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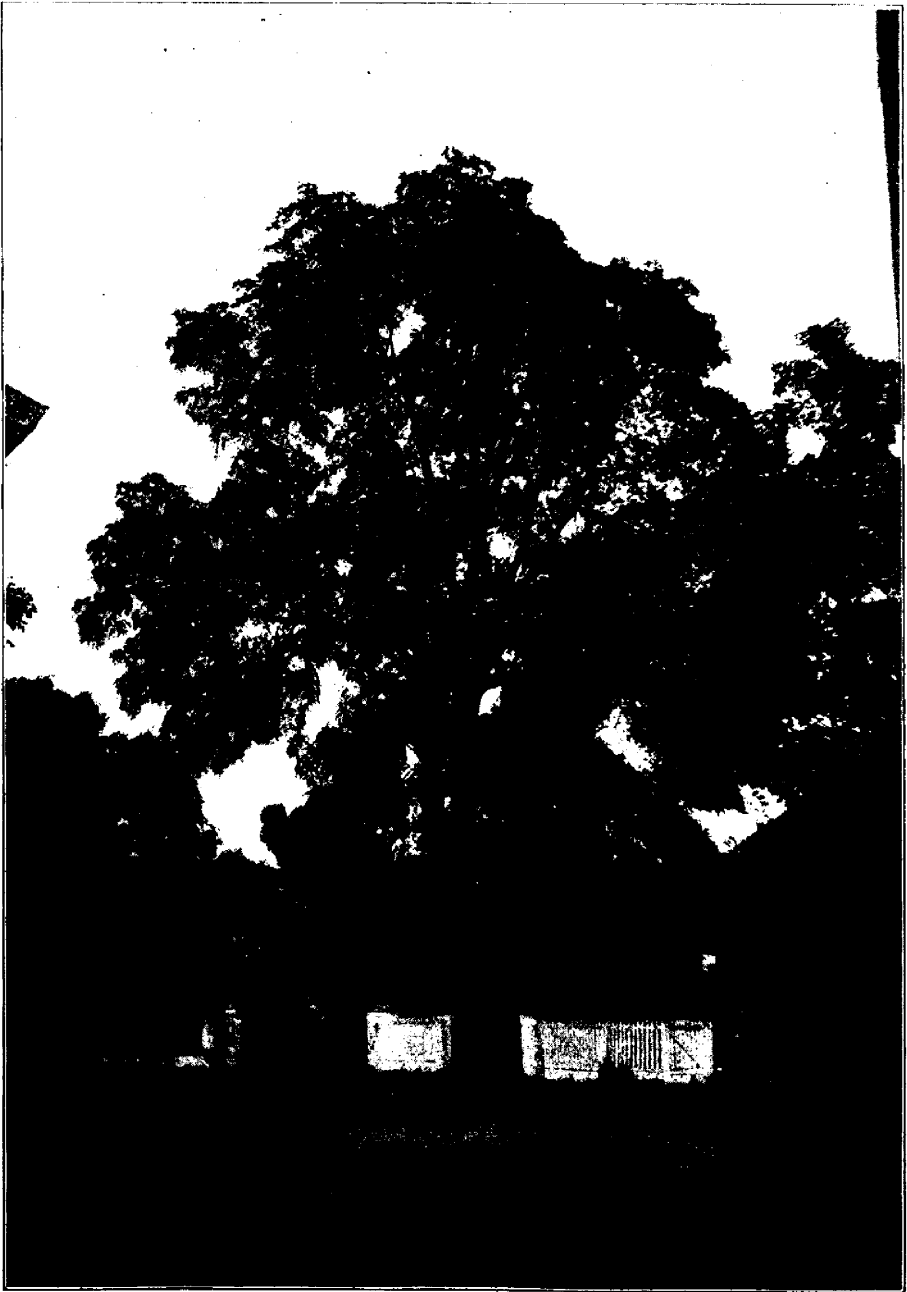
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**A FINE BLACK WALNUT TREE.** (*From a photograph*)

# THE CANADIAN HORTICULTURIST.

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TORONTO,

1898.

OCTOBER.

No. 10



## THE WALNUT TREE.

"On barren scalps she makes fresh honors grow.  
Her timber is for various uses good;  
The carver she supplies with useful wood;  
She makes the painters fading colors last.  
A table she affords us, and repast,  
E'en while we feast, her oil our lamp supplies,  
The rankest poison by her virtues dies."  
—COWLEY.

WHEN black currants hang ripe on the bushes of an English market garden of which we have read, the berry-laden branches are cut off and carried away to be stripped of their fruit in the cool shade. A comfortable way on a hot day, and a beneficial operation for the bushes too, which thus severely pruned give a plentiful crop next season. This may serve to illustrate the rationale of the old English fashion of knocking the walnuts from the trees by beating with long poles the ends of the branches (on which alone the fruit is produced) and breaking many of them off. The broken ends would then be stripped of their nuts and the boughs thus "shortened in" throw out more bearing spurs, increasing the tree's future fruitfulness. So

it was "Merrie England" that gave rise to the not very chivalrous couplet:—

"A woman, a spaniel, and a walnut tree,  
The more you beat them the better they be."

Walnut-beating, however, is nowadays as much in disrepute as wife-beating, the former practice though right in theory being too rough and violent in execution. The walnut figures again in English Folklore in the riddle:—

"As high as a wall,  
As bitter as gall,  
And yet it is man's meat."

Man's meat! or as an old writer more quaintly puts it "A most pleasant and delicate meat, comforting to the stomach and expelling poison." At Glastonbury, in the churchyard of St. Joseph's Chapel (Joseph of Aramathea, who tradition says landed here, over-awing the hostile natives by causing his staff to blossom forth as a thorn tree.) there used to stand a walnut tree regarded with awe and reverence by the people, as possessing the weird and mystic power of deferring the putting forth of its buds till after the festival



FIG. 1423.—PERSIAN OR ENGLISH WALNUT TREE (*J. REGIA*).

of St. Barnabas (11th of June) had been observed. At Welwyn in Herefordshire a walnut tree once stood whose branches covered an area of 2,000 square yards (more than 2.5 of an acre). Though thus appearing in English Folklore and flourishing on English soil, the term Welsh nut or foreign nut (A. S. Wealch; foreign) corrupted into the form of the word walnut, clearly shows that this tree is not a native of England. It is mentioned by 16th century writers, however, and was probably introduced at a much earlier date by the Romans. £600 (nearly \$3,000) was the price for which a walnut tree was once sold to be used for gunstocks, at the time of the war with Napoleon. A single plank of walnut wood was large enough to serve as a table for a banquet given by the Emperor Frederick III. Now, however, it is cultivated solely for its nuts in Europe. Spain and the South of France boast walnut trees said to be over 300 years old which bear from 15 to 18 bushels of

nuts each, and in the Crimea there is a tree held to be more than 1,000 years old, which yields on the average 80,000 nuts a year, and has even produced 100,000 nuts in one season. Walnut trees line the roads in Germany and Northern Italy sheltering the wayfarer and gratifying his eye and palate. Near Frankfort in the former country, in days gone by, no young farmer was allowed to marry till he had shown his desire to promote the general welfare by planting some of these trees. The old Romans whose rural tastes restored what their armies destroyed, were the distributors of the walnuts through Europe. Highly did they prize the walnut's wood and the nuts they imagined would cure hydrophobia. At marriage feasts the bridegroom, to show he had done with boyish sports, would scatter walnuts among the children. To this refer the lines:

"Now bar the door the bridegroom sets  
The eager boys, to gather nuts."

In Roman times walnut trees grew in

## THE WALNUT TREE.

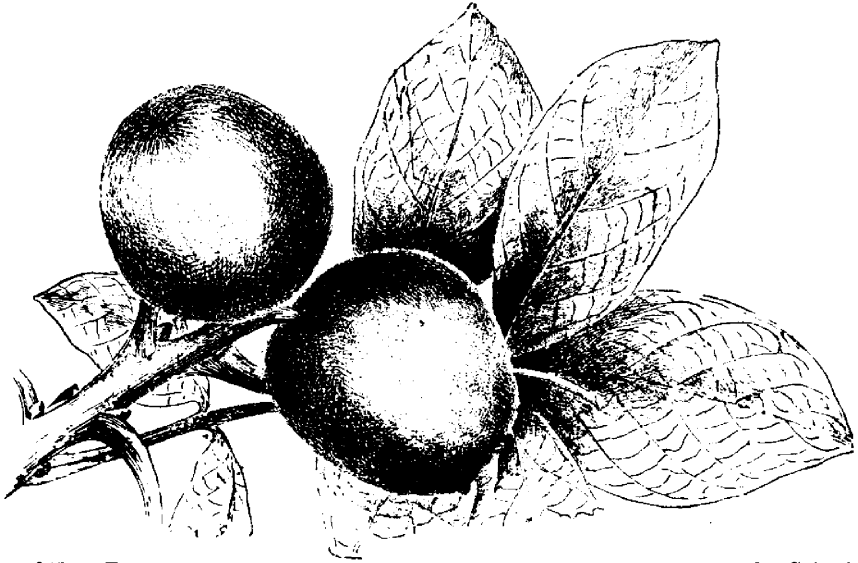


FIG. 1424.—FRUITING BRANCH OF PERSIAN OR ENGLISH WALNUT, from *Fuller's Nut Culturist*.

great numbers round the Lake of Genesaret according to Josephus.

The Romans procured this tree from the Greeks, who in turn received it from the Persians, perhaps as a gift from some Persian Monarch.

In Old Persia, in the Province of Ghilan, by the Caspian Wave, the walnut, the peach and the apricot, a philanthropic brotherhood, originated.

So much for the history of the most important (from a pomological standpoint) species of the walnut *Juglans regia*, the Old World Walnut, now extensively cultivated on this continent also. In Southern California one firm alone has more than a square mile of walnut orchards, and another grower despatched at one shipment in 1890, some \$110,000 worth of these nuts. In Ontario it is commonly known as the English Walnut, though it has been variously termed Royal Walnut, Madeira Nut, French, Chile, or Persian Walnut. Commercial orchards of *J. regia* are profitable in California and in a wide belt of country between the Atlantic and the Mississippi, from Southern

New York to Georgia. In Southern California they give returns of from \$200 to \$1000 an acre. It is not hardy in Northern New York but at Rochester there are some fine old trees. On our side of the border in the Niagara Peninsula it is very tender, and at Windsor it is reported as being usually winter-killed. Among the many varieties of *J. regia* with their different characteristics it is, however, possible some variety could be found that would be of some use in this climate. In sheltered positions at Grimsby two or three trees have borne a fair quantity of nuts, and it has also been fruited in the Township of Louth. At Saratof on the Volga in Russia which has a winter temperature only one degree milder than that of our own Quebec, there were in 1883 two large bearing trees of *J. regia*, and how much colder is the winter at Quebec than in the Niagara Peninsula or Essex County? At present its planting cannot be recommended, except for the trial of some such hardy variety by our experimental stations or where a sheltered place can be found as an interesting

## THE CANADIAN HORTICULTURIST.

NOVELTY FOR THE HOME GROUNDS, which may possibly bear a few nuts for family use. Nor would we put it in a conspicuous place as some of the branches will probably be killed and render it somewhat unsightly.

### THE BLACK WALNUT (*J. Nigra*)

one of our most valuable timber trees is hardy throughout Ontario, though "indigenous only to a small area, extending from a point near Port Franks on Lake Huron, running north of London nearly in a line with the Grand Trunk Railway to Toronto, and extending along the lake shore as far east as Cobourg." The Indians have made use of its nuts for hundreds of years, and according to early records, sometimes consumed incredible quantities at one meal, such as would be dangerous for a civilized person to indulge in. The Black Walnut has a strong, greasy flavor, and "is among nuts what bacon is among meats. It has quite recently been found that its rank flavor can be moderated sufficiently by the action of heat to allow the nuts to be used for confectionery purposes. A report on Nut Culture in the United States, issued by the U. S. Department of Agriculture in 1896, says, "Concerning the

### POSSIBILITY OF REAPING PROFITS

from Black Walnut plantations much has been written and predicted, but very little has been actually proven except that, for the nuts alone such plantings have not been profitable." It then quotes one opinion against and another for the Black Walnut as a commercial fruit-tree. We would suggest pickling the green walnuts as a mode of disposing of them to better advantage. With respect to its merits as a tree to be planted for its timber, we must remember that while the Black Walnut grows

more rapidly indeed than the pine or white spruce, yet even at the age of fifty, when under favorable circumstances, it will have a diameter of about 24 inches, its timber is only salable for the plainest work, such as legs of chairs or tables, and it is not until the tree attains the age of 75 or 100 years, that it can be employed for fine cabinet work. Few people care to look so far in the future for returns from an investment; but we would suggest that a Walnut plantation would be a good

### ENDOWMENT FOR SOME INSTITUTIONS

having grounds of ample extent. Charitable institutions, universities, asylums have often a considerable quantity of land surrounding them, in which Walnut trees planted either in lines or groves would form a pleasing embellishment to the landscape while growing, and some day would give rich returns from the proceeds of the lumber. Whilst they should be given plenty of room when planted for ornamental or pomological purposes, they should when set out solely for the production of timber be planted pretty thickly to encourage an upright growth. We are indebted to Mr. Southworth, the Clerk of the Forestry for Ontario, for the suggestion that where the soil is not too dry, in which case it is not very good for the Black Walnut

### WHITE ASH WHICH GROWS RAPIDLY

and is valuable when small, should be planted with the Walnut. White Ash is used in Canada for the handles of implements, in carriage making, and for hoops and staves, and if sufficient quantities could be forwarded, would find a market in Great Britain. The Walnuts should be planted as soon as they are ripe at a depth of from 2 to 4 inches at regular distances, say 5 or 6

## THE WALNUT TREE.

feet apart, and the Ash seeds in between. Walnuts make a much better growth if planted where they are to remain. An alluvial or a deep rich loamy clay soil suits the Black Walnut best. Little pruning will be required, but the land should be cultivated for 8 or 10 years. A good deal of judgment will be required in thinning the grove, as only a very small percentage of the trees will be allowed to occupy the land at the end of forty or fifty years.

Passing on to consider its

VALUE AS AN "ORNAMENTAL."

we would discourage as far as possible its use in private gardens, except those of an extent rare in this country, as it will get to be too large and will take up too much room. It has also a tendency (either from the bitter principle in its leaves souring the ground or because it is a great feeder) to impair the vigor of surrounding vegetation, a consideration that must never be forgotten wherever we plant this tree or for whatever purpose. To this the poet refers in the lines:

"The walnut—whose malignant touch impairs  
All generous fruit—"

On the other hand in parks standing alone in a wide open space, we can imagine few embellishments

OF GREATER ULTIMATE EFFECT,  
graceful and elegant in its youth, noble and majestic in its age.

Very closely resembling the Black Walnut in appearance is

THE BUTTERNUT OR WHITE WALNUT  
(*J. cinerea*).

The foliage of the butternut is, however, in early summer a lighter green and towards autumn it wears a more faded aspect than that of the Black Walnut. The leaves of the butternut when passed through the hand give off no odor



FIG. 1425.—*JUDAS CINEREA*—BUTTERNUT. whilst those of the Black Walnut have a strong scent. The nuts of the former are more conical and are of a better flavor than the latter

"the dark fruit  
That falls from the grey butternut's long  
boughs."

The butternut should bear some fruit within 10 years from planting and mature individual trees will yield sometimes 15 or 20 bushels. It has some possibilities as a commercial nut, if marketed in larger quantities, or if some easy way of preparing its meats were found. As the nuts vary a good deal in size and cracking qualities, an improved variety might be found if it were experimented with. Its chief value, however, is as a timber tree, but it must be crowded to secure a straight upright growth. Its rather

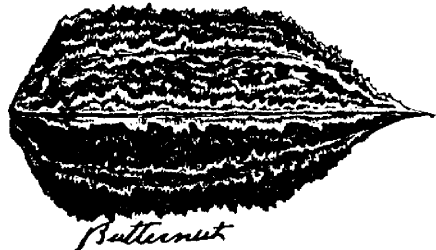


FIG. 1426.—BUTTERNUT.

sprawling habit, when in an isolated position renders it much inferior to the Black Walnut as an ornamental tree. Though if all trees were as beautiful as



FIG. 1427.—FLOWERING BRANCH OF HYBRID WALNUT. (Leaves from two feet to a yard in length—Bright green, fragrant.) Cut from Fuller's *Nut Culturist*.

that shown as an illustration (Fig. 1434) to Mr. Cameron's article in this number, it would be most desirable for parks and extensive grounds.

THE SUBJECT OF HYBRID WALNUTS is a fascinating one. Dr. Beadle in the June number of this magazine tells how Mr. Burbank, by crossing the Black Walnut with the walnut of California, has obtained a walnut of larger size, better flavor, and parting more readily from its shell than either of its parents.

Another remarkable hybrid was obtained by crossing the English Walnut with the California species, the resulting

tree being of greater beauty than either of its parents and only surpassed by the Eucalyptus among Californian trees, in the rapidity of its growth. The Vilmorin, originating near Paris, in France, is, however, a less successful hybrid. Whilst superior to one of its parents the Black Walnut, it is inferior to its other parent the English or Persian Walnut.

We come next to the recently introduced

WALNUTS FROM JAPAN AND EASTERN ASIA.

*J. seboldiana* and *J. cordiformis* the two principal forms obtained from Japan, and *J. mandshurica* from eastern continental Asia, are almost the same in wood, foliage and habits of growth, and to quote again the U. S. bulletin of 1896 on "Nut Culture." "They are very closely allied botanically and no distinct characters seems to have been noted except in regard to the form, size, and smoothness of the nuts, the varying thickness of the shell and the quantity and

quality of the meat. Of the three, the nut of *J. mandshurica* bears a close resemblance to our butternut, while that of *J. seboldiana* more resembles an elongated form of Persian walnut, and *J. cordiformis* a small thin-shelled, heart-shaped form of the same species." The first trees of *J. seboldiana* were introduced into California about 1860, and of late years it has become quite widely distributed in the United States. It has been found perfectly hardy at the Experimental Farm at Ottawa, where it has been fruiting for the past two years. The nut obtained from this



## THE WALNUT TREE.

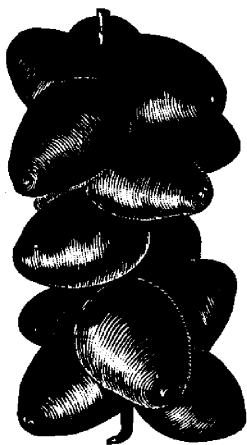


FIG. 1428.—A CLUSTER OF NUTS.

tree there is described as smaller than that of the black walnut, but of better quality, with a flavor very much resembling the butternut. As the trees there are still young there is no data yet to be had for a comparison as regards productiveness between them and other walnuts that will grow in this province. The authorities at the farm have had little experience with *J. cordiformis* as it was only planted there last year. As it is a native of the most northern portion of the Japanese Empire, it would very probably succeed in Ontario. It is said to be of less vigorous habit than *J. seboldiana*. *J. mandshurica* is the least valuable of the three forms, having a very rough thick shell.

Prof. H. E. Van Deman who is probably as well posted on the subject as any one in the United States, in a recent reply



FIG. 1429.—*J. SEBOLDIANA*.

through the Rural New Yorker to an enquiry by the writer says:— There is no doubt of the productiveness of the Japan walnuts in America, as they are fruiting from New England to the Gulf of Mexico.

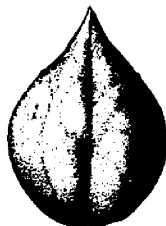


FIG. 1430.—*J. CORDIFORMIS*.

They are all hardy except in the most trying climate of the Far North, and fully as much so as our native walnuts. As to their profitableness, there is doubt. The species *Juglans seboldiana*, bears a rather small nut with a very thick shell, and one from which the kernel is extracted with difficulty. It is of little value except as a novelty, and as a shade or ornamental tree. *J. cordiformis* is smaller in nut, but the smooth shell is not very thick; the kernel is almost round like that of a hazelnut, and comes out very easily.



FIG. 1431.—*J. MANDSHURICA*.

Both are of good quality. It might pay to grow the latter for its nuts. I think these trees would pay to grow for their timber, as they are of rapid and stately growth. They make fine trees for the park or anywhere about the house or farm where they can have plenty of room.

Possibly some hybrid of value may be found by crossing this Japan walnut with our native or the European species.

A. E. MICKLE,  
Maplehurst, Grimsby.

## SOME FINE PARK TREES.



FIG. 1432.—MAGNOLIA UMBRELLA.

**M**R. RODERICK CAMERON, Supt. of Niagara Falls' Park, sends a photograph of five different trees growing in Victoria Park, and since we are treating of the Walnut it will be in keeping to have these represented in this number. Mr. Cameron sends the following notes:—

Fig. 1432 represents a very fine specimen of *Magnolia umbrellata* growing in the Q. V. Niagara Falls' Park. This specimen is, I think, the only one in Canada, it makes a beautiful tree and

seems to be quite at home here. It gets no protection, and it is about 25 feet in height and has about 12 feet spread of branches. The leaves are smooth and green on both sides, obovate and lanceolate, and a strong perfume; the ovate oblong cone of fruit showy in autumn, rose red about five inches long.

Fig. 1433 represents *Catalpa speciosa*, or Indian Bean, beginning to be widely planted as an ornamental tree and as a shade tree for the streets. It has large open panicles of sweet scented white flowers spotted inside with yellow and purple leaves, large heart shaped.

Fig. 1434 represents *Juglans cinerea* Butter Nut, or White Walnut, a beautiful specimen of a medium-sized growing tree, fruit oblong; nut with rugged ridges; this tree makes a clean and pretty lawn tree.

Fig. 1435 represents the king of all trees for beauty and gracefulness either as a specimen lawn tree or for a street tree. The name is *Ulmus Americana* or American White Elm. It is large spreading, and has drooping branches, with leaves four inches long.

Fig. 1436 represents *Carya amara*, Bitter Hickory nut, thin shelled and bitter to eat. The tree makes a beautiful specimen on a large lawn. The wood is famous for its toughness and for fire wood.

**DOUBLE DAISY.**—The double daisy is a wonderfully winning little pot plant. It is always in bloom. A plant of the pink variety, Longfellow, in a three-inch pot, has at present twenty large, handsome blossoms, and has been in bloom

for weeks. I sometimes think that these modest, unobtrusive plants, which we call "so common," give the most satisfaction after all. If aphid attacks the Double Daisy spray with tobacco tea.



FIG. 1433.—*CATALPA SPECIOSA*, OR  
INDIAN BEAN.



FIG. 1435.—*ULMUS AMERICANA*, OR  
AMERICAN WHITE ELM.

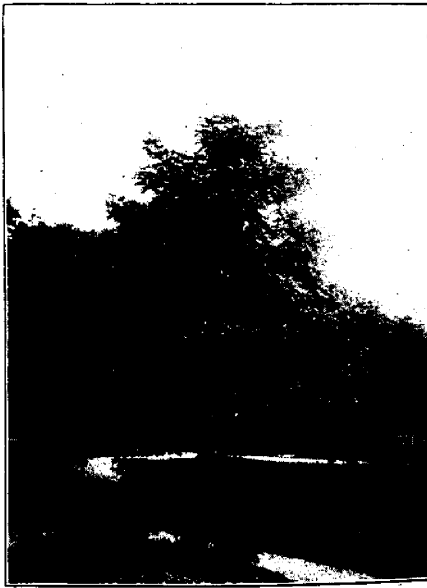


FIG. 1434.—*JUGLANS CINEREA*, BUTTER NUT,  
OR WHITE WALNUT.



FIG. 1436.—*CARYA AMARA*, BITTER  
HICKORY NUT.

## FRUIT GROWING IN ALGOMA.

*Continued from September No.*

IN the interior of the St. Joseph's Island we found a good many small orchards, of fifty trees or so each, which had been planted in response to the persistency of some tree agent, whose pioneer work in many cases cannot be too highly valued, because he has thereby succeeded in introducing fruit-growing into many parts where otherwise, to this very day, it

latter has ceased to bear because of the apple scale which is very severe on both fruit and foliage.

The great drawback to the fruit interests of the island, is the ignorance concerning suitable varieties. Already thousands of dollars have been wasted on Baldwins, Greenings, Kings, and other tender varieties, which only lived a year or two, and then succumbed to the



FIG. 1437.—SAULT STE MARIE.

would be thought a foolish undertaking.

On the farm of Mr. A. Clifford, on the A line, about  $4\frac{1}{2}$  miles south of Richard's Landing, we found a tree of Shipper's Pride plum four or five years planted, which had borne heavily one season; a Lombard, two years planted showing a little fruit; an Abundance which had passed one winter in safety; a Weaver in bearing; a Moore's Arctic plum bearing abundantly, and a Montreal Peach apple well loaded; also Whitney and Transcendant Crabs. The former does well, but of late the

winter's cold, that often dips to  $40^{\circ}$  below zero, or more. Large numbers of *Deacon Jones apple trees* have been sold during the past season at 75 cents each, being recommended as *the great apple for the North!* Many were the inquiries concerning this wonderful variety, and all seemed much surprised to hear that we had never even heard of it.

Another apple just now being advertised here is the *Arctic*, which is being introduced by a Massachusetts firm as an iron clad variety. We do not know anything about this either, unless it is some old variety under a new name.

FRUIT GROWING IN ALGOMA.

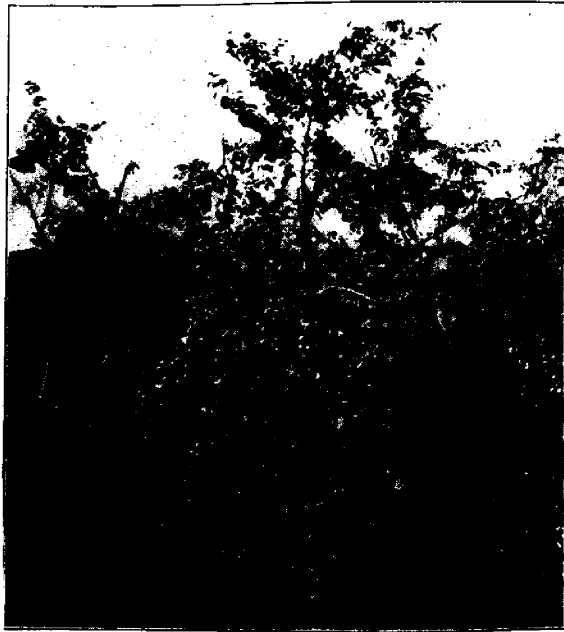


FIG. 1438.—TREE OF LONGFIELD APPLES AND MR. McMILLAN.

The most common forest tree on the island is the Poplar, especially where there is a second growth, but the Basswood, Maple, and even the Oak and the Beech are found, though this appears to be the Northern limit of this last. There is also the Larch, the Birch, the Hazel, the High Bush Cranberry, the Juneberry, the Red Berried Elder; and of evergreens abundance of White Spruce, Larch, Pine, Balsam Fir, Hemlock, Spruce, etc. Limestone abounds and the soil which varies from clay to light sand, seems well adapted to fruit, unless it be some of the latter which is too light and too easily affected by drouth.

The thermometer often drops to 40° below zero, but the ground is seldom frozen to any extent, owing to the heavy snowfalls.

The people are prosperous, and very desirous to have the fruits tested to see what kinds are best adapted to their soil and climate.

On the North shore of Lake Huron we traversed a large area between the Sault and Iron Bridge, wheeling a great part of the way. Here and there we found small young orchards of from 25 to 50 trees, mostly Transparent, Duchess and Wealthy. At Sowerby we found two fine young orchards of about two hundred trees each, one owned by Mr. Hagerman, a storekeeper, and the other by Mr. McMillan.

Here in addition to the varieties above mentioned, we found *Gideon* succeeding splendidly, the trees quite loaded down with fruit; *Scott's Winter*, which was easily distinguished by its peculiarly vigorous young growth, and its large sized foliage; and *Longfield*, six years planted, which was so heavily laden that it was breaking down with its load of fruit, and had to be propped up on every side. The accompanying illustration is from a photograph of this tree, with the proud owner of the orchard standing by its side. In Mr. Hagerman's

*THE CANADIAN HORTICULTURIST.*

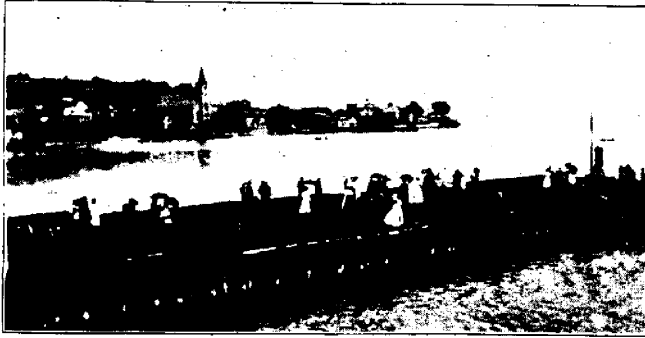


FIG. 1439.—MACKINAC WHARF.

orchard we were surprised to find two trees of Abundance plums which had come through the winter uninjured; also some Lombards quite heavily loaded with fruit.

At Iron Bridge we found D. Tait growing quite a nursery of young apple, plum and pear trees, all looking thrifty, and quite in demand among the farmers in the locality.

On the whole, soil and climate considered, we consider St. Joseph's Island

is so important a factor in fruit growing.

Even in the vicinity of Sault Ste Marie certain varieties of apples can be grown, and possibly still farther north; and it has been suggested that it would be wise to have some varieties tested in Waubigoon on the Government's "Pioneer Farm."

The return journey from the Sault, gave us an opportunity of enjoying much beautiful scenery going down the West Coast of St. Joseph Island, past the



FIG. 1440.—MR. THOS. CORDUKE'S GARDEN, SOWERBY, ALGOMA.

the best fruit section in Algoma, unless possibly we except some portions of the Manitoulin Island, as for example, the vicinity of Gore Bay. On the mainland there are many places where hardy apples, plums and cherries may be grown with some success, but the soil is heavy clay and difficult of tillage, which

farms of Raines and Dunn, and on to Mackinac with its holiday tourists and interesting scenery.

Surely more and more will our beautiful north country, with its magnificent possibilities for the farmer, become the resort of the tourist and the highway of an extended commerce.

## FRUIT AT THE INDUSTRIAL.

THE growth of our work is well shown by our exhibit at the Industrial. In glass we showed nearly 200 bottles of early tender fruit put up in preservatives, and of fresh fruit about 1000 plates, Mr W. H. Dempsey alone showing over 100 varieties of apples, and Mr. M. Pettit about 130 varieties of grapes.

This is but a beginning, for when all the varieties under test at our stations come into bearing, the importance of the exhibit can scarcely be estimated.

Therefore, by the year 1910, we might easily exhibit thousands of varieties of fruits, many of them of very special interest.

Mr. W. W. Hilborn, of Leamington, of our south-western station, showed a fine pyramid of the Fitzgerald peach, which, in his opinion, is a desirable variety for a near market. Though a little more tender in flesh than the Early Crawford, it is a trifle later in season, more productive because hardier in fruit bud, and finer in flavor.

The Brigdon was also in Mr. Hilborn's collection; a peach of the same season as the Early Crawford, but a better shipping variety, being firmer in flesh. He has 100 trees of this variety in their first year of bearing, and he estimates his crop at four baskets to a tree.

We asked him his opinion of the Elberta peach, and he replied that he was afraid the wood is a little tender, and that it is too badly subject to the leaf curl to become a leading peach in Ontario.

Mr. Hillborn has 150 varieties of peaches in his orchard, and when these all bear fruit, we should know which varieties to recommend.

Mr. J. Mitchell of Clarksburg, brought his first exhibit, and in it we noticed a good sample of the Wickson, quite firm, September 8. His Clairgeau, Flemish Beauty and Goodale pears cannot be excelled, nor his Duchess and Alexander apples.

Mr. H. Jones, our experimenter near the St. Lawrence river, made an exhibit of fine fruit, among which we noticed especially fine Crimson Pippins and Red Bietigheimers.

Mr. W. H. Dempsey, of Prince Edward Co., said that his apple crop is so poor he hesitated to send in a collection, but, notwithstanding this, he showed about 100 varieties which were an interesting study to the student of pomology.

His crop of the Ontario apple is abundant, and almost perfect, a great point in its favor as one of the best commercial apples for export, for this season most varieties are imperfect in form and more or less blemished.

His Ladyapples are a great favorite with the children, but their small size makes the variety unprofitable for market purposes, although in time past special markets have been known for this apple where it brought high prices. The same is true of the Seckel pear which once brought as much as \$20 per barrel in New York and Philadelphia, but is now thought too small to grow in the commercial orchard, notwithstanding its high quality.

Mr. M. Pettit had about 130 plates of grapes grown on his experimental farm at Winona. His immense Niagaras attracted much attention. The Moyer grape is a fine sample this year, but not

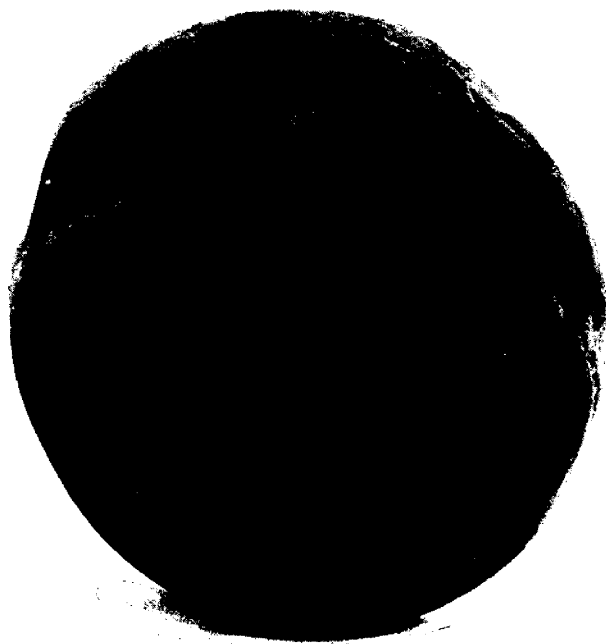


FIG. 1441.—DR. STEWART'S SEEDLING PEACH.

productive enough to plant, unless for the home garden. Its sweet agreeable flavor makes it fine for dessert purposes.

Mr. G. C. Caston well represented the fruit of North Simcoe with apples and bottled small fruits. He showed some immense specimens of Alexander apples, a variety which no doubt can be profitably exported to England in cold storage. He also showed samples of an immense Russian apple, the Hare Pipka, which might also be desirable for the same purpose.

Mr. A. W. Peart represented the Burlington district with a variety collection, which included nuts, grapes, pears and apples. In his opinion nuts ought to be

tried at all the stations, for he believes that some varieties would pay well as a market crop.

Mr. Huggard of Whitby showed a good collection. His Clairgeau pears were especially beautiful. This variety is a fine export pear and takes on a wonderfully fine colored cheek which makes it very attractive.

Mr. Burrell of the Niagara station had a full table of many kinds of fruit, showing well the capabilities of his section. His station is new and he had little to show as yet of varieties fur-

nished him by the Board of Control. He has been sent a collection of Japan chestnuts, but he finds it difficult to transplant and very few have survived.

The PEAR EXHIBIT at the Industrial



FIG. 1442.—SECTION OF SEEDLING PEACH.



## PRUNING THE PEACH TREE.

was very fine. The first prize collection of twenty varieties went to a Hamilton man who showed the following varieties: Seckel, Lawrence, Louise, Goodale, Anjou, Diel, Flemish Beauty, Howell, Bartlett, Souvenir, Beurre Superfin, Winter Nelis, Josephine de Malines, Doyenne du Comice, Easter Beurre, Beurre Hardy, Duchess and Clapp's Favorite.

MR. ORR'S EXHIBIT of sprayed and unsprayed fruit was a constant eye opener to the faithless. It taught by an object lesson most convincing that spraying pays—indeed, that no fruit grower can afford to neglect it. From about thirty different parts of the province he had sets of sprayed and unsprayed samples of the same variety *e. g.* Snows, Fall Pippins, Spys, Greenings, Flemish Beauty pears, etc.; the untreated were utterly worthless, while those treated were large, clean and salable. A Nova Scotian passing through asked if these were the kind of fruit we grow, for, if so, Ontario was not "in it" with

his province, but when his attention was drawn to the clean and unclean fruit as an object lesson in spraying, he confessed that Nova Scotia was not "in it" with Ontario.

A FINE SEEDLING PEACH was shown the fruit committee on the 9th of September, by Dr. Stewart, of Toronto, which is worthy of trial, judging by the sample, which we have photographed. It is round, quite large, measuring about  $2\frac{1}{2}$  inches in diameter, light yellow in color; flesh yellow, of flavor somewhat similar to early Crawford, but firmer in texture, and much later in season.

Originating in Toronto it may be that the tree will be hardier than Early Crawford, which would be an important characteristic.

ALGOMA FRUIT.—Quite a fine collection of apples grown on St. Joseph's island were sent down and exhibited at the Industrial from Mr. Chas. Young, of Richards Landing. The Duchess, Arabka, and Alexander were of good size and color.

## PRUNING THE PEACH TREE.

THE popular notion in reference to pruning peach trees is to cut off or shorten the last season's growth each year; practically this plan requires great labor without securing the best results. Peach trees that have been planted three or four years, and have made a fair growth, have a few leading branches more vigorous than the smaller ones, and extending furthest from the trunk. These leading branches should be cut back enough to include those of an inch, more or less in diameter, and as these branches have received a stronger flow of sap, the smaller ones are comparatively weak; but this manner of pruning will check the flow of sap to the main branches, now shortened in, and give increased vigor and strength to the

smaller ones, and at the same time serve to give a better and more uniform shape to the top.

This sort of pruning will not be required annually, but its benefits will be greatest if done at once after the trees have borne a crop of fruit, as it tends greatly to restore the vigor of the trees which have become somewhat exhausted by the crop. This pruning is best done early in autumn or in spring before growth begins.

Peach trees should be liberally fertilized, and probably nothing can be used for this purpose better than ground bones and potash, about equal quantity of each, the latter most conveniently in the form of muriate of potash.—Country Gentleman.

## SEEDLING FRUITS.

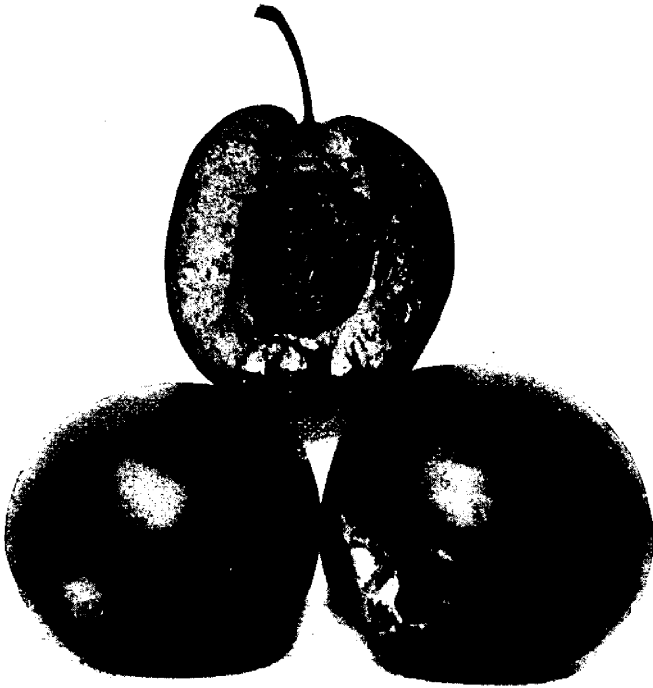


FIG. 1443.—MR. WALKER'S SEEDLING PLUM.

IN advance of the Report of the Committee on New Fruits, we here note a few seedlings which have seemed worthy of notice during September, 1898.

While we desire to avoid advertising novelties, we aim to bring into notice any new fruits or seedlings which we think worthy of further testing, and on the other hand to condemn any which are inferior to established varieties. The following are a few of the new fruits which have come under our notice :—

**SEEDLING PLUM**, from A. W. Walker, Clarksburg, a rather pretty dark moroon colored plum of medium size, perhaps a little larger than Lombard—flesh greenish, tender, moderately juicy, flavor sweet, pleasant, free from stone. Promising as an early variety. The samples

came to hand August 20th, from which accompanying photograph was taken. Mr. Walker states that the tree is an upright grower ; and that on the 19th of August he sold two bushels of fruit off it, so it must be productive.

**SEEDLING PEACH**, grown by M. Fitch, Grimsby, sample shown Sept. 13, 1898. A beautiful peach, quite equal to the Early Crawford in appearance, rounder in form, size  $2\frac{1}{2} \times 2\frac{1}{2}$  inches ; yellow with deep red blush on sunny side, and partially suffused with red in the shade. Down very perceptible to the touch, skin thick, and easy to separate from the flesh. Flesh yellow, fine grained, juicy, but not quite as much so as Early Crawford, melting, flavor luscious. Quality first-class for dessert and cooking. Value, first class for market, probably

### SEEDLING FRUITS.

a better shipper than Crawford. Season, September 10 to 15, immediately succeeding Early Crawford. A seedling worth testing.

**IRELAND'S SEEDLING PLUM.**—Samples of this plum were shown by Mr. A. W. Peart, of Burlington, in his experiment station collection; and previously, about August 15th, we had received samples of this plum from Mr. Peart, from which we secured the accompanying photo-

ly. The pear is medium in size,  $2\frac{1}{2}$  x  $2\frac{1}{4}$ , obtuse pyriform in shape, skin of about color of Bartlett; a peculiar feature is the long stout stalk measuring two inches. Flesh a little coarse in texture, but flavor rich and pleasant, aromatic and moderately juicy.

**SEEDLING PEACH,** Mr. R. P. Smith, Hamilton, shows us another fine seedling peach, Sept. 27th, of about same season as Steven's Rareripe, and just in



FIG. 1444.—MR. IRELAND'S SEEDLING PLUM.

graph. It is very pretty in appearance, medium in size. dark blue in color, with a thin greyish bloom; the stem is slender, inserted in a deep cavity; the suture is very distinct to the apex. The flesh is green, tender, juicy and of very good quality.

Coming so early in the season, this plum is of value in the amateur's garden, but it is too small to be recommended for planting in the commercial orchard.

**SEEDLING PEAR;** sample sent from Mr. Samuel Nelles, Grimsby, Sept. 27th, 1898, in mature condition, season just over. Mr. Nelles says it is the fruit of an old tree growing on his grounds at the lake, which bears full crops annual-

advance of Smock. It is very large in size, 3 x 3 inches, almost round in form, with distinct suture; skin yellowish green, with dull red blush on the sunny side. Flesh tender, juicy, fairly sweet, freestone. A peach that would be first class for the tea table served with cream and sugar. Its large size would also make it a valuable market peach.

**SEEDLING APPLE** from Dr. J. S. McCallum, Smith's Falls, received Sept. 22nd, 1898. A most attractive apple.

Form, roundish oblate,  $2\frac{1}{2}$  x 3 inches; skin almost covered with deep red, with sparse grey dots, of large size. Stem stout,  $\frac{3}{4}$  to 1 inch in length, in narrow deep cavity; calyx closed, in broad shal-

## THE CANADIAN HORTICULTURIST.

low, distinct basin, slightly wrinkled. Flesh firm, not mature enough to judge of its flavor. Season, winter.

This apple is very fine in form and color, and should make a fine shipper. Originating in Smith's Falls, it must surely be quite hardy. Dr. McCallum writes concerning the apple, as follows :

SIR,—I send you, per mail, under a separate enclosure, a sample of a seedling apple growing in my garden. Its uniform large size, good quality, and season (it keeps well until April with ordinary care), together with its good appearance, render it a desirable variety to cultivate, especially in the northern parts of Ontario, where it is so difficult to raise winter varieties.

I think it is a seedling of the Baxter's Red. It looks well on the tree—the bright color contrasting with the leaves.

## THE OMAHA EXHIBITION.

**N**OW that exhibits of Canadian fruit are forwarded each week from various parts to the Omaha exhibition, and placed in charge of a Canadian, Mr. H. C. Knowlton, of the Province of Quebec, it will be of interest to have a few lines devoted to that exhibition.

These lines will be the more interesting because written by Prof. John Craig, so well-known in Canada, and recently appointed to the Chair of Horticulture in the Agricultural College at Ames, Iowa.

### LANDSCAPE ARCHITECTURE.

When one considers the trying climate of the prairie States with their periods of sharp drought, hot winds and sudden changes of temperature, it is easy to realize the difficulty of securing harmonious landscape effects in a very limited space of time. Good judgment in selecting quick growing plants, a well prepared soil and plenty of water have achieved wonderful results. Cottonwood, willow and catalpa have been mainly used along the walks and drives. These trees are 15 to 20 feet high, and were transplanted during the winter when a large ball of frozen soil could be transported with the roots. The border planting is free and easy and distinctly nature-like in effect. While the result produced is charming, the observer is surprised to find on close examination

that a comparatively common and positively cheap class of plants have been used. In the foreground verbena, phlox, dwarf nasturtium and asters are prominent, while in the background are found sunflowers, larkspurs, cannas, climbing plants and occasionally groups of castor beans, corn and pampas grasses. One of the most useful shrubs in these borders is undoubtedly the rosemary-leaved willow. The compact yet feathery growth and grey green leaves produce beautiful effects. The whole work emphasizes the superiority of the natural or group system of planting over the geometric and stereotyped plan. One system follows soft curves and irregular outlines ; the other formal patterns and geometric grouping.

Many farmers vastly increase the labour of caring for the garden plot by following the latter system. In my opinion and experience a garden border is in every way preferable to a garden bed. The border is not fixed in character and may be expanded or contracted without damaging its effectiveness, and there is always room for a new plant and a place for it, whether a hollyhock or a harebell. Another advantage of the border is that should a weed appear—and they do occasionally—it is not so painfully apparent as in the formal bed, and may even sometimes contribute to the completeness of the

## THE OMAHA EXHIBITION.

picture, for after all a weed is only "a plant out of place."

### HORTICULTURE AT THE EXPOSITION.

It must be confessed that the finest thing about this department at this time of writing is the building in which the exhibits are housed. This is decidedly an "off" fruit year, and the word "off" is written everywhere. However, the majority of the Mississippi valley and the Pacific coast States are represented. As usual California is strongly in evidence, with her grape juices—also the fermented article—her dried fruits, and her citrus fruits. Oregon is becoming famed for the quantity and excellence of her prunes, and they are shown green and dried in abundance. Washington and Idaho are vying with each other in the exhibition of big apples, plums and pears, like California the products of irrigated lands. Missouri shows some of her famous Ozark apples and peaches, while Colorado, Nebraska, Iowa and Illinois have varied collections from pecans through apples and peaches and pears. The fruit exhibit lacks in some of its essential educational features. Unfortunately, a few of the superintendents are appointed for other reasons than those of personal qualifications. The results are soon noted in faulty arrangement and the mis-naming of varieties. Such work does not reflect credit upon the State or the individual. In general the fruit is displayed, rather than exhibited in collection or variety. The display catches the eye of the uninitiated, but fails to attract the student of horticulture. I would not criticize this with undue severity, nor as being distinctively characteristic of this exhibition, but as being too much in evidence at exhibitions generally.

### FOREIGN EXHIBITS.

It was pleasing to find Canada oc-

cupying a prominent place among the foreign exhibits. Her exhibit is at once the most attractive and varied in the foreign exhibit building. It was gratifying to find a Quebec friend in charge and actively engaged in laying out an attractive collective of Ontario and British Columbian fruits. The opportunity of making a good exhibit of fruits should not be allowed to lapse this year of scarcity. It seems a pity that Canada did not secure space for her fruit exhibit in the horticultural building. The opportunity for making a good impression is offered, and should not be lost. In passing, it may be noted that space can still be secured in the horticultural building, where if shown they will attract immensely more attention if shown in the more or less out of the way corners accorded to the foreign exhibitors. The Superintendent of Horticulture is Prof. F. W. Taylor, late of the University of Nebraska, and now Director of the Nebraska Farmers' Institutes. Mr. Taylor's energy and ability have largely contributed to the success of the Horticultural features of the Exposition. A few of the States have emphasized a particular fruit by making a striking display on one day. For instance, Missouri had her peach day when some carloads of peaches were exhibited and distributed gratis. On the 9th, Colorado made an exhibit of melons, water and cantaloupes, when fifteen carloads were given away. These were all grown in the famous Rocky Ford melon district of Colorado. In concluding a rambling letter I have no hesitation in saying that no one who can afford the money outlay should fail to visit this exhibition. It is beautiful, has many educational features, and is on a sufficiently large scale to be decidedly impressive.

## STRAWBERRIES IN RENFREW.

SIR,—Seeing the articles in last month's HORTICULTURIST, I notice two articles from Prof. Hutt of O. A. C., Guelph, *re* strawberries. And as I fruited forty varieties this season, a few notes of my experience may also be of some interest to your readers.

For very early Van Deman easily leads on my ground, followed by Warfield and Haverland. The two latter varieties bore immense crops of very nice fruit, closely upon these came the Clyde which bore some immense berries and some very small ones and continued in bearing a long time, but it is of such a light color as to be unattractive in appearance; yet, I believe it is destined to be extensively planted on account of productiveness and size of many of the fruits. Beder Wood also did well. The old Crescent did fairly well as to productiveness, but the berries were not to be compared with those of many other varieties. Greenville bore an immense crop of very large berries, but are too soft for distant shipment. Bubach did well and still holds a warm place in my horticultural affection; also Williams, and when it is fully ripe is very nice, but unless fully ripe the green tips seriously affect its eating quality. Ponderosa bore a fine crop. I am somewhat afraid Salyer's Everbearing with me is the Haverland, the fruits is almost identical, but fruit on Haverland's was slightly larger and later in ripening and plant was more vigorous, and the row supposed to be Salyer's was more productive, in fact, I believe it bore the most fruit of any kind on my ground; I am not decided but that different location on my grounds caused the difference in the two varieties. It came highly recommended from an American nurseryman who guaranteed

his stock true to name, but I fear he has blundered. It at least has not been everbearing with me. If any of your readers have fruited the Salyer's Everbearing I would like to hear his experience with it. Wm. Belt bore a fine crop of very nice fruit, many being very large but somewhat irregular in shape Splendid did fairly well but was not quite up to the mark for productiveness this year. Aroma bore a fair crop of very fine berries of perfect form and color.

Parker Earle bore only a fair crop. Mary bore a fair crop of extremely large berries, several measuring from six to seven inches in circumference. Brandywine has not been a great success except as a pollenizer for midseason pistillates. Enormous pleased me most of any variety on my ground. It began ripening about midseason and continued till the last, and such berries, I have repeatedly filled a basket with from eighteen to twenty berries, and such pretty berries. They are a very beautiful glossy light red, very attractive, and the berry has quite a long neck that facilitates the cleaning very much. I sold them for 10 cents a basket, when such berries as Crescent and Wilson would only bring me  $6\frac{1}{4}$ , and it was even more productive than Crescent with me. If it does as well next year I will plant more of it than any other. I do not wish to overpraise any variety, but really the Enormous delighted me this year. Brunette bore a small crop of most deliciously flavored berries.

Royal Sovereign and Gandy were the last to ripen, but both were so unproductive as to be unprofitable. Dew bore a fair crop of very small sour berries. Bouncer bore a small crop of fair sized, sour, seedy berries. Do not know why this variety or the Dew were

## STRAWBERRIES IN RENFREW.

ever introduced. Noble was of no value, neither was Downing. Glen Mary did not hold up its recommendation for productiveness. Enhance bore a good crop, but did not like appearance or quality of the fruit. Dominion and Jumbo were identical, fruit where developed, nice color and shape and good of quality, but plant not productive and rusts badly. Gardner bore a heavy crop of large fairly attractive fruit. Eureka bore an immense crop, but fruit was not as pretty either in color or form as many others. Sunnyside bore a fair crop and some of the largest berries, one measuring seven inches in circumference, but berries are irregular in form and quite acid. Commander bore a fair crop of very nice berries. Bismarck bore but a very small crop, but the fruit was very firm and of fine form. I had also two seedling varieties from the Central Experimental Farm which bore a small crop of very fine flavored fruit. Besides this I have fruited the wonderful little White Alpine two years. It bears continuously all summer, and the

fruit is white when ripe and when fully ripe is of most delicious flavor. I got my last picking last year on Oct. 20th, but got a few more ripe berries on Nov. 4th.

The two seedling varieties from the Experimental Farm, also Dominion and Jumbo and Burnett, gave a large number of imperfectly developed berries, no doubt due to improper fertilization caused by cold weather at blossoming time.

Growing them as I do, for plants I give high cultivation the season they are planted and take all plants from ground set the previous spring, and after I get what plants I want, or after the first season I give only ordinary cultivation.

I will have the following varieties of fruit next season for the first and will then report on them. Marshal, Rio, Saunders, Lovett, Seaford, Cyclone, Bisel and Graham's Seedling.

W. J. KERR.

*Renfrew, Ont.*

COLD STORAGE SHIPMENTS.—The first returns for this season's shipments have been received and are quite satisfactory. Bartlett pears sold for seven shillings a 3rd bushel case, Red Astracans five shillings, and Duchess four shillings and five pence for the same case. These results are quite encouraging, and we believe the packages and the packing now employed are even superior to the Californian. Our English salesmen say they are just the packages for the English fancy trade.

SMITH'S FALLS FLOWER SHOW.—The Smith's Falls Horticultural Society held their Second Annual Flower Show in the Town Hall, on the 13th and 14th inst. The improved quality of the exhibits this year plainly demonstrated that the show was proving an educator, at least so far as

developing the floral tastes of the community. The children were admitted free in the afternoons, and a charge of 10 cts was made for adults. The receipts covered the expenses with the exception of about \$10. An orchestra was present in the evenings, when a brief programme of music, singing and short speeches was presented. I notice that in most places there is a hesitancy about holding flower shows, on account of the trouble they entail. We find the trouble not so great as was anticipated. The town is divided into four sections, and two ladies are detailed for each, who call on those having plants, and make their returns. The collectors get these lists, also a quantity of cedar splints, split in the end, and small cards. The name of the plant, and the owner's name are written on the card, which is inserted in the splint, which is in turn stuck into the pot. Two spring waggons with two men to each did the collecting almost in the forenoon on the first day of the show, and the delivering occupied about the same time the day after it was over. Not a single mistake was made, and not a plant was injured.

Wm. M. K., *Sec.-Treas.*

# BULB GROWING: SELECTION OF VARIETIES AND THEIR TREATMENT.

Prof. H. C. Irish, Shaw School of Botany, St. Louis, Mo.



FIG. 1445—NARCISSUS HORSFIELDII.



F the many factors tending to make the home surroundings beautiful, probably none can accomplish desired results more easily and cheaply than a luxuriant growth of bulbs, artistically arranged in the sitting room window, or beautiful clusters placed in different parts of the lawn. It is not difficult to secure a pleasing effect in either situation. The operations are not only simple, but most bulbs appear particularly adapted to various conditions, and even unfavora-

ble conditions are, as a rule, quite easily overcome. The work is no longer confined to wealthy amateurs, commercial florists, experiment stations or botanical gardens, but any bright, thrifty, well-to-do person, with a few rods of land at his command, may be the happy owner of many choice flowers. Let these institutions cultivate rare and costly plants which require careful nursing; there are many others just as beautiful which are within the reach of all who desire them.



## *BULB GROWING: SELECTION OF VARIETIES, ETC.*

Conditions vary so widely with different persons, it is impossible to make any satisfactory set rules for all to follow, even in the general culture of bulbs, and much less is it possible to select sorts agreeable to the varied tastes. I will, therefore merely suggest methods which appear to me most convenient to the greater number and within reach of many others.

Bulb growing naturally divides itself into two classes: First, window culture, or forcing; second, outdoor or garden culture. Window culture requires a little more labor, but the compensation is correspondingly greater, as the blossoms mature at a season when vegetation is naturally taking her rest. However, no more time need be spent caring for these, and frequently not so much, as with the geranium, a plant almost universally grown. Moreover, many of our most easily grown bulbs are not to be compared with the geranium in beauty and delicacy of bloom.

Hyacinths and the Chinese Sacred Lily are frequently forced in water, or by glass culture, as the process is usually termed. Glasses made especially for hyacinths, each holding a single bulb, may easily be obtained from florists or seedsmen. There are various designs and sizes, some having two more compartments, for as many bulbs. The glass is sometimes colored, to exclude bright light from the roots.

About November 1st a bulb is placed in the top of the vase and the glass filled with water, even with the base of the bulb. Set away in a cool, dark place until roots are three or four inches long, when they may be gradually brought to the light. Instead of immediately starting the bulbs in water, some growers recommend plunging into wet sand, to one-half their depth, keeping moist, and in a cool, dark place, until roots have

formed about an inch long, when they are placed in glasses. Either change the water occasionally, being careful that the water added is of the same temperature as that removed, or place a small piece of charcoal in the glass, which will keep the water pure.

For this purpose always select the largest and most firm bulbs, as they depend largely upon their own resources for nourishment. The single varieties of hyacinths are better for forcing, as they bloom earlier and seem to endure the unnatural conditions better than double sorts. Further than this, as the varieties differ, principally in color, a selection depends upon the taste of the grower.

The Chinese Sacred Lily is even more easily forced in this manner. Several are grown in each glass or earthen vessel, which has about one-half an inch of gravel in the bottom, on which bulbs are placed, and the space around them filled with fine pebbles to the depth of an inch. Otherwise treated as hyacinths, they may be brought into bloom in a month, or even a shorter time. Other narcissus are sometimes grown in water, but with greater difficulty.

Most bulbs are quite easily forced in pots. The best time to plant them is about the middle of October. Use five or six inch pots, with a little drainage in the bottom. Of the large bulbs only one can be planted in each pot, and of the small ones from three to eight. Larger pots, or even pans, may be employed, with several more bulbs planted in each, but much better effect in arrangement can, as a rule, be secured by using smaller pots. The best soil is a light, sandy loam, enriched with cow manure and leaf mold.

In potting large bulbs, it is well to fill the pots about two-thirds full of the above mixture, put the bulb in place

and fill with sand to one-third its height, adding an equal amount of prepared soil, thus leaving one-third of the bulb exposed. Leave the lower soil loose, but firmly press the surface about the bulb. After the planting is finished, thoroughly moisten the soil, set away in a cool, sheltered place and cover with coal ashes two or three inches deep, and over this a layer of coarse manure, leaves or other litter, to keep from freezing and to prevent the tops from drying out. A strong, healthy root growth will thus be secured, the time ranging from four to eight weeks, according to the nature of the bulb. The root condition may easily be ascertained by turning out the soil, and whenever the pot is well filled with roots, it may be gradually brought to the light and heat. Upper growth may have started, and will now push forward quite rapidly. Some of the plants may be held back and not brought into the light for three or four weeks, thus securing a succession of bloom. When brought to the light it is better to keep in a temperature not exceeding sixty degrees, as the plants will remain longer in healthy bloom; or, if it must be kept warmer, the soil should be kept more moist than would otherwise be necessary. When the blooms fade, the bulbs are usually discarded. Should one care to take the trouble, all bed hyacinths may quite easily be propagated by allowing the foliage to ripen, then keep pots dry until autumn or spring, as the case may be, when they should be planted in any out-of-the-way place and left for two years, when the bulblets will be of sufficient size for bedding.

The following sorts are among the best for pot culture, together with a few suggestions for the special treatment of each:

Hyacinths, grown singly in five-inch pots. Select single flowered varieties and those designated by most catalogues as second size, and give equally good results.

Early Flowering Roman Hyacinths, grown four or five of the same color in a pot.

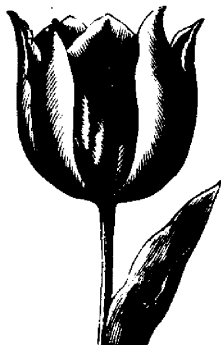


FIG. 1446.—DUC VAN THOL.

Early Flowering Tulips, three to five in each pot. The single varieties are more brilliant, but do not remain so long in blossom as the double; hence there is reason for having both forms represented. The Duc Van Thol are

especially good, either single or double, my preference being for the latter.

Narcissus, four or five in a pot, Early Double and Roman Paper White being the best forcing.

Jonquils, four or five in a pot, and have both single and double represented.

Crocus, five or six in a pot. Have yellow, white, blue and striped, each represented in different pots. In planting, fill the pot with soil, even with the top of the bulb.

Allium Neapolitanum, Glory of the Snow (*chinodoxa Lucillae*), *Freesia refracta alba*, each, seven or eight in a pot and treated the same as Crocus.

For garden culture we have spring, summer and autumn flowering bulbs. Those already mentioned for forcing, together with scillas and snowdrops, are among the best that bloom in spring; lilies and gladioli in summer, and the autumn species of Crocus and *Galanthus*, and *Colchicum autumnale* for autumn.

## *BULB GROWING: SELECTION OF VARIETIES, ETC.*

There are other valuable ones, but a collection of one or more varieties of the above will give a maximum effect, and this is only secured by a mass of individuals of one species, or, frequently still better, one variety in the same clump. Hence I venture the assertion that it is far better to have 100 bulbs of a single sort than ten sorts of ten bulbs each.

The spring flowering bulbs, and most of the lilies, may be planted any time from the middle of September to the first of December, better about October 15th. Methods of arrangement must be governed largely by the various tastes and different surroundings. Isolated formal beds or rows may have their places against walks or buildings; massive clumps scattered here and there, especially as foreground for shrubbery, are very becoming; smaller groups may add grace and beauty when properly placed among other plants in the border; and lastly, certain bulbs, such as crocus, snowdrop and glory of the snow, do quite well planted in sod, without further care or cultivation.

In preparing a place for bulbs, the first and perhaps most important consideration is drainage. Other things in their favor, bulbs will succeed quite well in rather poor soil, but the worst treatment that can be given them is a wet, undrained situation. If the location is naturally well drained, spade up the area to be planted twelve or fifteen inches deep, working in a good quantity of well-rotted cow manure or other non-stimulating fertilizer. Bulbs will do well in almost any soil, but a light, rich, sandy loam is the best; and if naturally heavy, add leaf mold or an extra amount of manure, and in any event, when planting, it is always best to apply a large handful of sand to each bulb, to prevent rot. Low, wet, undrained

places should be renovated by excavating eight or ten inches deep and covering the bottom with three or four inches of broken brick or stone, and above this about a foot of soil, thus raising the bed six or eight inches above the surrounding level.

All bulbs of the same variety in a single clump should be planted the same depth, otherwise they will mature at different periods and the best effect lost. To do this accurately it will be necessary either to remove the surface of the bed as deeply as required for planting bulbs, setting them the proper distances apart and replacing the covering, or by the aid of a dibble or any round-pointed stick with a cross-bar fastened as far from the point as the depth to plant, and it will be comparatively easy to make holes, into which bulbs are to be planted, all the same depth.

When desirable to mix fast and slow growing varieties, plant the more rapid growers deeper, or the two may be separated into central and side portions of the clump, usually better with earlier ones in the center and late varieties next the border, when the difference in flowering will be less conspicuous. It is thus an easy matter to prolong the flowering season of a particular sort by planting one clump shallow and another deep, or the center of one clump more shallow than the side, or one clump located in a more shady place than the other. Again, it is well to mulch the beds with leaves or coarse manure for hardy as well as tender sorts, so that an even growth may be secured and the bulbs be prevented from heaving out by winter freezing. Mulching is especially valuable for preventing freezing and the consequent lack of root growth of late-planted bulbs. As a rule the mulch should be removed some time in March,

## THE CANADIAN HORTICULTURIST.

or whenever severe winter weather is past; by this time upper growth will usually have started. In exposed places protection from heavy, late frosts by a light mulch or mats is beneficial.

When the flowers have wilted they should be cut away, no seeds being allowed to ripen, so that all available strength may be used in developing the bulbs or bulblets. For the same reason leaves should not be removed until they begin to fade, after which the space occupied by spring flowering bulbs may be utilized by planting tender, shallow-rooting annuals, such as



FIG. 1448.—SNOWDROP.



FIG. 1447.—ASTER.

Portulacca, Dwarf Petunias, Asters, Verbenas, etc. Further treatment depends on the kinds grown, hence it will be necessary to consider their special requirements.

Spring Flowering Snowdrops are the earliest and among the most hardy. Their exact time of blooming, as with other plants, depends upon local climatic conditions. At the Missouri Botanical Garden, last winter, in a partially shaded situation, many were in blossom February 22. The flowers

are pure white, solitary, graceful, and possess an agreeable perfume. For delicacy of bloom the common single variety is, perhaps, best, and for size, the Giant Snowdrop (*Galanthus Elwesii*). For clumps plant about two inches deep, and the same distance apart. They propagate quite readily from offsets, forming a solid mass if left two or three years. No further care is necessary until the bed becomes overcrowded, when they should be taken up and re-set. These are sometimes planted in sod or wild portions of the garden.

Spring Crocuses appear a little later than snowdrops, and have larger and more conspicuous flowers, the numerous varieties giving many shades of white, blue and yellow. Plant one or two inches deeper than snowdrops, as bulblets are formed above the old bulb and will eventually work themselves above ground, when they should be taken up and replanted. Otherwise they are treated the same. Of the white varieties Mont Blanc and Caroline Crisholm are good; of the yellow, Large Yellow and

## BULB GROWING: SELECTION OF VARIETIES, ETC.

Cloth of Gold; of the blue or purple, Baron Brunnow; and of the striped, Albion and Sir Walter Scott.

*Scilla Sibirica* and Glory of the Snow, are equally hardy, and may be planted and treated in the same manner as snow drops. They bear a mass of richly colored flowers, which are valuable for cutting, as well as being effective for edges, or in clumps of a hundred or more.

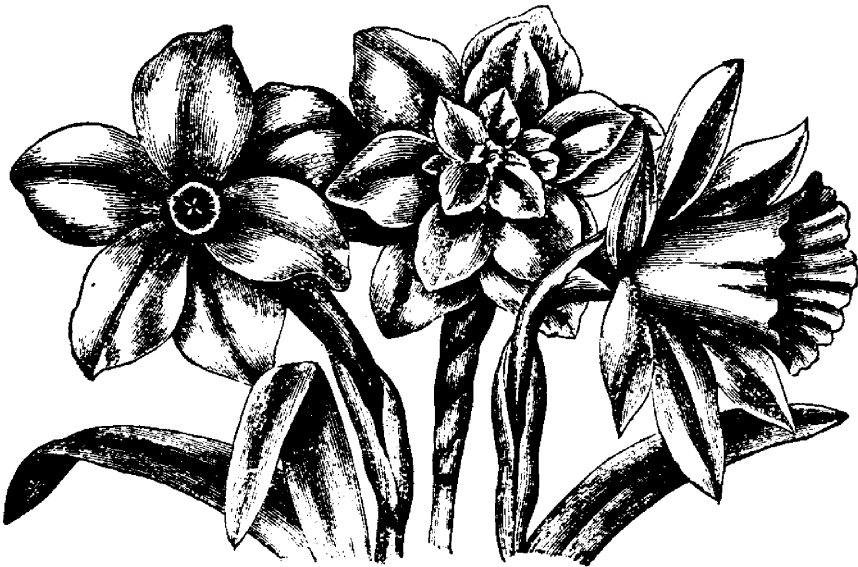
Hyacinths are less hardy than those already mentioned, hence mulching is essential for winter protection, unless the bulbs are planted very deeply. For natural effect no better place can be found than groups in miscellaneous border, intermingled with other plants. Where the soil is heavy plant about three inches deep, but for light loam five inches is better. They may be left in the bed for two or three years, but each season will become less brilliant, as the finer and more delicate specimens die, leaving only the coarser and less desirable ones. A better way is to replant in some out-of-the-way place immediately after flowering, and when leaves decay take up, dry a few days, and keep in a cool cellar until ready for autumn planting. Propagation is more difficult than with smaller sorts, and unless one has considerable time, it is better to procure at least a few bulbs each year, directly from dealers, who in turn purchase them in Holland, where most of our bulbs are grown. Propagation may be accomplished by making two or three cross-cuts in the base about one-fourth through, from which off-sets are formed. These are separated, planted in nursery rows, and treated as old bulbs two or three years, when they are planted in beds or borders. The many varieties represent more than a dozen distinct shades of color, which should be kept in separate

masses or distinct sections of formal beds; for example, a row of reds next the edge of a bed or border, with blue in the center and white midway between, and intermediate colors for other rows. Both single and double varieties should be represented. For natural effect the former are especially desirable, as the heads are less compact, and individual blossoms appear more graceful. Roman Hyacinths, with their many elegantly spreading flower stalks, are hardly less desirable than for forcing.

If one of these three forms is to be omitted, let it be the double, there being little choice between the other two.

The Giant Hyacinth (*Galtonia candidans*) was suggested to me by Professor Trelease, who had noted it at the Arnold Arboretum in Boston, as perfectly hardy and very ornamental. It attains a height of five or six feet the solitary spike bearing from twenty to thirty flowers, which appear in summer. It is considered a valuable addition in places where plants of its size are wanted.

Tulips are planted in the same manner and given the same general treatment as hyacinths, except that they are set an inch shallower, as the bulbs are smaller; now are they taken up and replanted during the summer. When convenient, plant in a place partially shaded, as the flowering season will be considerably lengthened. Protection from the hot sun may also be afforded by spreading a light canvas three or four feet above the plants. Double varieties continue longer in bloom; otherwise they are inferior to single sorts, and as the flowering season can be lengthened, as previously mentioned, by different modes of treatment, I would omit double sorts unless planting for variety. The Duc Van Thol varieties are equally as valuable in garden culture as for forcing, and



*N. poeticus.*      *N. incomparabilis.*      *N. Trumpet major*

FIG. 1449.—

may be had in white, yellow, scarlet, vermilion and variegated. For late flowering, satisfactory colors of Bizarre may be selected, also a few from By-bloemen. The former has almost perfectly shaped blossoms, with yellow ground color, striped with crimson, purple or white; the latter has white ground color, and various markings. Parrot tulips are brilliant, as well as giving a variety of forms, and should not be omitted from a general collection.

Narcissus possess desirable qualities not found in other bulbs. They not only have an agreeable fragrance, but remain fresh a long time when cut. Daffodils, Jonquils and the Chinese Sacred lily represent certain types, other forms being known as narcissus proper. The Polyanthus type, to which the Chinese Sacred lily belongs, is not hardy, and cannot, therefore, be especially recommended for garden culture, although it may succeed fairly well if given thorough winter protection. The other types are perfectly hardy and extremely easy to grow. Their un-

symmetrical habit of growth well fits them for the natural border, or among miscellaneous plants. Plant them three or four inches deep and from four to six inches apart. Do not replant during their resting period, as they succeed far better when left to themselves. Narcissi propagate quite rapidly from offsets, usually forming a solid mass the second or third year. The following varieties are generally considered best: Daffodils, *Horsfieldii*, Golden Spur and Van Sion; Jonquils, Single and Campenelle *Rugulosus*, and the Poet's narcissus (*Narcissus poeticus ornatus*.)

Gladioli are, as a rule, less popular than many other bulbs, owing to the fact that they blossom in late spring or early summer, when so many other flowers are at their best. They form a desirable acquisition in a collection and are especially valuable for parlor decoration, as they remain fresh a long time when cut. Autumn planting is accompanied with some danger from freezing; however, the plants are brought into bloom earlier by taking extra care for

## HARDY PLANTS

sufficient protection against severe freezing. When early flowers are not an object, better to plant in April, and the following October take up and keep in a cool dry cellar away from frost.

Lilies appear to have no superior in popularity, and but few plants are better known. They cover a vast range in variety of form and color, the different species furnishing an abundance of bloom a considerable portion of the season. *Candidum*, or the Annunciation lily, is the oldest and the general favorite. It blooms in June, sheds leaves in July or August, and again begins growth in October, root action continuing through the winter. They should be planted in August or September, six inches deep, requiring no further care for years, although a summer mulch may improve their quality by keeping ground cool and moist. Other desirable lilies are *Tigridum flore pleno*, *speciosum rubrum* and *excelsum*. These are planted in autumn, otherwise treated as *Candidum*.

There are several kinds of autumn flowering bulbs, although none, I be-

lieve, are very generally planted. In Garden and Forest for November 17th, 1896, Mr. J. N. Gerard, of Elizabeth, N. J., mentions two Grecian forms of our common snowdrop, *Olgea* and *Octobrensis*, which flower in autumn, the former appearing in September, followed by the latter in October. He further says that "under the prevailing low temperature their blooming period is prolonged, and they still ornament the border." In addition to these there are several species of the true late-blooming crocus, as well as the one commonly catalogued as the Autumn Flowering crocus, but which really belongs to a different genus—*Colchicum autumnale*. The latter can be distinguished from the true blue crocus only after careful examination. Their similarity, together with the fact that *Colchicum* blooms more freely, makes the latter more desirable. They should be planted in August to secure bloom the same fall; plant about six inches deep, otherwise giving the same treatment as for crocus.—Rept. Mo. H. Soc.

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## HARDY PLANTS.

**H**ARDY plants alone possess much interest for me. Plants in pots savour too much of the pet-bird idea. Keeping a loose domestic dog or cat is one thing, but keeping a lark or even a canary is quite another. Besides, I like my plants to establish relations with definite spots in the garden. It is pleasant to feel that the fading Crocuses will come up again in the same spot next year; that the Snowdrops may be expected to brighten the base of the Pear tree each spring with increasing effect. Therefore I have

planted my garden with Roses in great variety, of the best kinds (not Hybrid Perpetuals and Teas only, but also the sweet old summer Roses, and many of the single species, such as *alpina*, *acicularis* and *bracteata*, with all kinds of Daffodils, Narcissi, Irises, Anemones, Primulas, Cyclamens, Crocuses, Tulips, Gladioli, Snowdrops, Aconites, *Colchicums*, Columbines, Campanulas, and the like. I hope to have flowers out of doors the year through, except perhaps in the very heart of winter.—H. R., in Gardeners' Chronicle.

## A JARDINIÈRE TABLE.

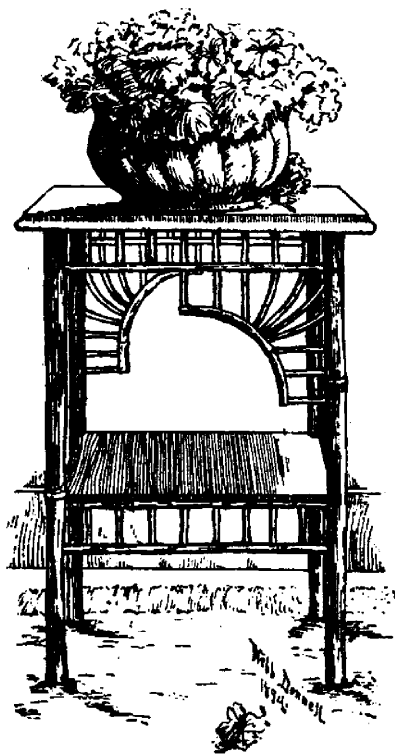


FIG. 1450.—A JARDINIÈRE TABLE.

**N**OTHING in the way of home decorations, or as a setting for the flowers dear to one's heart, is prettier than the jardinières that are now made in most attractive shapes and in most beautiful colors. These articles in themselves are in the highest degree decorative, and when filled with a profusion of bloom they leave little to be desired—unless, perhaps, it be an attractive little table just suited to show off the dainties of the jardinière and its burden of blossoms!

The illustration accompanying this

shows a table that, in its lightness and freedom from the stiffness that is common with solidly-built tables, or plant-stands, becomes a very appropriate resting-place for such a flower-laden receptacle. The top and the shelf below are of cherry, left in its natural state, and so unspoiled by the vivid red stain that is so commonly given this naturally beautiful wood. The rest of the table is made of bamboo, the spindles, cross-pieces and the legs varying so completely, but gradually, in size, that there need be very little waste in cutting up a bamboo pole for this purpose. The top of the table being somewhat thick, permits sockets to be made in its under surface, and cut to within a half-inch of the upper surface, into which the legs are snugly fitted and thoroughly glued. If the rest of the frame-work is put together evenly and strongly, the table complete will be very stiff and strong. Care should be taken to have it rest with perfect evenness upon the floor.

I have said that jardinières are made in beautiful shapes and colors. This is true, but it is unfortunately true that they are also made in colors and with decorations that are decidedly the reverse, and their ugliness is only made more prominent by their association with dainty blossoms. Good taste is therefore of special importance here.

The jardinière table that is figured ought to be easily within the constructive powers of anyone at all handy with tools, and the making of a bit of attractive home furnishing adds much to its possession.—The Country Gentleman.





## The Canadian Horticulturist

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### ✦ Notes and Comments. ✧

MR. ALEXANDER McDONALD ALLAN, has been appointed Superintendent of Horticulture for Canada at the Paris Exposition to be held in Paris in 1900. This gentleman needs no introduction to our readers, having been for a long time prominent in our association for some years as director, and then as president. He is son of the late Rev. Daniel Allan, and all his life has shown a live interest in horticulture, and has been widely known as one of the most extensive apple shippers in Canada; so much so that at one time he was dubbed "The Apple King." He had charge of Canadian fruit at the Colonial Exhibition, and has in this way gained a great addition to his knowledge of fruits. We have no doubt that Canada's interest will be well served by this appointment.

DR. SAUNDERS, Ottawa, was present at the Industrial on Monday and Tuesday. From what he saw in Winnipeg he has reason to believe that there is an

opening for Ontario Concord grapes delivered in proper packages and in good condition.

Regarding fruit in British Columbia he says to the press at Ottawa :

The fruit orchards at Agassiz are doing excellent work in testing all the obtainable varieties of fruit from many quarters of the globe, with the object of ascertaining what kinds are best adapted to the climate, and which give the most profitable returns. Many of the new sorts, not heretofore tried—especially those from Europe—are giving excellent results and some of those which have proved particularly profitable, are being rapidly multiplied. The number of varieties of large fruits now under trial is 2,004, and of small fruits 412, making a total of 2,416. The four orchards which have been planted on the side of a mountain at the back of the farm, at different heights from 150 to 1,100 feet above the valley, continue to give excellent results. About 900 trees are now growing in these orchards, including some of the most promising varieties of apples, pears, plums, cherries and peaches, and the trees continue to manifest remarkable health, and the foliage and fruit are much less liable to injury from parasitic fungi than those growing on the valley level, the fruit being remarkably clean and free from spot. The usefulness of the land in such situations for orchard purposes having now been demonstrated, many farmers are following the example set by the Experimental Farm, and are utilizing these hitherto waste spots by converting them into orchards.

## ❖ Question Drawer. ❖

### The Cooch Plum.

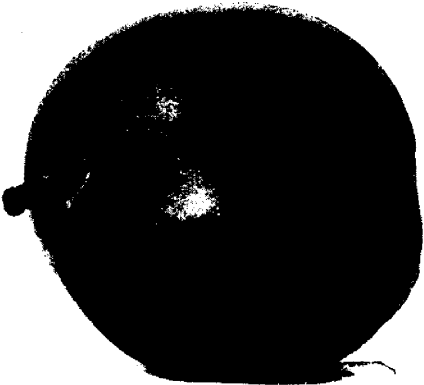


FIG. 1451.—OTTAWA PLUM.

**1029.** SIR, — An enterprising amateur gardening friend of mine here has brought me some specimens of a plum which he has grown, and I think so much of them that I have taken the liberty of forwarding, by to-day's post, a couple for you to pronounce upon. The size, color, shape and flavor impress me very highly. What do you think of them? They are early, too, and that is very important for us, so far east and north.

The grower tells me he has raised the tree from seed planted nine years ago, and this is the first year of bearing; it bore 40 plums, all of a very uniform size.

Does this plum resemble any other too closely to prevent its getting a distinctive

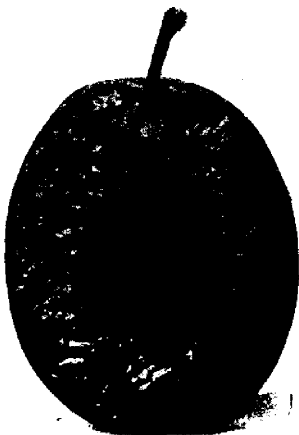


FIG. 1452.—SECTION OF OTTAWA PLUM  
Cut in suture.

name? If it be entitled to a name, it ought to be called the "Cooch"—the name of the grower.

Although I have been one of the oldest members of the Fruit Growers' Asso'n, yet, as a plum grower, I have had so little success that I cannot pretend to speak with much authority on *plums*. Kindly let me have a line from you, giving me your opinion of the specimens I am sending you.

DAVID MATHESON, *Ottawa, Sept. 9th.*

The plum measures about 2 inches long by  $1\frac{3}{4}$  in width; somewhat one-sided, with a very distinct suture on one side, the form is somewhat broadened toward the apex. The stem is short, about half an inch long, inserted in a shallow cavity. Color of skin very dark red, with greyish bloom.

Flesh greenish yellow, moderately juicy, soft in texture, moderately sweet.

Quality very good for cooking and market purposes. Season late. Sample photograph came to hand Sept. 10th.

### Seedling White Grape.

**1030.** SIR,—I shall take the liberty (on Monday, 12th inst.) of sending you by mail a bunch of grapes from a seedling vine, now 3 years old. Will you kindly give me your opinion of its value, quality, etc. The grapes on the vine, from which the sample to be sent was taken, began to ripen on 20th ult., or about with the Early Ohio. I have also a number of seedling peaches, which are quite early—gathered two weeks ago from one tree.

O. FITZALWYN WILKINS,  
*Bridgeburgh, Ont.*

SEEDLING GRAPE. — The bunch of grapes came duly to hand on the 12th September, but many of the berries were crushed. The bunch is of a good size and form, the berries white, round, of medium size; the flavor agreeable, somewhat foxy, but much sweeter and pleasanter than Concord; the skin is thin and tender, and the pulp is tender

## QUESTION DRAWER.

and separates from the seeds almost as easily as Brighton. Ripening as early as the 20th of August, it should have some value.

### Ginseng.

*Question 1028.*

I would suggest that you write regarding Ginseng to Mr. George Stanton, Chinese Ginseng Farm, Summit Station, N.Y., Onondaga County, who appears to be the largest experimenter and dealer in America in that line. Dr. Geo. C. Butz, Horticulturist of Pennsylvania State College, writes me that he has visited Mr. Stanton's place, and found there the most decided demonstration of the possibility of the cultivation of Ginseng.

I understand that Mr. Stanton will gladly supply all information desired.

C. C. JAMES,

*Deputy Minister of Agriculture.*

### Grafting.

**1031.** SIR,—Can you send, or refer, me to any bulletins or special work on Grafting and Pruning fruit trees? If not, would be very grateful for a few points of instruction, especially on the former. What is the proper time? How are trees (8 or 10 years old) pruned for grafting? Best composition for covering the wounds, etc.? Pardon me for troubling you, as I do not know where else to look for information.

J. W. HAY, *Sheffield.*

Top-grafting is a most important operation where an orchard has been planted to varieties of fruit which are unprofitable. In fact, the markets themselves seem to change from time to time, and this is the easiest method of keeping pace with the changing demand.

The time for grafting fruit trees is in spring-time, about the time growth begins. Plums need to be done quite early, before the buds begin to burst; pears may be left later, and apples last

of all. In the same order we might mention them, as regards the difficulties in the way of success, beginning with plums, which are the most difficult.

The first important requisite is the cions for grafting, which must be cut in advance, while still perfectly dormant, and packed away in a cool place, or buried in sand or green sawdust, where they will remain plump, without making any growth.

Then select a good many fair-sized limbs, evenly distributed over the tree, limbs two or three inches in diameter, and cut them off, well out, leaving back of them a good supply of twigs and foliage. Cut with a fine sharp saw, and then set the cions, using a grafting chisel to open the split to receive the be-

veled end of the cion as shown in fig. 1449. The great point is to unite the cambium or inner bark so that the growth can continue. The cut surfaces must be carefully protected

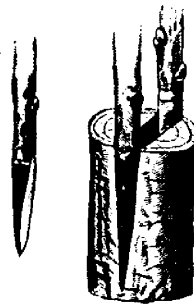


FIG. 1453.—

from the air by grafting wax, which is made by heating up together equal parts of rosin, bees-wax and tallow; this is thrown into cold water, and then, with greased hands, worked up into a soft ball, convenient for handling.

Pruning of the peach is best done this month, when some progress will be made in healing before winter, or else left until May, just as new growth begins. Apples and pears may be pruned at any time when the trees are bare of foliage; but in no case do we advise cutting large limbs, which usually lead to rotting of the heart, but rather a liberal cutting off of the smaller branches.

Winter Protection.

1032. SIR,—Will you kindly tell me how to protect a third year Purple Barbary, also a Hydrangia? What covering will be best for pansies and roses? Is the last of October the best covering time?

EMMA CORSE MILLS, *Iroquois.*

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

The purple-leaved Barbary is very hardy and should require no protection in Ontario. It has never been injured at Guelph during the coldest winters. One of the most satisfactory coverings for shrubs, roses, or even pansies, is cedar or spruce boughs. For shrubs and rows the boughs should be sharpened and stuck into the ground and tied closely about the bushes. On the pansies they should be placed thick enough to hold the snow, which is the best covering. It is well to keep the protection off as late as possible to allow the wood to harden. We do not put on covering before the end of November.

In Re Plums.

1033. SIR,—I am sending herewith by mail, a parcel containing three samples of plums. Numbers 1 and 2 I am sending for correct names, and number 3 to ask your opinion as to what has caused them to wrinkle up as they have done. I hope I am not asking too much, and will feel greatly obliged if you will kindly give it your attention.

My plums are a very heavy crop this year, too heavy in fact, especially the Lombards,—which are breaking the branches badly, from over-loading.

Hoping to hear from you at your convenience.

D. S. MACDONALD,

*Glendyer, C. B., Nova Scotia.*

Reply by J. K. Gordon, *Whitby.*

Having carefully examined the three varieties of plums referred to by Mr. MacDonald, my opinion thereof is as follows:—The round oval green variety is unknown to me, and I think that it is not grown in Ontario. In appearance it resembles the Reine Claude de Bavay, and at first sight it would be pronounced that variety; but the pit is much larger and of a lunate form, and

differs widely in these respects from the Reine Claude. I think, however, that it is a plum of much value.

The other green variety is of oval form and resembles closely Coe's Golden Drop, but is not it, and though I have grown it for a number of years past, I do not know its correct name. It is, so far as I know, grown in Ontario only about Whitby and Oshawa, and is known under the name of Vail's Seedling. It was discovered in the following manner: a plant of it, a few inches high, was found among the straw packing in a bundle of fruit trees received from Nova Scotia, about fifteen years ago, by a gentleman named Ashe, residing at Oshawa, and it was planted by Mr. Ashe as a matter of curiosity, and Mr. Vail having afterwards procured a tree of it, named the plant Vail's Seedling.

This so-called seedling is identical with Mr. MacDonald's, and differs from Coe's Golden Drop in the pit, in the insertion of the stem, in the growth of the tree and in the foliage—inasmuch as the pit is of lunate form and larger, and the stem is placed a little to one side of the plum. While the tree is more robust in growth and attains a larger size than the Golden Drop, and its foliage is larger and with a glossy waxen looking surface, somewhat like that of the Quackenbos or Glass' Seedling. It is equally fruitful and of as good size and quality and of the same season of ripening as the Golden Drop.

Then as to the small wrinkled variety, I cannot name it. It appears to be either a Damson, or a dwarfed specimen—through disease—of the Lombard, or some other variety. The pit and the stem-end somewhat resembles the Lombard; but I think it has been submitted by Mr. MacDonald by way of a conundrum, as it appears to be of little or no value.

## \* Open Letters. \*

### A Canadian Fruit Grower in Alabama.

SIR,—I formerly resided in St. Thomas, Ont., and was a subscriber to your Journal for eight years. For the past three years or nearly I have been engaged in the vineyard industry.

This is an ideal country for grape and peach culture; situated in the eastern part of Ala. The Topography is very rolling, many parts so steep it has to be cultivated by hand. It is all of a volcanic formation, red soil, with a great deal of quartz rock of various sizes from that of a pea to a bushel basket, and much of our soil is composed of rotten rock that pulverizes to dust when cultivated and said rock contains a large percentage of mica-like substance. Frost only penetrates about 1 to 2 inches; ice on still water  $\frac{1}{2}$  to  $\frac{3}{4}$  inch. Our season of sunshine from last frost to first gives ample time to mature cane and crop. A man can work outdoors the entire year without coat or gloves. The summers are pleasant, never warmer than 96°, it is always cool in the shade as we have as a rule always a pleasant breeze. Nights cool. I have slept under a single blanket every night this and last summer. We are on these "uplands" 1,250 feet above sea level, air clear and invigorating. We have, what was on January, 1895 a virgin forest, 3,000 acres planted to grape vines. The timber on land is principally what is known north as "Georgia Pine," also various kinds of oak, hickory, chestnut and gum trees. Wild blackberries grow in the valleys in profusion, superior in size and quality to any I ever eat north. Natives peddle them at 8c. to 10c. per gallon. There are scarcely any negroes in this county, they can't keep any land in this colony which is composed of people from the Eastern and Western States with a few from Canada.

The size and quality of our grapes and productiveness of our vines is not excelled, if equaled, in the U.S. They are largely Concord, Niagara, Delaware. For shipping we also grow several varieties, for wine principally, that are indigenous (Munson's Hybrids) to the South; also Scuppernong's native grape. We make everything required for picking and shipping except baskets; will put in basket plant this fall. Our crop is nearly all gathered. Our first shipments about July 25th. We harvested crop this year from about 1,300 acres.

As there are but a very few here that have any experience in shipping grapes, and our crop being a good one for what you might term our first crop, found us unprepared to handle it with that expedition necessary. Here all grapes this year have been brought to one packing house and packed. They are unable to pack fast enough. Confusion is too great to be expeditious. There are 85 in packing house, sorting and packing, etc., and this system causes too much handling of the grapes. What I want to learn is what is the system that governs the packing and shipping

of grapes or other fruits in the grape and fruit (Niagara) belt, Ontario.

If you have a shippers' organization would be pleased if you could supply me with a copy of their by-laws. Is packing all done at one place or does each do his own packing (and brand his package), subject to inspection at point of shipment.

As we must get organized before another season, would be pleased if you could assist as outlined above.

I often thought of writing to HORTICULTURIST, but did not know that anything I could say of this region would be of interest to your readers. I wrote a home paper once in reply to a number of enquires.

I did not write this for publication as you can see. Still if you think any part of it is interesting you can use it. While this is a fine climate and I like it here very much I still have a warm feeling for Ontario, where I spent 42 years of my life. When I left Canada I left to go into business in Chicago as my family were all there. One year proved disastrous. Hearing of this I looked it over and located, and I think the outlook to-day is better than any time since we started this colony.

D. NEILSON.

So far every fruit grower in Ontario packs and ships his own fruit. The Niagara District Fruit Grower's Stock Company appoints reliable agents in all the principal towns, who receive fruit on consignment. All stockholders receive daily market reports, and thus are guided in their shipments, and frequently are able to load cars for special points.

Packing companies who would pack and ship for growers, and who could succeed in establishing a confidence in their method would no doubt receive much patronage, but we doubt if growers could manage a co-operative packing business to advantage.

The best scheme we can think of is for every dozen or more growers to combine and build a cold storage at shipping point; to engage a competent man in charge of this storage who should be authorized to inspect every tenth package, and see that each shipper was packing according to an agreed standard. If he was not, the inspector should have authority to reject the whole shipment of the faulty shipper for that occasion.

As soon as a car load is made up the man in charge should see after a refrigerator car, and loading of the same.

**Reports Should be Reliable.**

SIR,—In the Sept. No. of the HORTICULTURIST, one J. Henderson, of Stittsville, finds fault with the accuracy of my report on fruit prospects in your July Number, with special reference to plums and strawberries. Evidently your correspondent's knowledge of plums is limited to the native wild plum of country gardens and fence rows, which has undoubtedly been much subject to blight of late years, but as I did not mention this type of plum, I fail to see the point of his criticism. The kind of plums I referred to and mention by name, Guei, Pond's Seedling, Glass Seedling and others of that class, as well as the Western forms, DeSoto, Weaver, Cheney, etc., bore and ripened the greatest crop on record in this district, not only in what your correspondent chooses to call my "sheltered cottage garden," which he never saw, but in such exposed situations as the Experimental farm here and many other similar places that I know of. I know of one Glass Seedling, off which the owner sold twelve pailfuls besides what they used. We think that a pretty good crop here.

He is quite correct in saying there was no cold weather in June in the Ottawa Valley. No one said there was. The blooming season of strawberries this year was from the fifteenth to the end of May, during that time we had continuous cool weather, which I thought was the cause of the very uneven fertilization which was so prevalent in this district.

I have always endeavored to have my reports as accurate as possible, never sending in one without consulting with several fruit growers and sometimes writing six or eight letters to growers in the Ottawa Valley, asking for information before making up my report, so that if they are so unreliable and erroneous as your correspondent thinks they are, I am not alone to blame.

R. B. WHYTE.  
*Ottawa.*

**Wild Flowers and Women.**

Salient characteristics of the American Institutes National Photograph, Flower and Fruit Show at the Academy of Design.

Wild flowers will form one of the most interesting, beautiful and important departments of the national exhibition of photo-

graphs, flowers and fruits, which will be opened Monday, September 26th, by the American Institute at the Academy of Design. Because of the general interest that women take in flowers, and because of the number of exhibits made in the show of amateur photographs by women, the coming novel exhibition will be peculiarly a woman's show.

The exhibition will be opened in the height of the Golden Rod season, and will be timely for other late maturing species of American flowers that are recognized by the many, and that are popular favorites. The veteran authority on horticulture, Dr. F. M. Hexamer, who is the most ardent and active of all his associates in the Board of Managers of the American Institute Fair in organizing the Flower Show, promises that the coming exhibition of native American flowers will be most valuable as a practical botanical lesson and a thing of great beauty as well.

**Re Curled Leaf.**

SIR,—Mr. J. M. Dickson, of Hamilton, writes, *re* curled leaf and mentions the use of wood ashes. It would be interesting to know how much per tree was applied, time of year exact, if possible, at which application was made, also if the trees owned by the two gentlemen were of the same variety of peach. The latter question seems to the writer a very important one in deciding whether the ashes were or were not a preventive of the curl. As in many orchards this year, as in general some kinds were almost free from curl, while others were completely covered with it.

W. C. ORR.  
*Winona.*

"*Re* peach curl" party claims to have used wood ashes with success in former years on Crawford, Early Alexander and other varieties.

This season, Crawfords treated were unaffected, while Crawford, Elberta and unknown, not treated, were attacked. About one peck of hard wood ashes was applied in early spring, as soon as snow had gone, and dug into the soil at a later period.

I am not a practical fruit grower, and cannot say much about the matter. I might add that I am a practised consumer of peaches.

J. M. DICKSON.  
*Hamilton.*

**THE APPLE MARKETS.**

Messrs. J. Keltrick & Co. write :

Official statistics are now published regarding the crop in the Home Districts, from which it appears that out of 331 reports, 150 are to the effect that the supply will be an average one.

42 .. .. . over.  
139 .. .. . under.  
so that it may be taken for granted that the

result will be fairly satisfactory. As to the quality, we have no reason to believe the fruit will shew any improvement, consequently we repeat that English Apples will interfere very little with shipments from your side.

One indication of this is the fact that although English fruit is even now on the market, our imported Lisbon Apples are

## THE MARKETS.

making prices 35% to 50% better than what they made this time last year. Under these circumstances we think well of shipments of early fall fruit, especially Canadian, which as soon as they shew a little color combined with good size and clear skin, may be sent forward by fast steamers to Liverpool. As a rule these land in poor condition, but we think this is a season when a small quantity may be shipped with fair prospects of making a profit.

From the Continent our Dutch friends say their crop is small, while Germany will have a fair average. France so far promises well and these will, along with Kent and other English Southern Counties, give a good supply to the London Market until winter sets in.

CINCINNATI.—Messrs. Armacost, Riley & Co., say on 7th September:

Canadian Duchess are selling at \$2.50 per bbl.; Culverts, Gennettings and Alexanders, \$2.25 to \$2.75 per bbl.

Michigan is now through with summer apples, and fall varieties are not grown extensively in that state. New York state has a light crop, with none in the Central and Western states. We therefore expect even a better market than is ruling at the present time. Damson plums are very much desired in this market, and always command high prices. Sales were made to-day at \$1.50 to \$2 per bushel.

Last year we received a great many Canadian damsons, which were very fine and arrived in good condition under refrigeration.

CINCINNATI.—Since our last quotation apples have been in very light receipt, and as small fruits, especially peaches, are about exhausted, the demand has been very heavy and prices have ruled high. Maiden Blush and Alexanders, \$3.50; Colverts and Jennettings, \$3.00 to \$3.25. Other good varieties, \$2.75 to \$3.00 per barrel. Michigan fall apples are entirely exhausted, and as the supply of this grade must now come from the New England States and Canada, there is no prospect of lower values soon. Damson plums scarce; selling at \$2.00 per bush. Let consignments come forward, and will place same to best advantage.

HAMBURG, GERMANY.—Messrs. W. Dickwuth & Son write under date of 26th August:

"There are very good prospects for the sale of Canadian apples in our market this coming season, and should be very pleased if you would try our market with some shipments of good quality and good carrying apples.

We have a very large outlet, as Hamburg is the market for all Germany and Austria, and buyers come and attend to our sales from all round. For the last two years quite a market opened here for Canadian apples, these being so very superior to what we raise here. People are wanting for table use

Canadian apples only, and the demand is increasing every year.

BELLEVILLE.—At a meeting of the Belleville Horticultural Society, held recently, the secretary reported that the manager of the Bay of Quinte Agricultural Society had notified him that their society had decided to hold no fall show. It was decided that it was too late to prepare for a successful flower show this year. The holding of a show at a date fixed so that the members would not have to wait the action of the agricultural society for 1899 was also decided on.

It was further decided to give, next year, special inducements to all members for the year 1899.

The Board also had under consideration the question of a prize to the best kept and best flower beds of the city schools, and will ask the school boards to co-operate in the matter.

The Fruit Growers' Journal says:—The West will depend on the East for its apples this year, unless all signs fail. That is a reversal of the conditions of 1897, yet it is the opinion of the fruit experts in many of the Western States. At the recent meeting of the Missouri Valley Horticultural Society, held at the home of G. F. Espenlaub, near Rosedale, L. A. Goodman, in reporting on the condition of orchard fruit, said there was almost a failure of apples throughout the West, especially in Missouri, Arkansas, and Kansas, while Ohio, Michigan, New York and New England will have from 60 to 75 per cent. of a crop, and will be called upon to furnish the larger amount of the apples consumed here.

Messrs. Jas. Lindsay & Son, of Edinburgh, write:—

"As the apple season is now approaching, we take the liberty to address you re prospects. We have had information from various apple producing districts at home and on the Continent, and so far as our information goes we are of opinion that there will be a good outlet for fine clear skinned bold Canadian fruit. English crops are only medium, and very few will find their way into the Scotch markets. Productions nearer hand are not to be counted upon, they being too small, and only fit for manufacturing purposes. There is only one quality that competes with Canadians. They are the French Belles, a large beautiful which is both a good eater and admirably adapted for cooking purposes. However, we expect the bulk of them will be over previous to the arrivals of winter fruit from Canada. Hence, we do not anticipate any serious opposition from this quality. Therefore, we consider the outlook will be very good for fine bold selected fruit. We again hope to be favoured with your shipments, and we need scarcely say that we shall use our utmost endeavours to realize satisfactory prices. Growers who have not much experience in packing, and who wish to ship direct them-

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selves, we herewith give them a few hints as to what we consider necessary in the way of packing. In the first place we may mention the fruit cannot be too tight pressed. This is a very important item. Be particular that you brand the fruit according to the quality, so that there may be no chance of a second class barrel being opened in a parcel of fine quality. Were buyers to notice the like of this it would spoil the sale of the whole parcel, so it is safer to have them branded a cross or two crosses less, or another brand altogether. Also be particular to have the apples correctly named. We also strongly advise you to put felt paper on top and bottom, as owing to the smoothness of the felt, the skin of the fruit is preserved, and when opened they look nice and shiny. They also keep longer, hence the prices are greatly enhanced on account of the paper packing. Our advice to you also is that you should ship as early as possible, as all the early shipments make the biggest prices. Also use A 1 barrels, heads, and bottoms. Also A 1 hoops, and A 1 lines, and quarter hoops.

The quarter hoops ought to be nailed with  $\frac{3}{4}$  inch nails and of a quality that will bend to clinch. These ought to be nailed and clinched previous to the apples being put in the barrel. By doing this the quarter hoops will not spring off, and the packages look much better when selling, and bring more money than when the hoops are wanting, which is often the case with badly coopered barrels.

LONDON, ENGLAND; Mr. John Fox writes:

Confirming my letter of August 17th, I beg to report that the estimated crop of English apples at that date is now found to be considerably less. This is attributed to the cold weather experienced here during June last, and the present estimate is that it will not be even an average half crop, as there are daily heavy arrivals of fallens upon the markets, and the prospects are that few or none will bear winter storing. Under the circumstances I have no hesitation in stating that well packed and graded apples from your district will do well here during the ensuing season.

### \* Our Book Table. \*

WHOLESALE TRADE LIST of New and Rare Seeds, Plants, Bulbs, etc., grown by Mrs. Theodosie B. Shepherd, Vandalunda by the Sea, California.

FRIDTJOF NANSEN AM NORDPOL, don Louis Viereck. The Herold Co., Milwaukee.

CANADIAN HORTICULTURAL ASSOCIATION.—First Annual Convention at Toronto, 7th and 8th September, 1898. Official programme.

TRANSON BROS NURSERIES, Borhier & Co., successors, 16 Route d'Olivet, Orleans, France, wholesale fruit and ornamental trees.

ANNUAL REPORT OF THE FRUIT GROWERS ASSOCIATION of Nova Scotia, annual meeting at Wolfville, January 26, 27, 28, 1898

AGRICULTURE, by C. C. JAMES, M.A., Deputy Minister of Agriculture for Ontario, former Professor of Chemistry in the O. A. C., Guelph; published by George N. Morang, Toronto, 1898. Price 25 cents.

We can heartily commend this book as a primary text book in agriculture. Indeed, we believe it will make possible, what has been so long thought desirable, the study of agriculture in our public and high schools. Previous text books have been entirely too technical and too narrow to be placed in the hands of the ordinary school boy; such books would tend to lessen his interest, because too advanced for him, but a book like this one will attract young people to the study of agriculture, and afterward into the practice of this honorable vocation. The book deals with the whole round of agriculture in a series of brief chapters, well illustrated, which serve as a grand introduction to further studies. Seven chapters are given to *The Plant*, three to *The Soil*, nine to *The Crops of the Field*, six to the *Garden, Orchard and Vineyard*, ten to *Live Stock and Dairying*, a chapter each to *Bees, Birds, Forestry,*

*Roads,* and *The Rural Home*, and an appendix giving lists of trees, weeds and spraying mixtures.

How a nicely bound book, of two hundred pages, like this one, be can sold for 25 cents, is a puzzle. We commend it to every reader.

LIFE ZONES AND CROP ZONES OF THE UNITED STATES, by C. Hart Merriam, Chief Biological Survey, Washington, 1898.

The ideal of this publication by the U. S. Dept. Agriculture is an excellent one, viz., to show the different life zones of the North American Continent, and the fruits which succeed in each. We can, of course, hardly expect justice would be done to Canada in this work, for even for us, the area of successful cultivation of different varieties is quite unsettled; yet the following sentence covering the Canadian zone is hardly to be accepted.

"In favored spots, particularly along the Southern border, white potatoes, turnips, beets, and more hardy Russian apples and cereals, may be cultivated with moderate success."

Again in the list of grapes, which succeed in the Transition zone, which takes a large part of Canada, we notice many varieties of grapes ruled out which certainly succeed, e.g., Brighton, Delaware, Iona, Lindley, Salem, etc.

Speaking of peaches, he says, "the Hale is the only peach known to thrive in the Transition zone." While as a matter of fact we know a good many varieties succeed even as far north as the Beaver Valley.

We must do Mr. Merriam the justice, however, of noting that he includes the Niagara and the Essex districts in the Upper Austral zone, which also embraces the state of Ohio.