump of foliage. The plant requires about the same treatment as the Chinese primrose and will thrive in any cool house or ordinary window garden. Those who have grown this new plant are enthusiastic in praise of its good qualities, and consider it one of the most desirable introductions for many years. — Floral Guide.

CALADIUM.



FIG. 1708.—CALADIUM.

SIR,—As a subscriber to the *HORTICULTURIST* I am sending you a view of a Caladium bed containing eight plants. My admiration for this plant is my reason for sending it. As a lawn plant it has, in my judgment, no equal. Easy to raise, free from enemies, requiring little care, it recommends itself to the florist, and should be better known and appreciated. The plants were placed in a bed situated in the sun, about the middle of June and attained a height of six feet. The bed was given a heavy mulch of leaf mold in July and

watered about three times every week. Had the plants been placed out a month earlier the growth would have been much greater. Difficulty is experienced in keeping the bulbs over winter, but even counting the expense of buying plants every year one is well repaid. On large grounds some splendid effects can be had by grouping Caladiums with other plants. Before the photo was taken Jack Frost had paid us a visit and wilted the plants.

E. A. McCLUNGHAN.

Woodstock.

THE BRIDGE AT EDMOOR.

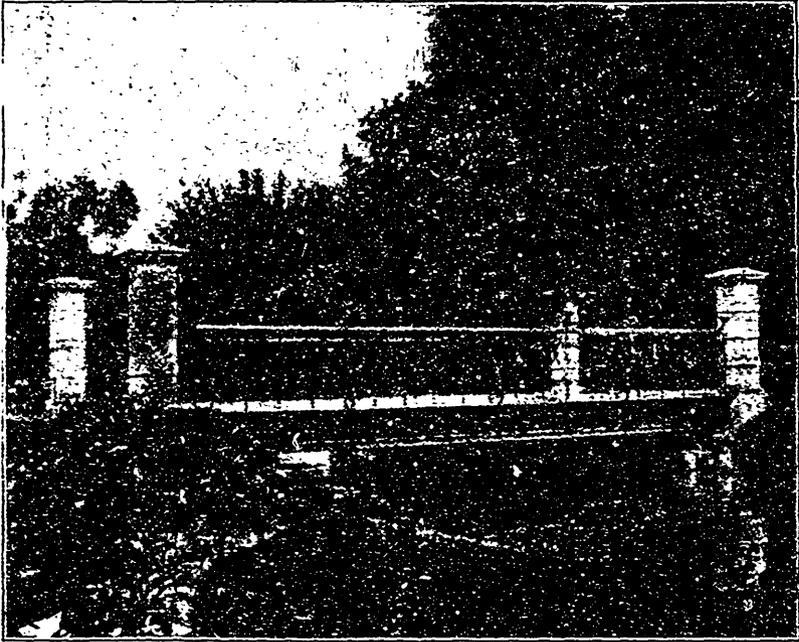


FIG 1709.—THE BRIDGE AT EDMOOR.

WATER always forms a charming feature of a park or private pleasure grounds; it gives such variety and rest to the landscape and affords such opportunities for landscape art. We take from Gardening a fine view of a bridge at "Edgemoor," the beautiful summer home at Oconomowoc, Wis., of Mr. John Dupee. It is an instructive picture in showing what may be done in grounds where sufficient water is obtainable, or where a stream naturally flows through it. Too often these opportunities are overlooked, and small streams that might be made attractive are allowed to remain with unsightly banks. Fortunately for that part

of Lake La Belle, Mr. Dupee is a man of taste, and an enthusiastic lover of all matters pertaining to ornamental horticulture. The luxuriant growth of the cut leaved willow in the centre, show unusually intelligent care and attention.

We should have more of this kind of planting. Many large estates possess considerably area of low lands requiring drainage, where a wide ditch would not only reclaim considerable land, but could be so planted as to become quite ornamental. The spot here illustrated, before Mr. Dupee took hold of it, was only unattractive, but intelligent application of time and money has produced a great change.

FLOWERING SHRUBS FOR LAWNS.

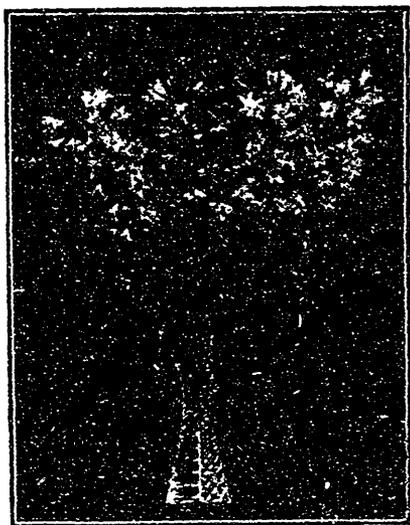


FIG. 1710 —WIGELIA VARIEGATA (SPRAY).

THE introduction to the notice of horticulturists of some that are now considered as being amongst our commonest flowering shrubs, dates as far back as the 16th century; the *Philadelphus coronarius*, better known as Mock Orange is among the first spoken of in horticultural records, being brought from South Europe about the year 1596. The *Hibiscus Syriacus*, or as sometimes erroneously termed *Althea Syriacus*, was introduced from Syria at about the same period; the many beautiful varieties of this plant, with their glossy green foliage and showy flowers, that brighten up our lawns during the scorching hot days of August when most other shrubs look bare and desolate, are, with few exceptions, hybrids raised from this variety. The small but free flowering *Syringa Persica*, or Persian lilac, is supposed to have been brought from Persia about the year 1640. By some authorities

Syringa Persica and *Syringa Chunensis* are thought to be identical with each other, the latter being introduced from China about a century ago. Notwithstanding the lapse of centuries intervening since these varieties were introduced, they still hold a place amongst the many beautiful varieties of these useful shrubs that have been more recently introduced. The lovely Japanese and Chinese lilacs as well as the beautiful hybrids brought into notice by British and Continental growers, with their showy spikes of single and double flowers varying in color from pure white to deep purple, combined with their compact habit recommend them strongly as being more suitable for ornamenting lawns than some of the older varieties; many of these latter, being of a more loose, straggling growth are not as well suited for planting on small lawns.

The *Berberis Canadensis* and *Diervilla* or *Wigelia Canadensis* were introduced about 1796, the *Lonicera tartarica*, better known perhaps as the Tartarian Honeysuckle, was brought into notice at about the same date. The present almost completed century has been very productive in adding to the now almost innumerable list of flowering shrubs; the gradual opening up of comparatively new countries, principally in Asia, having given us by far the greater proportion of the new varieties now seen growing on lawns. China, Japan, Burmah, the Himalaya mountains, as well as the states of Nepaul and Bhotan adjoining Northern India have contributed the most varieties, and in some cases the entire genus of some that are now considered almost common varieties, such as the *Hydrangea paniculata grandiflora*.



FIG 1711 —SPRAY OF SPIREA'S DOUGLASHII AND BUMALDA.

flora, *Forsythia*, *Deutzia*, *Spiraea*, *Tammarix*, *Viburnums*, *Exochorda grandiflora* and many others almost too numerous to mention. Many hybrids of these plants have also been added to the list by enterprising nurserymen and florists. The colder latitudes of Siberia and Northern Europe have contributed a few varieties worthy of notice, amongst others being the pretty, sweetly perfumed *Daphnes*, most of which flower very early in spring, their dwarf and unobtrusive habit making them particularly suitable for planting on lawns. The *Halesia tetraptera* or Snowdrop tree is a native of N. America, and is quite hardy, its pretty silvery white bell like flowers, which have given it the name of Silver Bell or Snowdrop tree, are produced in May or June before the leaves appear, giving the plant a novel and unique appearance. The variety *Hale-*

sia hispida is a very pretty and more recent introduction from Japan, but does not appear to be as acceptable as the native variety. Some of the hardy Azaleas, known as the Ghent or American Azaleas, have been successfully grown in this locality, such as *Azalea viscosa* and *A. nudiflora*, but the *Azalea mollis* of Chinese and Japanese origin, as well as *Azalea pontica* from the Caucasus, including hybrids of these varieties, which are classed as being hardy in this section, have not proved to be so, partaking as they do, both in flower and habit, more of the nature of those gorgeously beautiful Asiatic shrubs, the *Rhododendrons*, which are seen in such numbers on lawns, more particularly in the south and west of England as well as in Southern Europe. It is to be regretted that these latter are not entirely hardy here; even in England, severe winters and extreme drought in summer often destroys whole beds of these much admired plants.

Mention might be made of many more species and varieties of flowering shrubs, many of them being better adapted for planting in large shrubberies, or margins of plantations, or to hide some objectionable feature of the landscape than for planting on lawns for decorative purposes. The planting of shrubs is of importance especially as to the requirements of position and surroundings; the method of actual planting being the same as applied to all small trees and shrubs requires no explanation, as these particulars have been so often given in horticultural journals.

Sufficient attention is not often given to these plants regarding position and surroundings, as with few exceptions they require an open sunny situation, with a free circulation of air, without being fully exposed to sweeping winds; the partial shade of a tree or building

FLOWERING SHRUBS FOR LAWNS.

during the scorching midday sun, would probably benefit some varieties such as the Japanese Spireas, and a few others that flower during the hot days of July; care must be taken however to keep the plants a sufficient distance from these, so that the plants are exposed to the sun and air during the greater part of the day. The height and habit of growth of the plants must be taken into consideration as well as the probable growth of trees and shrubs growing near to them, and the suitability of the plant as to color, so as to have a variety of color and form; nor must we forget the habit of growth of the plant as adapted for the position selected, for some comparatively dwarf growing shrubs have a loose spreading habit, such as Forsythia, spirea van Houttii, *S. lanceolata*, and others of similar growth which require more space to produce the long arching branches that make these Spireas so attractive when laden with their hawthorn like flowers in early summer. Most varieties of the *Deutzia*, *Prunus* or double flowering Almonds, *Spirea prunifolia* and *S. bumaldii* and a few others are of more compact and upright growth, requiring less space than the stronger growing varieties, the dwarf growing *Deutzia gracilis*, *D. parviflora* and the newly introduced variety *Deutzia Lemoinei* are specially adapted for planting on small lawns, where the space is limited, or near the edge of walks.

Pruning flowering shrubs is a very important point in the successful growth of these plants, so as to produce a natural looking shapely plant and still leave sufficient of the young growth, as nearly all flowering shrubs produce their wealth of bloom on the growth of the preceding season; there are a few exceptions to this rule, the *Hydrangea*



FIG. 1712.—SPRAY OF "SPIREA VAN HOUTTII."

paniculata grandiflora being one of them. This plant requires severe fall or winter pruning, cutting back the young growth to within about an inch or two of the older growth of the plant.

The far too common method of clipping, or to use the proper term, mutilation of these plants cannot be too strongly condemned. This unnatural and disfiguring process usually takes place annually in July or August, before the plants have completed the season's growth, and it entirely destroys the young growth necessary to produce the bloom of the following season. Many of the most beautiful of our flowering shrubs can be seen on lawns entirely ruined by this mistaken system of clipping; unsightly looking plants of the Forsythias, Weigelias, Spireas, and even the double flowering *Spirea prunifolia* can be seen, clipped of all the growth so necessary to produce the beautiful minaret like spikes of snow-white blossoms, that make this plant so valuable in spring and early summer for lawn decoration. The best time for pruning



FIG. 1713.—Centre Spray DEUTZIA "PRIDE OF ROCHESTER."

flowering shrubs is late in autumn or early winter ; a sharp pruning-knife, or a small pair of grape pruning-scissors is all that is necessary for this purpose. The method usually adopted by successful growers of these plants is termed the "thinning back" or "thinning out" system, which is carried out practically by cutting out the most prominent branches or shoots, that project beyond the tips of the growth that is to form the general outline of the plant, so that when the pruning is finished it leaves the plant of a natural looking uniform shape. The branches or shoots should be severed at a point near to or below the base of the young growth it is necessary to remove, thinning out all parts of the plant equally, so as to leave the plant evenly balanced, and natural looking.

A correct eye for form, and a little study of the growth necessary to give the

best results to produce bloom the following season, will soon enable anyone to become proficient in what is sometimes thought to be a difficult operation. Many varieties of flowering shrubs can be kept in good shape and a supply of cut flowers obtained from them in summer for indoor decoration, by judiciously cutting out the most prominent branches or spikes of flowers ; this can be easily done without any injury to the plant, if care is taken not to cut too much of the plant away in any one particular place.

To be successful in growing flowering shrubs, this system of pruning, as explained, must be commenced when the plants are young, as when once they are allowed to get overgrown and out of shape, it is difficult to successfully bring them into proper shape, to produce a supply of flowers.

The selection of flowering shrubs for small lawns is often a difficult matter, not only from the large variety there is to select from, but for other reasons. The highly colored, deceptive plates sometimes seen in catalogues and cheap horticultural papers, as well as the glowing and sometimes inaccurate descriptions given of plants, are some of the difficulties encountered in making a selection ; the omission, in some cases, altogether of any particulars as to the size and habit of the plant does not improve matters in this direction. It is pleasing to note however, that reproductions from actual photographs of plants and flowers are being much more generally used to illustrate catalogues and horticultural periodicals. These, if well executed, give faithful representations of the subject they are intended to illustrate ; at least, so far as form of flower or habit of plant is concerned. Their deficiency in coloring is at any rate not

ROSES—CHOICE OF VARIETIES AND WINTER CARE.

deceptive; this defect can be much more easily described than the form or habit of growth of a plant, the latter being far more essential to success than high colored illustrations which often cause disappointment and failure. The pamphlet recently issued by the Central Experimental Farm, Ottawa, and which was mentioned in the October number

of the *HORTICULTURIST*, is a valuable paper, giving as it does reliable information in many ways as to the growth and hardiness of a large number of trees and shrubs, being of especial value to localities where the winters are prolonged and severe.

WM. HUNT.

Before Hamilton Horticultural Society.

ROSES—CHOICE OF VARIETIES, AND WINTER CARE.

“TEA” OR EVERBLOOMING MONTHLIES.

IT must be distinctly understood that this variety is very tender, requiring, probably, a little more care and attention than the amateur feels disposed to bestow upon them; although they will amply repay for the time and the labor that is necessary for their protection through the winter months.

The following varieties I have grown and wintered out-doors: “Catharine Mermet,” “Madam Cochet,” “Jean Ducher,” “Marie Van Houtte,” “Madame Lambard.”

If any readers of this Journal are desirous of cultivating the “Tea” rose, and will adopt the following method of planting and protecting, I venture to say they will be well rewarded.

In the first place, secure good, strong two-year-old plants (I prefer budded stock), select a sheltered situation facing south, and in planting, see that the bud (or the place where the bud is inserted in the Manetti stock) is about three inches under the ground. If any pruning is required, do it sparingly. Towards the end of November, or as soon as winter sets in, tie up the bush to a stake and bank up the roots with cow manure and leaves; take a nail-keg, knock out the bottom, and bore three or four holes in the side, about midway,

for ventilation; place it so that the bush is in the centre and fill in thoroughly with dried leaves. Do not pack too tightly, or mildew will follow; let the stake project above the keg from four to six inches, and this will act as a centre pole. Then take a piece of factory, or anything of that nature, cover the keg so as to assume the shape of a military tent, and tack the factory (or whatever is used) to the top edge of the keg, so as to be thoroughly waterproof.

It must be thoroughly understood that the secret of protecting “Tea” roses is to keep them dry, especially towards spring. Another point, which cannot be too strongly emphasized, is this: it is the warm days and freezing nights in the spring that prove so disastrous to the rose; hence the necessity of keeping them covered until all appearance of frost is gone.

In the list of dark Hybrids, which you kindly published last month, I omitted to mention “Pierre Notting” and “Alfred Colomb.” Although old roses, for color and fragrance I doubt very much whether any rose of recent production is superior to the above named.

J. G. JACKSON.

Port Hope.

HYACINTHS.

JUDGING from my own experience and the experience of others I believe the Hyacinth to be about the best bulb for winter window culture, and among the different classes of Hyacinths none are more fitting for that purpose than the sweet and graceful Roman varieties. The bulbs of these are somewhat smaller than those of other kinds, yet their flowers are produced in greater abundance, and last much longer than those of other sorts. Bulbs planted in September or October ought to come into bloom by Christmas, and nothing is daintier to give to one's friend than they, either cut or still on



FIG. 1714.—HYACINTHS.

the plant. The bulbs delight in a rich soil, composed mainly of thoroughly decayed manure, garden and woods mold; also a judicious supply of moisture—in the air rather than at their roots—and a temperature of about sixty or sixty-five degrees. They do not exact any sunshine to speak of, and will bloom very successfully in a north window. It has been my custom for years to plant

only one bulb of these (and all other Hyacinths except the Grape) in one jar, although this is not absolutely requirable. A four-inch jar about suits an ordinary-sized bulb; larger named sorts will require a receptacle a size or two larger, while three bulbs of the little Grape Hyacinths may be set in a four-inch pot. I generally surround each bulb with coarse sand to ward off decay.

After introducing my bulbs to their dark box down cellar I let them remain there from six weeks to three months, and find that those left longest are much the finest, all told. Let me say if all bulb growers would make this all important fact their own and act upon it, there would not be one-half so many failures in making these bulbs come into successful flower. Experience, that hardest yet kindest of teachers, has convinced me of that.

Among the named single Dutch Hyacinths I can unhesitatingly recommend the following: Amy, medium spike of rich carmine flowers, one of the best; Gertrude, fine spike of rose bells slightly with lilac, has carmine stripe on each petal; Gigantea, immense truss of delicate rose; La Reine des Jacinthes, rich, glowing, dark red; La Grandesse, dense spike of snowy blossoms; Mimosa, dark rich blue, nearly purple; Ida, fine canary yellow; L'Amie du Coeur, fine spike of mauve-lilac blossoms.

I have said nothing about the double named sorts. Perhaps it is just as well, as I never feel safe in recommending them to those who are beginning bulb culture.—Benj. B. Keech, Park's Floral Guide.

THE SNOWDROPS.

SNOWDROPS are one of the easiest bulbs to grow. All they require is to be planted and left alone; they will grow stronger from year to year and make a fine show if planted in a mass in some corner of the lawn or amongst deciduous shrubs where hardly anything else will grow. They are also charming if planted near the house where they can be seen from the windows; in this way they can be associated with other bulbs that flower about the same time, namely the winter aconite, *Scilla siberica*, crocus and chionodoxas or planted in the hyacinth or tulip beds; in this way beds in the vicinity of the house are kept gay

a longer period, and the foliage of the snowdrops makes a nice groundwork for the hyacinths or tulips. But these early spring flowers are not much seen in gardens. They are noticeably absent from the grounds of the country homes of those who live in the city in winter, but the gardener in charge should see that there is a patch of snowdrops, for in March, when the greenhouses are full of bedding plants and flowers are scarce, a colony of snowdrops will help to swell the flower basket and may be more prized than the choicest rose or orchid the greenhouse can produce.—American Florist.

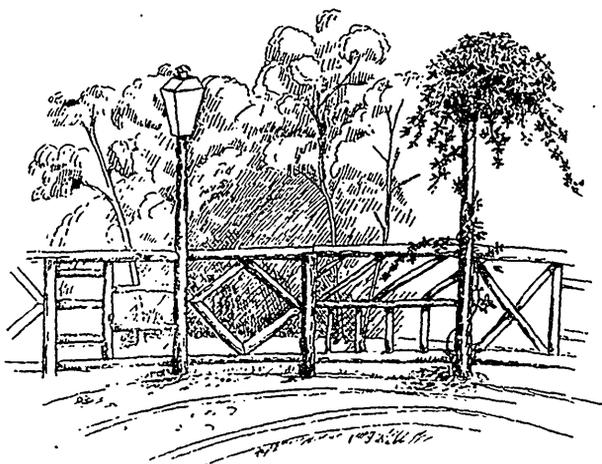


FIG. 1715.—RUSTIC LAMP POSTS AND TRELLISES.

RUSTIC LAMP POSTS AND TRELLISES.
—In Tuxedo Park, along the drive bordering the lake, is a handsome rustic fence, of which not the least interesting feature is that at appropriate distances the posts of the fence extend above the rail several feet to form lamp rests. Our illustration presents a modified form of this method, showing how other posts

may be run up and used as trellises for clematis and other climbing vines. We don't believe in fences except as safeguards against positive danger or real encroachment, and where necessary we do believe in making them as useful or beautiful, or both, as the case will permit.—American Gardening.

✦ Our Affiliated Societies. ✦

THORNBURY.—At a meeting of the Thornbury Horticultural Society held at the office of Dr. Hurlburt, on Friday evening last, it was resolved to expend the surplus Government grant in purchasing trees and flower bulbs to be delivered to the members at once.

It was moved by Mr. M. Snetsinger, seconded by C. W. Hartman, that having examined the results of the spraying experiments under direction of Mr. Orr, Superintendent, we heartily endorse the practice of the department in conducting systematic experiments. The results in Mr. George Lambert's orchard shows conclusively that it is the only known method securing sound large fruit and of keeping the trees healthy.

In moving the resolution Mr. Snetsinger stated that although an extensive dealer in apples for many years, he was never until this year thoroughly convinced of the immense value of spraying. This year he had purchased the crop of apples from Mr. John Mitchell at the experimental station, where systematic spraying had been conducted for some years, and the fruit was so perfect that it could be packed without culling.

LINDSAY.—This Society has already made up the following list of plants and bulbs to be given each of the first one hundred members paying in his subscription for the year 1900 :

OUR JOURNAL FOR 1900 will be still farther improved. The columns will be wide, the page larger and the exterior will be decorated with an entirely new cover and cover design. We are promised special articles from Prof. W. T. Macoun, of Ottawa ; Mr. S. H. Mitchel, St. Marys ; A. E. Mickle, Toronto ; A. E. Brooke, Alberton, and many others.

Package No. 1, containing Kentia palm, chrysanthemum and four hyacinths, and package No. 2, containing Bismark apple tree, Prunus triloba, and four hyacinths.

GUELPH.—Years gone by there was a flourishing Horticultural Society in the city, but latterly the interest flagged and the society dropped out of existence.

On Tuesday evening, Nov. 14th, a meeting was called in the City Hall to re-organize a society. Although there was not a large attendance, those present were most sanguine of being able to form a strong society, and the meeting on the whole was a success.

Mr. James Goldie was appointed chairman. He explained very fully the objects and aims of the society, and the benefits that would be derived by such a society, not only to the members, but the public at large.

Messrs. Lyon, R. Cunningham and Prof. Hutt were also strongly in favor of the formation of the society.

After a number of questions had been asked and answered, the ladies—of whom there were quite a few present—formed themselves into a committee to canvass the city for members. They seemed most enthusiastic, and are confident of securing a large membership.

OUR HORTICULTURAL SOCIETIES will be interested in knowing that in place of the Tea rose offered them in a special circular, we can give them Francois Levet, one of the hardiest and best of Hybrid Remontants. It is cherry-rose in color, medium size, somewhat of the style of Paul Verdier.



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 or Post-Office Order are at our risk. Receipts will be acknowledged upon the Address Label.

ADVERTISING RATES quoted on application. Circulation, 5,000 copies per month.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events or doings of Horticultural Societies likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of Horticulturists.

ILLUSTRATIONS.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, etc.; but he cannot be responsible for loss or injury.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

DISCONTINUANCES.—Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrearages must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post Office address is given. Societies should send in their revised lists in January, if possible, otherwise we take it for granted that all will continue members.

✦ Notes and Comments. ✦

DR. SAUNDERS has recently returned from an extended tour to the Pacific Coast, visiting the experimental farms on the way. He reports that extended preparations are being made for a complete display of the agricultural horticultural products of the Great West at the Paris Exposition.

PRINCE EDWARD ISLAND APPLES.—Father Burke, of Alberton, P. E. I. forwards us three fine samples of apples grown in that Province, and if we may judge by them, the little island may well be encouraged to plant apple orchards. The largest one is about three inches in diameter, and resembles Stark in form, but is more deeply colored with dark red. The second is about $2\frac{3}{4}$ in widest diameter and resembles Cranberry Pippin in markings, and Canada Red in form; the the third, is

oblong, about 3 inches by $2\frac{1}{2}$, green with a very dark red cheek, something like a Gillyflower, but more obtuse, brighter red, and heavier. Possibly these are all local apples, and if so, may be more suited to the conditions than varieties which have originated elsewhere.

MANITOBA-GROWN APPLE.—Prof. W. E. James of the Manitoba College, Winnipeg, sends us a sample apple grown in Manitoba by the Archbishop of Rupert's Land, in his garden at Bishop's Court, Winnipeg. The apple resembles the Yellow Transparent, but comes to hand when this variety is entirely out of date in Ontario. No doubt in Manitoba it would be later in season than here. Mr. James adds that he believes that one day Manitoba will

be able to supply in a large measure her own needs in the way of apples.

PAN-AMERICAN.—The Buffalo Courier is quite jubilant over the assurance received at the head quarters of the exhibition, that Canada would make a splendid exhibit, and takes it as a further evidence of the friendly feeling existing between England and the United States.

EXTRAORDINARY RETURNS.—We are often asked how much per acre may be expected as the net returns from a peach orchard, and such questions are the most perplexing, for everything "depends upon the man." Right varieties, right location, right methods of growing, packing and marketing make a man rich, while neglect of these make a man poor.

It has been stated that Mr. Roland Morrill, of Benton Harbor, Michigan, the President of the Michigan Society, gathered 12000 baskets of peaches from 50 acres of peach orchard, which sold at prices ranging from \$2.00 to \$7.00 per bushel! His returns from fifty acres were \$35,000!!

The explanation is due to cultivation, potash, manuring, sensible pruning, and unmerciful thinning, as a result of which many of his peaches measured three and a half inches in diameter.

COMMERCIAL FERTILIZERS, according to Prof. Vanslyke are much more satisfactory when used in conjunction with humus, than when used alone.

THE CANADIAN FIELD PEA is considered in California the most satisfactory to sow for green manure. They allow from 85 to 100 pounds to the acre.

CORRECTIONS. — On page 428 it should read, "homes referred to by

Charles Downing in his Landscape Gardening"; his own home was on the Hudson. Also Prof. Sargent was editor "Garden and Forest" not The Garden. On page 447 Fig. 1688 should read "Scale and ovule," not frond.

THE KOONCE PEAR is favorably reported upon by Mr. E. P. Powell, of New York State, as being large and handsome, of bright yellow color, with crimson cheek, and flavor equalling Sheldon.

VERMONT BEAUTY pear originated on Grand Island, Lake Chaplain, about 1887. It is a pretty red cheeked pear, of fine quality, ripening in October.

PRINCESS LOUISE.—Samples of this apple have been received by the R. N.Y. and described as highly colored, bright red and whitish ground, flesh white, fine texture, spicy, pleasant, and full-flavored, higher quality than Shiawassee Beauty.

THE CANNED FRUIT JELLIES in common use are said to be mostly made of apples boiled down in diluted sulphuric acid, and flavored to resemble the various fruits!

OBITUARY.—Peter M. Gideon, originator of the Wealthy apple, died at Excelsior, Minn., October 27th, aged 79. The apple was named after his wife, Wealthy Hall, whom he married in 1849. He was the first superintendent of the State Experimental Fruit Farm.

THE MACINTOSH RED APPLE was originated by Allen McIntosh, of Inkermann, a Scotchman who served in Captain Cripler's company in 1837, and was present at the Battle of Windmill Point. He was also the originator of the Golden Sweet.

JOHNSON'S EARLY is the name of a

NOTES AND COMMENTS.

new strawberry from Somerset County, Maryland and was originated by Mr. O. Johnson, from seedling of Crescent and Hoffman. It is said to be as productive as Crescent and as early as Michell.

ENCOURAGING TO CANADIAN SHIPPERS. The Fruit Grower in a recent issue says: We have received some samples of Maiden's Blush apples and Williams (Bartlett) pears which formed part of the late shipment of Canadian fruit sold in Covent Garden.

From the specimen to hand it is clear that there is a big opening for these Canadian fruits, and that they will with careful shipment, packing and distribution secure ready sales at good prices. We are much impressed with the quality, that is the size, color, and flavor of the fruits, and we shall take an early opportunity of dealing with them and this branch of the trade in an early issue. The Canadian growers and shippers may face the future development of their export fruit trade with the greatest confidence.

In pears, the California samples, Beurre Hardy, in cases of 60 to a case, sold from 7s. 6d. to 8s. 6d. each; these fruits were fine, as may be gauged when we state that many of them have been retailed at 3s. and 4s. per dozen fruits; Clairgeaus sold from 6s. to 7s. 6d. per four dozen count, and Duchess from 5s. to 6s.; these contained the same quantity as the Clairgeaus.

In plums, California made from 7s. to 8s. per twenty pound net. Some of these have been retailed at 2s. a dozen fruits. Golden Drops went out from 6s. to 7s.

BEURRE HARDY.—Speaking of this pear in England, the same authority says:—This is a fine variety of pear and

one which may be raised with the utmost confidence. In the fruit shops at the present time it is well to the fore, though the major portion of the fruits thus exhibited have been sent us from California. It is a large pear, oblong, obovate in shape, it has a fine appearance, and is well suited for market work; it is at its best in October. The quality of this pear is beyond dispute, for it is unique in its way, and the flesh possesses a very marked perfume. Why it has not been raised in this country in sufficient quantities to satisfy the market need is a mystery. Possibly its claims have not been brought home clearly to the majority of growers. Whatever the cause may be there can be no doubt as to the quality and suitability of this fine pear for commercial purposes. We should not hesitate ourselves even to make its production a special feature, for when well grown it is a pear from which money can be made. The skin is yellowish green, but it carries a lot of russet markings on it, and it is this which makes it a conspicuous fruit whenever it is on show. It is an admirable all-round pear, particularly suitable for sale amongst the best class of buyers.

COES' GOLDEN DROP is also commended as one of the best plums for the London market; and it is stated that this plum has been sold in the English fruit shops at 1s. 1d. or about 36 cents a dozen. These were from California, large, well colored, and in excellent condition.

FRUIT GROWING IN NATAL is becoming an important industry. It is said that the road from Durban to Pietermaritzburg is lined with numerous fruit plantations. The district of Malvern, nine miles from Durban has soil and

climate well fitted for growing sub-tropical fruits. Bananas are a staple production; the Natal pine apple is a superior variety; lemons and oranges are both commonly grown, the latter coming into bearing in the fifth year, and continuing until their thirteenth.

we have been noting Black Victoria at Maplehurst, and this year especially it is showing up well in productiveness. The same good quality is also shown by plants growing at Mr. Peart's, Freeman, who is experimenting with all varieties of currants. Branches sent us for putting

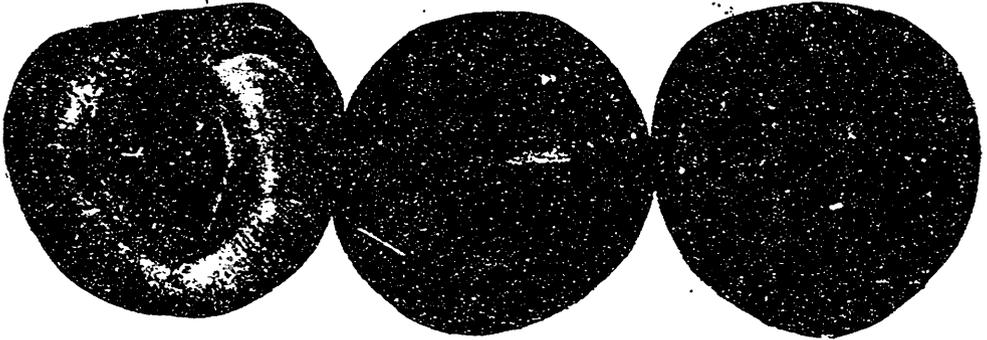


FIG. 1716.—THE GARDEN CITY APRICOT.

THE GARDEN CITY APRICOT is a new variety, which has recently originated at St. Catharines, and is very promising, both by reason of its beauty of appearance, excellent quality, and fine size. The cut shows the natural size of some of those apricots, which were sent in to this office last summer. They seem to be also hardy and productive.

BLACK VICTORIA. — Black currants have been planted quite largely for profit in the Niagara district, chiefly of the Naples and Lee's Prolific variety, because their rarity in our markets made them a good price. But alas! they are usually so unproductive in this section that there was nothing in them for the grower, and they have been rooted out. The black currant is one of the fruits that seems to succeed well in the north, if we may judge by what we saw in 1898; for on St. Joseph's Island we found garden rows of Lee's Prolific, that were loaded down with magnificent fruit. For two years now

up in bottles were heavily loaded, and the bushes seem to be very vigorous. The bunches appeared three and four at each node, and measured from $1\frac{1}{4}$ to $1\frac{1}{2}$ inches in length, and the berries $\frac{1}{2}$ by $\frac{5}{8}$ inch in diameter. The season is from July 15th to 30th.

THE BOSTON FERN, which is on our list for distribution in the spring of 1900 is a valuable house plant. Its long gracefully drooping fronds hanging down on all sides from a jardiniere stand are a real source of satisfaction, and although we can send only a small plant by mail, it will soon grow to a thing of beauty. The Florist says of it:—"The Boston fern owes much of its popularity to the ease with which it adapts itself to house culture. Frequently we see in sitting-room windows specimens equal to the finest conservatory-grown plants and of better color than the average greenhouse product. This would indicate that this plant prefers the deficient light of the dwelling

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house to the glare of the greenhouse, and that shade is an essential for its best development."

THE LOUISE is one of the finest export pears, providing a first-class sample is produced. On well cultivated sandy loam, well enriched, well pruned, the tree yields a fine crop of large fruit with a beautifully colored cheek; and such stock brought the highest price in the British market, of any pear we sent over in 1898.

A writer in the "Fruit Grower" writes as follows of it: We put Louise Bonne first, and in spite of the claims of several others, we think that we are justified in doing so. Why? do you ask; well, simply because it is a most luscious variety, puts on a grand color, comes to a good salable size, and is exquisite when fully matured. We really wonder if a well-ripened English Louise Bonne has any thing that can be comparable to it as pears go. It is a grand fruit for marketing in boxes, and on that account cannot be too freely grown. We have seen these pears marketed thus going out to the order of the best buyers in the retail trade without having being opened for general view at all, and this proves very clearly that it is an excellent one to grow for profit.

As often grown, however, in Ontario, on soil that is poorly cultivated, and poorly fertilized, the pear is small, and scabby, and unfit for market. It succeeds far better as a dwarf than as a standard.

GOOD PEARS. — The Fruit Grower gives the following list of desirable pears, viz.: Doyenne de Comice, Beurre Hardy, Pitmaston Duchess and William's Bon Chretien (Bartlett).

WORMY AND SPOTTED fruit filling the

English market. It is surprising that our apple shippers will follow the suicidal policy of shipping to the foreign market such rubbish as they have been doing this season. It would appear that the warnings given in this Journal, and in the reports of our meetings have been wholly without effect in hindering this evil of fraudulent packing. Shippers go about the country buying up orchards, and do not hesitate to use the good fruit for facing up the ends of the barrels, and the rubbish to fill in the middle. James Adams, Son & Co., Liverpool, write, November 4th:

The position of things this week has been disappointing in the extreme, the excessive supply of inferior and faulty conditioned fruit having so completely demoralized the market that, to effect sales, wretchedly low prices have had to be accepted. Indeed, hundreds of barrels have been sold at prices that will little more than, if in fact, fully cover freight and charges, and it goes without saying, therefore, that shippers all round will lose heavily. Why the stock should have gone off so suddenly we cannot possibly understand, but seeing that arrivals from all sources have been similarly affected, we are inclined to the belief that the weather must have been too warm when packing operations were in progress, a theory which is amply justified by the very heavy shrinkage seen in so many of the barrels. In spite of all this, we do not wish shippers to be altogether discouraged, as the trade is still able to appreciate fruit of good quality when it is available. Even this week some few lots brought fair prices, and the buyers' complaint is that they cannot get sufficient to meet their requirements, so that as soon as reliable stock comes along there is no doubt that things will brighten up again. Fruit that is wormy and spotted, like

THE CANADIAN HORTICULTURIST.

that we have been receiving lately, gives little or no satisfaction to anybody, and seeing that the charges are the same as on better stock, we are surprised that so much common stuff has been sent forward.

THE COMET CURRANT is considered in the Fruit Grower, London, England, as very productive, as many as twenty-six berries having been counted on a single bunch. The berry is of superior size, and it is claimed that such a sample should bring about a new era in currant culture.

RIBSTON PIPPIN.—Four samples of this fruit from a very old tree, a sucker from the original tree, were recently sent the editor of the Gardeners' Chronicle, England, by J. McLellan, of Ribston Hall, Gardens, Sussex. The original tree was raised here from a pip sown in 1709, and it was blown down in 1734. The sucker has never been moved.

THE PRINCESS LOUISE. Mr. Green of Rochester writes as follows, concerning this variety, which originated on our fruit farm at Maplehurst years ago, a chance seedling of the Fameuse:—We are greatly pleased with the Princess Louise apple as fruited here this season. It is a reddish apple, somewhat flattened in shape, good size, very handsome, and of fine quality, resembling Shiawasse Beauty but darker. It is a fine apple if it is correctly named.

THE PLANT DISTRIBUTION. Our request for the views of members regarding the best use to make of the \$600 or

\$700 now spent in distributing plants, has brought in a large amount of correspondence, many preferring that it be spent in increasing the size and usefulness of our journal, for which it would work great changes; and others, perhaps the majority, preferring that we continue the present system of giving each member some new or valuable sort of fruit or flower plant. We shall not therefore make any change in the custom without further consideration.

THE JOURNAL FOR 1900 will appear in improved form, with wider columns and larger page. We hope to give our readers much better value for their money than in any previous year. We solicit letters, notes, comments, articles, and illustrations (photographic or other) for January number, and bespeak the hearty co-operation of all, whether professional or amateur gardeners.

ORCHARDS IN ENGLAND.—Of the 224,000 acres of orchard in Great Britain returned to the Board of Agriculture as arable, or grass land used for fruit trees, all but 3 per cent are situated in England. These acres are chiefly grass land planted with apples and pears and a large proportion is not producing half as much fruit as it might under proper cultivation and care.

"This state of things," says the journal of the board, "has been caused by various forms of neglect and mismanagement, the primary being the selection of unsuitable varieties of fruit trees and indifference with regard to origin, size, vigorous habit and healthy appearance of the young fruit trees planted."



✠ Question Drawer. ✠

Huggard's Seedling Pear.

1119. SIR.—I send you a seedling pear for your opinion. It is a cross between Clairgeau and Anjou.

R. L. HUGGARD, *Whitby.*

This pear is worth testing. In a warm room it has ripened for eating this 1st November, but in the cool it would no doubt keep till Christmas. It is large in size, obtuse, pyriform, skin yellow, with bright red cheek, stem stout with peculiar raised fleshy insertion, calyx half closed in a moderately deep basin, flesh creamy white, tender, juicy, with some granules like the flesh of the Duchess; flavor sweet and very agreeable.

Weakened by Frost.

1120. SIR.—I planted a number of pear trees in the spring of 1898, they all grew well that season, but this spring the trunks of most of them were dead on one side, the branches were budding some but have died since. Would like to know if such young trees would have the blight, if the cold winter has done it, or if the disease has come from the nursery, some trees are growing from the roots.

D. N. A.

No doubt the severe cold weather of last February weakened the life of many of our fruit trees, some of which succumbed at once and others have been gradually dying. Sometimes the sun coming out suddenly upon frozen bark after a severe cold spell, causes sun scald, or portions of bark to die and in time peel off, thus seriously injuring the tree.

Choice of Apple Trees.

1121. SIR.—I am thinking of planting out three or four hundred apple trees (winter fruit) assorted, as follows: Baldwins, Ben Davis, Mann, Kings, and Cranberry Pippins. Would you kindly let me know what you think of the assortment?

A. MCK. CAMERON,
Meaford.

The selection of apple trees made by our correspondent is a very good one for a list of winter varieties for export, with one exception, viz., the Mann apple. This variety drops badly from the tree, and its color is not favorable to its ready sale. It is productive and fairly even in size but can hardly be classed among the best commercial varieties. We would substitute Ontario for Mann in the list proposed by our subscriber.

Turnips as Green Manure.

1122. SIR.—If not too much against the rules of your journal, I wish you would reply to the query as below at your earliest convenience. I have a crop of turnips in my plum orchard—trees planted five years next spring. Would it be good for tree or fruit or both to plow under turnips now?

EPHRAIM COOKE,
Norwich, Ont.

Reply by H. L. Hutt, O. A. C., Guelph.

We would not advise plowing under a good crop of turnips. It would pay better to sell the turnips and buy wood ashes or manure, or if possible feed the turnips to stock and apply the manure to the orchard.

Second Crop of Flowers after Bulbs.

1123. SIR.—In your October issue in an article taken from the *Farmer's Advocate*, I observe it is recommended that bulbs should remain unmoved in the ground for three or four years, or longer. Will you kindly tell a subscriber if any use can be made of the ground after the plants have ceased to bloom; and if so, what is the best thing, or things to use in the vacant or bare earth?

JAS. CAUFIELD,
Woodstock.

Seeds of annuals may be sown to succeed the early spring flowering bulbs.

Regulations of Fruit Packing.

SIR.—The answer to question No. 1110 is really satisfactory as far it goes,

QUESTION DRAWER.

but to buyers at least there are two other questions referring to fruit packages that require attention. One you have hammered at until it is almost headless, viz., the quality of fruit put into the packages. Is it possible to establish a standard? If so why is it not done? Why is it not made law that in packing fruit of all kinds, the name of the packer and the of the fruit and the quantity (net) shall be put upon every package. Of course a brand is a brand by law, but take grapes, pears, peaches, plums, raspberries, strawberries, etc., and there is more fraud than righteousness. I go to market and buy, say, a ten pound basket, if I do not get a nominal seven pound one, I do get only nine pounds. Then there are 15,

17, and 20 lb baskets and a buyer must be an expert to detect the fraud. The only cure for these miscellaneous packages is the one above suggested, viz.: Make it an act (of the Ontario Legislature I think) that every package of fruit offered for sale shall be labeled

Put up by
Containing 00 lbs net.

Peaches

or whatever there is in it.

Then perhaps fruit will be correctly and honestly put up. These are suggestions for your winter meeting. See page 420.

G. H. FAWCETT.

Ottawa.

* Open Letters. *

The Colored Plates.

SIR,—I notice of late some few giving their opinion about the plant distribution, but we hear nothing about those beautiful colored plates we used to have in each number. They would make a fine show in the bound volume, even one on the first page like 1897. I have mine set in frames, ten in each frame and think they are a good decoration for a fruit growers home. They are also some help in getting subscribers in this part, so I would rather see the plants discontinued than the colored fruit plates. Now why not make the December number a kind of a Christmas number, as it is the last volume for this century, and I believe it would be much better for agents at least, than the spring plant distribution.

D. N. ANDERSON.

Wyoming, Ont.

THE APPLE CROP of the United States in 1898 amounted 28,570,000 barrels, and this was counted an unusually short yield. This year, also a short yield, the amount is estimated at 35,100,000 barrels. The following is a showing of the

APPLE CROP OF THE UNITED STATES.

Year	Barrels
1894	57,630,000
1895	60,540,000
1896	67,570,000
1897	41,537,000
1898	28,570,000
1899	35,100,000

The exports of American and Canadian apples, for the seasons given, are shown in the second table with this article. Liverpool was the largest receiver, that port being credited with 689,036 barrels; London coming next with 271,347 barrels, Glasgow 180,336 barrels and Hamburg 22,861 barrels following, all other receiving ports being credited with 57,512 barrels.

APPLE EXPORTS

Year	Barrels
1891-92	1,450,336
1892-93	1,203,538
1893-94	174,841
1894-95	1,438,155
1895-96	756,415
1896-97	2,919,846
1897-98	913,996
1898-99	1,221,087