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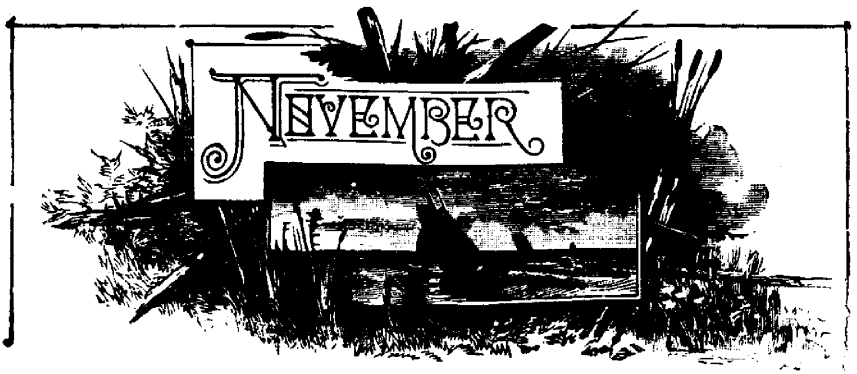
GEN. GRANT CRAB.

Enormously productive, handsome and of good quality ; tree quite ornamental when in flower and in fruit.

THE

# Canadian Horticulturist

VOL XVII. 1894. NO. 11.




## GENERAL GRANT CRAB.

FOR a long time the Siberian Crabs (*Pyrus baccata*), were only valued as ornamental trees. The flowers were so handsome and profuse, and the clusters of beautiful fruit so dense, that in either stage the tree was counted worthy of a place near the house. But of late so many improved varieties have been produced, that these apples are beginning to take a place among apples proper, and to be planted for their use, as well as for their beauty. Especially is this true in the more northerly sections where hardihood is the characteristic of first importance. Always valuable for cider, preserves and cooking purposes, some varieties like the Whitney No. 20, which is counted of superior value for drying and canning, the Martha. the General Grant, and others, deserve, and are esteemed to possess considerable value for some sections.

Fine samples of General Grant were placed on the tables of the Canadian Fruit Exhibit at the World's Fair, by British Columbia fruit growers; much larger than we grow them in Ontario.

The *General Grant Crab* is thus described by Downing:—Size large for a crab; round, oblate, warm yellow ground, with broken stripes of dark, becoming, on the sun exposed side, entirely red, with a few minute light dots. Stalk slender; cavity open, moderately deep; calyx closed; basin broad, not deep, but conspicuously furrowed; flesh white, moderately fine-grained; not juicy; very mild sub-acid; core large for size of fruit; late autumn.

## THREE USEFUL LEVELS.

FIG. 700 represents a drain level. It is very handy for leveling a lawn, etc. It can be made as true as any spirit level that you buy at stores; it costs less, and is much handier in many ways. A is a board 10 feet long, 8 inches wide, and 1 inch thick: plane it nice and level, then take four strips 3 inches wide half an inch thick, and 6 feet in length, saw these strips at both ends like b b; nail two of these on one side of board A, like the three small dots, about 18 inches from centre board A, and nail other two on the other side of board A; then place the triangle piece, like C, between the four upper ends, indicated by a dotted line; then nail firmly. G indicates an eye fastened under C in centre to tie the line d; F is a piece of board 1 inch thick, 5 inches wide, and long enough to fit between the four strips like cut shows. Fasten one end of your line in the eye, tie a pencil on other end and mark your piece F all along, which will make a curved mark. Saw in this mark, then tie your plumb bob so it will almost touch all along the surface of this hollow, and make an O; this will indicate true level. Then raise one end of board A and place a piece of board 1 inch under it, where the plumb bb shifts, to make another mark; add one more inch, make another mark, and so on to the end. Then mark the other side of centre just the same; between each of these marks, make a similar mark to indicate half inches.

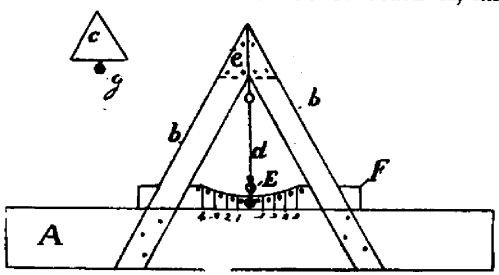


FIG. 700.

Fig. 701 represents an upright level, very handy in building sheds, or planting, tree, fence-posts, etc. You may have them to lean as you like or be perfectly straight. A is a piece of board 1 inch thick, 15½ inches long, 4½ inches wide; after being cut as illustration shows it will be 4½ inches at one end and 2½ inches at the other end; B is a plumb bob, c is a line, d is a piece of wood 1 inch square, 5 inches long, nailed on one end of a piece of board F 3 feet, 2½ inches long, 1 inch thick, and 3 inches wide; E is a hole 4 inches long, 1½ inches across, to enable you to place your four fingers through and have a good hold of it; g is a small hole ½ an inch from end of d; place your line through it and make a knot, so your plumb bob will almost touch all along the upper edge A, which is marked with long marks representing inches; small ones or dots for ½ inches. If the small hole g is 1½ inches from F, make the mark O on board A, 1½ inches from

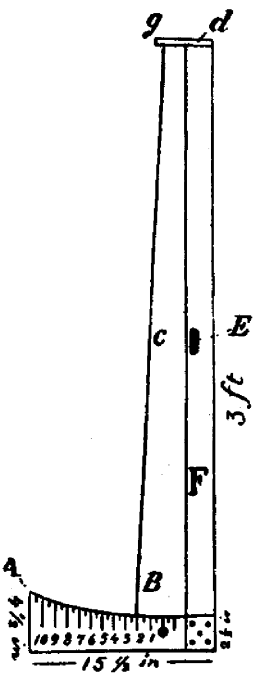


FIG. 701.

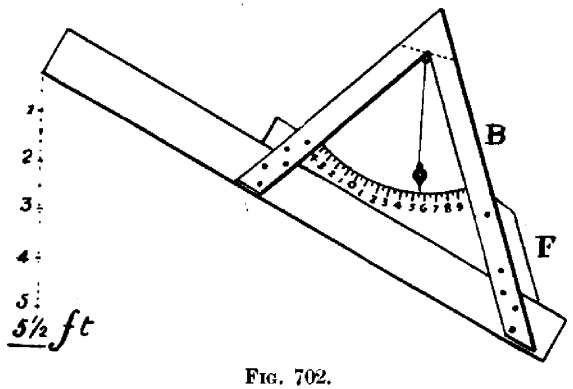



FIG. 702.

F, at lower end. As it stands it indicate a slant of 2½ inches per 3 feet. If outside edge is made perfectly square, you may use it as an horizontal level and as a square also.

Fig. 702 represents a level something like Fig. 700, only two of the uprights B at right hand of illustration are 2 ft. longer which allows the plumb bob to swing much further at one end so you may guage a much steeper grade. The illustration shows a slant of 5½ feet per 10 feet. The longer you make the uprights B the more spare you have for marking the inches on F.

*Montreal, Que.* O. GAGNON.

**Unfermented Wine.**—Take perfectly ripe native grapes, pick from stems, discard all imperfect berries. Mash slightly (not mash seed), press out the juice by any of the known methods and separate the juice from the pulps by straining through coarse cloths, or otherwise. Then add 1½ lbs. white sugar to each gallon of must or juice. Boil in a copper or brass kettle for 40 minutes, then remove from fire and filter again so as to remove all sediment. Filtering paper kept by druggists is best to filter through. The filtering is slow but perfect. After filtering and when juice is cool, put in strong bottles, cork and wire similar to pop soda. A cool cellar where the temperature is regular and does not freeze in winter is the best place to keep wines.—Farm and Home.

**The Time to Plant Evergreens.**—Evergreens differ from deciduous trees in the fact that there is no time of year when they are not evaporating a considerable amount of water through their foliage. But this evaporation is greater at some times than at others, the largest amount being from the new growth in early spring and summer. As a consequence of this evaporation there is unusual call upon the roots for moisture. If the soil is warm and moist new roots put out rapidly. At the beginning of the new growth, or a little before, it is therefore the best time to plant evergreens. We notice that some leading nurserymen advise planting evergreens late in summer or early fall. Their argument is that the soil is then warmer and in better condition to stimulate cool growth than it is earlier. We do not doubt that with care evergreens may be successfully planted in August or September, but there is then a considerable new growth of leaves which must be checked by transplanting. It would seem to be much like planting deciduous trees in midsummer. It may be done, bu there must be more chances of failure than if the experiment be tried in late spring before any new growth had been made.—American Cultivator.

## PRUNING THE DWARF PEAR.

THERE are very few fruit growers in Canada who know anything about pruning the dwarf pear in proper shape and manner, but for the most part they train all fruit trees in the same way. The best form for the dwarf pear is the pyramid, as shown in the annexed engraving. The first year a thrifty upright is aimed at; the second year the side branches are grown and cut back to within a few inches of the upright stem, taking care to encourage longer growth at the

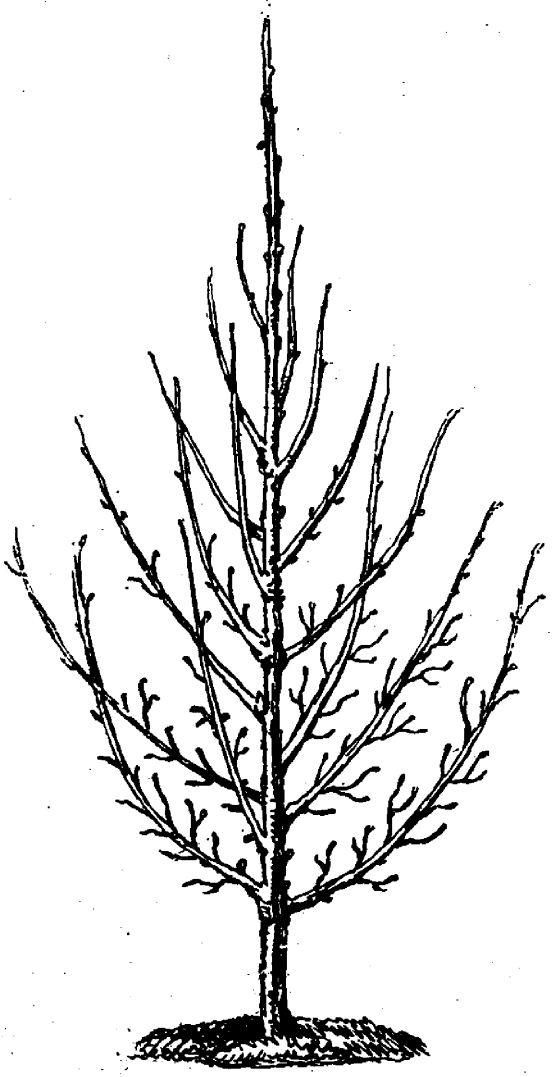


FIG. 703.

bottom than at the top. The third or fourth pruning will bring the tree into somewhat the form shown in Fig. 703.

The leading shoot is cut back in proportion to its vigor at every annual pruning, and the laterals shortened on the same principle. The lowest branches are always kept the longest, and, when they are not sufficiently vigorous, the weaker must be favored with the longer pruning.

After the dwarf pear has been set six or eight years it will be about full size, and the object will be simply to lessen the wood growth and encourage fruitfulness. This is done by pruning the young shoots still shorter. Should there be too many fruit spurs produced, it may be necessary to thin them out more or less.

An orchard of dwarf pears, so pruned and loaded with fruit, is an interest-sight, and a pride to the owner.

## THE FALL AND THE WINTER BLENHEIM ORANGE.

I THINK I am beginning to understand the conflicting statements as to the Blenheim Orange being called by some people a fall apple, while I called it a winter apple. Following the dry August, the whole of the apples on four or five Blenheim Orange trees began to fall early in September, and the "Equinoctial" of the 22nd September stripped the trees. The fruit was large, fully ripe and colored, and showed that it would not keep at all. At the same time eight or ten other trees alongside held their fruit firmly through all the winds, and the apples on them were clearly immature, not fully grown, not colored, and hard and firm. I sent specimens to Mr. Craig. He pronounced those that had fallen to be the typical Blenheim—the others a later variety of the same. He adds, "In this instance the variation is worth perpetuating." I quite agree with him, for the later ones will keep till the end of winter, or even into May, while the early ones will hardly keep till Christmas. The difference between the two classes of trees has been noticed before, but it has never been so noticeable as this year, when the dry season ripened the earlier variety before its time, while the September rains apparently checked the ripening process in the later variety.

*Peterborough, Ont.* E. B. EDWARDS.

**Dishonest Apple Packers.**—Apples have been received in this city during the week that were faced with splendid fruit at each end of the barrels, but the middle was packed with small rubbish. In one of these instances a car load which was ordered to be shipped from the West direct to England was stopped here and examined, and was found to be dishonestly faced at each end by a layer or two of fine large apples, while the middle of the barrel containing the bulk of the fruit was small and very inferior. If this is not obtaining money under false pretences, we would ask what is? Packers, beware!—*Trade Bulletin.*

## MANURE FOR PEACH TREES.

THE peach tree grows so easily and so luxuriantly, and over such a vast extent of country, that few think of supplying it with other nutriment than is found naturally in the soil. Without doubt this is sufficient in many cases, particularly in the newer portions of the country. But every year of cropping in the usual way lessens the fertilizing ingredients laid away in the earth in bygone centuries, and fruit trees, as well as corn, wheat, etc., suffer by its diminution. Indeed, fruit-bearing, particularly bearing heavy crops of large fine fruit, makes one of the heaviest drafts, if not the heaviest of all, on the land.

Among fertilizers, one of the most important for most crops—and particularly for fruit trees—is potash in some form. This is easily applied in wood ashes, none of which, even if leached for soap-making, should ever be wasted. It is very trying to see ashes emptied out in the road or by the side of a run, as has been observed more than once. The ashes may be applied whenever convenient; not around the trunk where they can do little good, but scattered over the entire surface as wide as the branches extend. Anyone who has tried this must have noticed the fine growth of the trees and the thrifty dark green of the leaves afterwards.

It is not probable that ashes will cure the yellows now becoming so common in some sections, though at one time there was considerable hope in this direction. But prevention is better than cure; and there is good reason to believe that a peach tree kept in vigorous health will be able to resist the yellows; just as perfect health in the human system prevents, or throws off, many forms of disease. Barnyard manure is also a good fertilizer for peach trees, as well as for most other things dependent on the soil. But it should be remembered that ashes, or anything containing potash, must not be applied at the same time with barnyard manure; for the ammonia, one of the best elements in the latter, would be liberated by the potash and lost. Six months at least should intervene between the application of these two valuable fertilizers,—the best probably, of all fertilizing materials, considering everything.—National Stockman.

## NUMBER ONE.

"I tell you," said Robbie, eating his peach,
And giving his sister none,
"I believe in the good old saying that each
Should look out for Number One."

"Why, yes," answered Katie, wise little elf,
"But the counting should be begun
With the other one instead of yourself,
And he should be Number One."

—CHARLES R. TALBOT, in Faith and Works.

# FRUIT EXPERIMENTS—OTHER STATIONS TO BE OPENED—THE BEAVER VALLEY.

OR some time past the Board of Control of the Ontario Fruit Experiment Stations has been desirous of establishing a plum station somewhere on the southern shore of the Georgian Bay, because this region is already famous for its productive plum orchards. It, therefore, seemed desirable that the growers of this fruit in that and other sections should receive every encouragement. A station of this kind, at which all the varieties of a single fruit are grown, can accomplish much for the growers of that fruit in many ways. For instance, (1) by correcting the misnamed varieties which are grown in the section, (2) by introducing little known varieties which are profitable in other sections and might possibly be remunerative in that section also, (3) by testing new varieties, (4) by conducting various experiments in spraying, in fertilizing, in pruning and in cultivation, the results of which will, in due time, be reported for the public good.

The Minister of Agriculture has placed this whole work under the joint control of the Ontario Fruit Growers' Association and the Agricultural College at Guelph, hoping in this way to attain the very best results.

Mr. Woolverton reports the whole country along the southern shore of the Georgian Bay as abounding in beautiful scenery and in suitable soil for the growing of fruit, particularly the plum and apple. The Beaver Valley, especially, is most delightful. From Thornbury, near Meaford, this valley winds among the heights of the "Blue Ridge," or "Mountain," as we call it in the Niagara district, for twenty miles back to Eugenia Falls, affording some of the most picturesque scenery in Canada. The finest plums in Ontario are grown in this section, both in quality and beauty of appearance, and the yield of fruit is most remarkable in quantity.

It was on the invitation of Mr. C. W. Hartman and others of Clarksburg and vicinity that Mr. L. Woolverton, Secretary of the Ontario Fruit Growers' Association, and Professor H. L. Hutt, Horticulturist at the Ontario Agricultural College, Guelph, visited this section in order to locate a station for conducting experiments in plum growing.

Mr. Hartman very kindly engaged a carry-all, and, along with another gentleman, piloted Messrs. Hutt and Woolverton throughout this whole valley. Clarksburg is itself a small but prosperous town, founded many years ago by Mrs. Hartman's father, Mr. Marsh. It has waterworks, drawing its supply from the Beaver River, and shows other evidences of prosperity. According to Dun, Wiman's report, there is more wealth in this small town of seven hundred inhabitants than in any other town of its size in Ontario.

One of the most interesting fruit farms visited in this locality was that of Mr. John G. Mitchell, consisting of about fifty acres, of which fifteen are devoted to fruit; and the whole place is in a most excellent state of cultivation. The thrifty farmer is known by his fences, and those of Mr. Mitchell are quite models in this respect. The particular fruit for profit with him, as with most growers in this valley, is the plum, and the success attending his efforts was well shown by the immense loads of Coe's Golden Drop, Lombard, Glass etc., which were harvested from his trees.

Mr. Hartman showed the same success in his own orchard with plums, and not far away in the vicinity of Collingwood there are many other noted plum growers, and among them, Dr. G. M. Aylesworth, a well-known member of the Fruit Growers' Association, who ships a large quantity of this fruit, both northward as far as North Bay by rail and Sault Ste Marie by boat, and southward by express to Toronto and Montreal. Among all these growers a great deal of difficulty has been found in identifying varieties, owing to the frequent mistakes made by careless nurserymen in the propagation of trees, and to the frequent habit of substituting one variety for another when filling orders. Should a plum station be established in this vicinity, all varieties will be grown and little by little all misnamed varieties grown in the section will be identified.

Mr. Mitchell's apple orchard was also well worthy of attention. Here, as indeed all over this section, there is a good crop of apples, the best probably in the whole province, for the apple scab thus far has not become so prevalent in this northern section as it is in the southern districts. The local estimate of the crop is sixty per cent. of a full crop of apples; probably this means very near the average. So successfully is the apple cultivated in this section that a large *apple store house* has been erected near Thornbury by Messrs. Ingersoll & Hunt, where apples are stored in barrels and repacked for export just at such times during the winter season when they will bring the most money. The double wainscoted walls are filled with sawdust, and both on the outside and inside of this double wall air spaces are constructed. This house is cold in summer, and sufficiently warm in winter to preserve the fruit from freezing, without fire.

Some of the *principal varieties of apples* grown for market in this district are Ben Davis, Spy, King, Baldwin, Ribston Pippin, Fameuse, Cayuga Red Streak, St. Lawrence and Golden Sweet, but of all kinds the most productive is the Ben Davis. Some five year old trees of this variety in Mr. Mitchell's orchard are loaded to the very ground with fine, well-colored fruit, and this early and regular bearing seemed to be a marked characteristic of this variety.

Pears are not widely cultivated as yet in this section. Indeed, many of our varieties would probably be too tender this far north, but the *Flemish Beauty* which is hardy, succeeds admirably. Some trees of this variety in Mr. Mitchell's orchard produced fruit which was remarkably fine. One tree in particular, which was fifteen years planted, had produced four barrels of pears in

the season of 1890, from which he had cleared $15.55, and similar crops at other times had been harvested. The fruit this season is of a fine size and well colored, a special feature being the absence of scab which so destroys the Flemish Beauty in some sections.

The people of the Beaver Valley are alive to their own interests, and have vigorously enforced the black knot by-law during the last seven years, and this forethought has been worth thousands of dollars in this valley.

## THE FALL CARE OF BERRY PLANTS.

WINTER protection is an absolute necessity for growing small fruit successfully in a Northern climate. It should be practiced in every locality where the temperature reaches zero or below. With the high cultivation now practiced, a large and tender growth is stimulated, hence the greater necessity for maintaining as uniform a temperature as possible throughout the winter. Even in localities where plants show no injury, and among those considered most hardy, the quality is often affected and the succeeding crop very much reduced. The best winter protection for blackberries, raspberries and grapes consists in laying them down and covering lightly with dirt. All old canes and weak new growth should be cut out and burned soon after fruiting, leaving only strong, vigorous plants.

If plants have been well mulched in the summer with green clover, clean straw or coarse manure, as they should be, less dirt is required by using this mulching. In laying plants down (the rows running north and south) begin at the north end, remove the dirt from the north side of the hill about 4 in. deep; gather the branches in close form with a wide fork, raising it toward the top of the bush and press gently to the north, at the same time placing the foot firmly on the base of the hill and press hard toward the north. If the ground is hard or bushes old, a second man may use a potato fork instead of the foot, inserting the same deeply, close to the south side of the hill, and press over slowly, bending the bush in the root until nearly flat on the ground. The bush is then held down with a wide fork until properly covered.

The top of the succeeding hill should rest near the base of the preceding hill, thus making a continuous covering. This process is an important one, but easily acquired with a little practice. In the spring remove the dirt carefully with a fork and slowly raise the bush. With hardy varieties and in mild winters, sufficient protection may be had by laying down and covering the tips only. Grapes, being more flexible, are laid down without the removal of the dirt near the vine. There is no more important work on the fruit farm or garden than winter protection and there is no work more generally neglected. Let it be done thoroughly after frosts have come and before winter sets in.—M. A. THAYER, in Farm and Home.

## THE DEMPSEY PEAR.

ON the occasion of our visit to the Trenton Apple and Pear Experiment Station, Mr. W. H. Dempsey pointed out to Prof. Hutt the original tree of the Dempsey pear. It was of good size and thrifty growth, but had been annually robbed of its young wood for propagating purposes. It was about twenty feet high and the trunk 6 or 7 inches in diameter. We brought with us a fine sample, which by measurement was 4 inches in length and 3¼ in thickness at its widest part. The pear at the time of writing is firm and good for keeping some time yet, thus

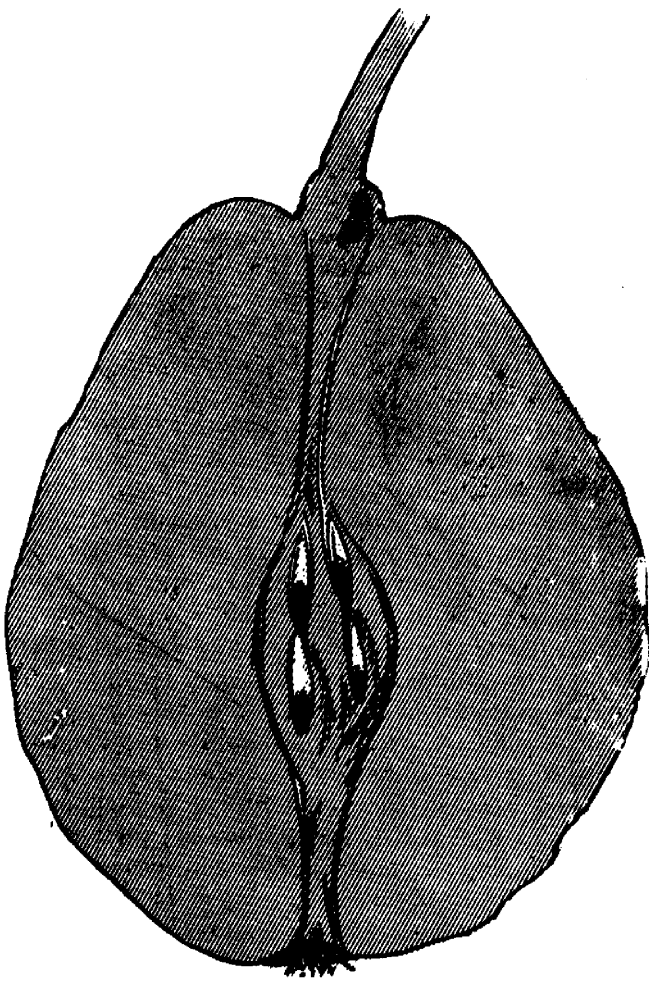


FIG. 704.—SECTION OF DEMPSEY PEAR.

covering an excellent season in the market, when the Bartlett is entirely cleaned out, unless kept in cold storage. It so much resembles Bartlett that it could be well sold for that pear, but its flesh is essentially different, though scarcely inferior.

The pear is the product of many experiments in hybridizing conducted by the late P. C. Dempsey, father of the present experimenter, and we are glad that so good a fruit bears his name. The accompanying cut being taken from an actual specimen gives an exact representation of a section of this pear. The tree was grown from a seed of the Bartlett and fertilized with the Duchess d'Angouleme. It is an upright, good grower; foliage large, glossy, dark green, resembling both parents.

*Description.*—Fruit large obtuse pyriform, irregular in outline. Skin smooth, green, changing to yellow as it ripens, with a slight brown tinge where exposed to the sun. Stem about an inch long, stout and set lightly to one side. Calyx shallow. Flesh white, fine grained, tender, buttery, almost melting, with a rich, sweet, delicious flavor. As a dessert or market pear it is of the highest merit. It will stand transportation to the most distant markets. Season, October and November.

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## THE TALMAN SWEET NOT A HARDY TREE IN ALL LOCALITIES.

EIGHT years ago I set out an orchard of 180 apple trees. About 20 of them died the first year. The nurserymen very cheerfully agreed to replace any that would die the first year, at half price, which they did, but the agent whom I dealt with, in replacing trees for the ones that died, sent me nothing but Talman Sweet and Stump. Now those Talman Sweet were set out promiscuously through the orchard and proved to be the only sickly trees in the whole lot, among 30 or 40 different varieties of apple trees.

They started off all right and did as well as any of the others for a few years, even bore fruit and matured it in good shape; but one or two of them dies every year. One of them was planted in the vegetable garden and was highly cultivated; it was making excellent growth. I got one apple off it last year, this spring it blighted and died. Out in the main orchard where they are not so well cultivated, there is the same result; they just die.

The Stump tree does very well here, but appears to be shy at bearing, so far. As for its fruit, I must say it is a very delicious apple; it would be hard to beat as a dessert apple. With me, its season is October.

*Hope, B. C.* W. A. STARRET.

## JUDGING FRUITS BY POINTS.

THE Editor of the Waterloo Chronicle certainly makes some sensible remarks on fruit exhibits, in writing up the North Waterloo Exhibition, such as (1) his recommendation that no prize be offered for plants of varieties that are poor in quality, or unprofitable to grow; (2) that exhibitors should be made acquainted with some of the important points taken into consideration by judges, as retaining full stem, being of normal shape and color, freedom from blemish, etc.

There is no doubt that this would be accomplished, and at the same time the work of the judges made much more exact and uniform, if we could prepare scales of points, and score cards for the use of judges, which would also be seen and read by exhibitors.

Such a course would also prevent much haphazard work; much "jumping" at conclusions, and therefore it seems important that some steps should be taken toward more careful work on the part of our judges. Simply in the way of suggestion for future consideration, we propose the preparing of score cards for APPLES—with some such points as the following:—

*For single plates.*—Form, 10. Size, 10. Color, 10. Clearness, 20. Total number of marks, 50.

*For collections*—(a) for dessert; each variety, 10 marks, divided thus—Color, 3. Size, 1. Clearness, 4. Form, 2. To this add the standard value of each variety as given in the fruit catalogue published by the Ontario Fruit Growers' Association, for dessert, home and foreign market, and to the total add, say, a maximum of 10 marks for the way in which the varieties have been selected to cover the season.

(b) For cooking; each variety 10 marks, divided thus, Size, 3. Color, 1. Form, 2. Clearness, 2. Freedom from worms, 2. To this add the value, according to the above-mentioned catalogue for cooking, home market, and foreign market; and then to the total add 10 marks for the way in which the collections have been selected, with an eye to covering the greatest length of time.

We have said nothing about nomenclature, which is an all-important point, but of course every variety in a collection, which is wrongly named, should be ruled out of count entirely.

GRAPES.—Of course quite a different set of points must be observed in judging grapes from those observed in the case of apples. Mr. George T. Powell, of Ghent, N. Y., suggests the following schedule, viz., Flavor, 10 points. Size, 5. Color, 5. Symmetry, 5. Firmness, 5. Making a total of 30 points to represent a perfect fruit. This scale would apply to single plates. If collections were under consideration, these points would need to be grouped to make, say, 10 for perfection of its kind to each variety, and to the value thus attained, add its value as shown in our Grape Catalogue.

## THE BEST TIME TO TRIM AN ORCHARD.

OMEBODY has said that the "best time to trim an orchard is when his saw is sharp." While this may sound smart and taking, the direction is misleading and very unsatisfactory; and the probability is that this man's orchard would be trimmed very often.

It is not a good time when the buds begin to swell, for the stump will not heal over readily, but will continue to bleed through the season and perhaps for years, and decay set in.

It is not a good time just as the tree comes into full bloom only to take off small limbs or suckers while standing on the ground, for then the sliver is forming under the bark, and standing on a limb or leaning a ladder against the tree with a man's weight on it, the bark wonld be badly bruised and torn.

On the whole, the best time, in my judgment, is between the time of gathering the fruit and hard freezing weather, so the stump will become seasoned before the sap starts in the spring. Sometimes a good opportunity occurs after the severe weather is over and the snow is still deep, with a good crust.

First, the time, then the how. A fine sharp saw is essential, and if it has a narrow point all the better; and, indeed, a compass saw is sometimes very convenient; but by no means use a saw with teeth on both sides, as some unwittingly advise, for many a limb would be badly cut.

That too much and hap-hazard sawing is done in orchards goes without saying—judgment and good common sense are needed here as really as in guiding the ship of state or in planning a military campaign. Limbs should be taken off close, and the stumps made smooth, using a sharp knife if needful It is a great eyesore to a sensitive man to see stumps cut at every conceivable angle; and one, two, three or six inches long. This unsightly appearance remains with little change from year to year. Nature, to be sure, is doing her best to hid the deformity, but the annual deposit of new wood is small and a long time must pass before the blemishes are overgrown. So then saw close and pare smooth, let the stumps season a few days and cover them with paint, or better, with thin shellac, and in a few years they will be covered with new bark. Dead limbs need to be cut out, for there is no beauty or profit in dead wood. As a rule the suckers should be taken out, only, perhaps, after taken out a large branch an open space is left, which can be filled by training in a sucker. When limbs cross, one, and sometimes more, should be removed, and when a limb menaces some other limb, if it cannot be taught by tying to mind its own business it had better be taken out. We often find tangles and bunches of parallel branches; these to be carefully thinned out, so as to make a clean, open systematic head; but not a hollow globe.

In taking off a limb of much size—say an inch or more in diameter, it is well either to saw the stump eight or ten inches long and then saw again, cutting

close, or to saw close, beginning on the under side, and sawing a little way, finishing it on the upper side. This keeps the bark from tearing, which makes an ugly wound. These remarks refer, of course, to full grown trees.

The time to begin trimming young trees is before they are set out. In digging, the roots are more or less shortened, and it is necessary to shorten the tops correspondingly. It is then the time to give right direction to the limbs, to take out feeble shoots, and to cut back part of the previous year's growth, taking care to cut just above the bud, which is the way the limb should grow.

In trimming grape vines that are taken down from the trellises, the cutting should be done so the stump will season before snow comes, or they will be liab'e to b'eed all the next summer.—Green's Fruit Grower.

## THE VALUE OF LEAVES.

EAVES are of value as a mulching material, as stock bedding and as a stable absorbent.

As a mulch, leaves possess the highest value. In the garden a light covering of leaves over the pansy or strawberry bed will do much to bring the plants through in an improved condition. In fact, all forms of vegetation come out in the spring greatly benefited if a light mulching material is spread about them in the fall. Leaves placed about plants in the fall shield them from the sun's burning rays during winter.

In the early spring, as the days become warmer, the constant freezing and thawing is prevented by the shade afforded. While serving the purpose of shade to the plants they become more or less packed about them because of rains and wind. In this condition decay sets in, and when warm spring arrives a good top dressing is on the soil's surface. If allowed to remain among strawberry plants the leaves aid greatly in keeping the fruit clean and of bright appearance. In the summer season, especially such a season as has been the past, the mulch prevents excessive evaporation from the soil.

As bedding material the value of leaves is well known, and as a stable absorbent their worth should not be overlooked. Placed in the stables, they will readily absorb three times their own weight, which fertilizing material they will hold tenaciously Thrown in the dung or compost heap they do not add a serious obstacle to rapid removal of the pile in spring, but tend to form a heap easily worked and at the same time adding their own decay to the compost pile.

While the extensive gathering leaves for the stable can hardly be recommended, yet as a mulch to the fruit, vegetable and flower garden their value should not be under estimated.—New England Homestead.

## PEACH YELLOWS.

BULLETIN No. 17 of the United States Department of Agriculture publishes much valuable information about peach yellows. In regard to preventive measures the bulletin says:

"With our present knowledge the cure of peach yellows appears to be impossible. Many reported cures have been investigated and found without merit. The claims made in behalf of some of these were manifestly with intent to deceive; in other cases they were made in ignorance of the symptoms of the disease and of what constitutes a cure, and generally by people not familiar with peach growing. Faithful trial has been made of various fertilizers containing important plant foods. With some of these, especially caustic lime and fertilizers containing nitrogen, it has been possible to make diseased trees put on a greener and more vigorous growth, sometimes mistaken for recovery, but all such trees have continued to show symptoms of the disease and have soon relapsed into feeble growth.

"So far, therefore, as we know, the only thing which can be done is to cut out and destroy all trees as soon as any of the signs have made their appearance. It is best to burn the diseased trees—roots and all, if possible.

"In confirmation of this belief in axe and fire, we have the experience of the Michigan peach growers. In some localities, notably at South Haven, they have been fighting the disease in this way for the last twenty years, and though the extermination of affected trees has not been complete, the results have been of such a nature as to lead the growers to believe that this annual weeding out has saved the orchards.

"The results of the rooting-out process obtained in other States than Michigan are less striking, either because the laws have not been enforced very generally, or because they have been in operation only a short time.

"The greatest difficulty in the way of enforcing a law of this kind is the desire on the part of owners to market fruit from affected trees. This opposition disappears as soon as it is made a misdemeanor to sell such fruit or buy it for sale, and consequently a clause of this kind should form part of every "yellows" law. Provision should also be made in such laws for the destruction of diseased trees occurring in waste places and in villages and cities. It is important also that records should be kept each year of the number of trees examined and the number destroyed, so that in the future there may be a sounder basis for judgment as to the efficacy of the law."—New England Farmer.

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LITTLE ETHEL: "What is it these anarchists people talk about?" Little Johnny: "Why, they wants everything everybody else has got, an' they never wash themselves." Little Ethel: "Oh, I see. They is little boys growed up."—Washington Magazine.

## ORCHARDING ON CHEAP GROUNDS.

WHAT to do with the land that will not bring more than $5 to $15 per acre has been a problem with many farmers, for generally such land is almost worthless for most crops. Located upon hillsides, or in exposed places where the soil is poor, there seems to be no use or demand for it. But in the last quarter of a century a great deal of the land in the northern belt of states has been turned into apple orchards, which have been paying from $15 to $75 per acre annually—a profit that would be considered satisfactory by any farmer. The orchards have been well taken care of, and have demonstrated what can be done. Instead of allowing the land to remain idle, the owners planted the orchards of trees on them, and then carefully cultivated them. To day the land is worth considerably more than at the beginning.

The only drawback to planting orchards on such land is that one has to wait so long for returns, but the orchards should be planted simply upon the principle that as we grow older the farm is becoming more valuable, even though we personally never receive the benefit. It is another way of laying up money for our children. The armies of worms and insects that attack the orchards are frightening many indolent farmers out of the business. They declare that there is no money in the work, and in so doing the insects are doing a good turn to the careful, painstaking growers. The time is rapidly coming when only the careful and well-posted will make money in orcharding, and while others fail they will receive the benefits of markets only half supplied with the fruits. Destructive insects and diseases are even now keeping down the supply of apples, so that the markets are rarely over-supplied. But those who study the latest methods of destroying the borer, codling moth, apple maggot, apple scab, and other foes, will be sure to make orcharding pay more than if these insects had never existed. Those who do this work successfully will always be in the minority, and while the great number will be decrying the failure of the whole business, the few progressive ones will be making good incomes.

The trees on poor soil need more training than those on rich. Enrich the earth around the trees, and they will get established. Barnyard manure is undoubtedly the best for this, and where it is abundant do not be deceived into buying any prepared mixture. Allow poultry, sheep and swine to fertilize the orchards by roaming at large in them. They open the soil, let in the air and sunlight, fertilize the trees, and destroy the insects By turning the orchards into poultry ranges you will add quite a little to the income from the eggs and fresh chickens supplied for the table or market.

Train the trees young. The best authorities say that only the pocket knife should be used for training and pruning apple trees. This is only another way of saying that the pruning should be done early, before the branches have

attained any great growth. Discover whether the limbs need to be cut off before they have reached the size of the arm. Prune the young trees so that they will form an even head, giving the heaviest amount of shade on the south side, to shield from the hot sun. Use a colored glass with a magnifying power to discover the insects on the limbs in broad daylight, and then clip off the twigs with the eggs or nests on them to burn.—S. W. CHAMBERS in Germantown Telegram.

## ARCH-GRAFTING.

While paying a visit to the apiary of Mr. Post, of Murray, Ont., my attention was directed to some fine Ben Davis trees seventeen years planted, which were very large and thrifty, and heavily loaded; but all possibility of splitting under their weight of fruit was precluded by a system of arch-grafting, which operation had been performed on the trees while young. Wherever the tree

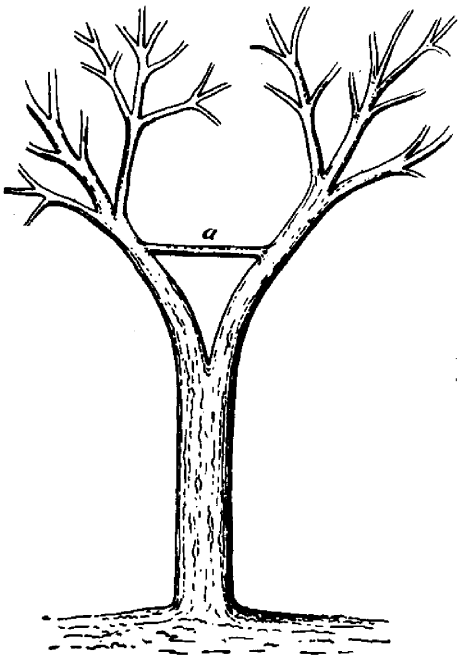


FIG. 705.

had a fork a branch from each side of the tree was bent together and tied or grafted, when they soon grew into one body as shown in the illustration (*a*), holding the two parts of the tree as firmly together as though they had never separated.

From my observation I am convinced that by thus attending to young trees very many might be saved which would otherwise split and be destroyed when they came to bear a full load of fruit.

*Chisholm, Ont.* WM. B. LEVEANS.

## ATTEMPTS AT ACCLIMATION.

FREQUENTLY in the pages of the CANADIAN HORTICULTURIST, there have appeared articles advocating Darwin's theory of the acclimation of plants and trees, by growing them for several generations in climates to which they were not adapted. Some claim that the apple, or peach, can be made more hardy by growing it from seed, for countless generations farther and farther north; and many attempts to carry out this theory into some practical issue, are being made. Prof. Bastin, in his "Botany," goes so far as to state that all plants and animals come of one common stock, viz., from "a mass of undifferentiated protoplasm," whatever that may signify. But it appears to be an unproven position, although very plausible in theory.

The Country Gentleman gives a synopsis of an address by Josiah Hoopes, before the Nurserymen's Convention, on this subject, which may be of interest to our readers. He says, that he instituted a series of tests with different varieties of the peach, the trees having been procured from widely different latitudes, ranging from the Gulf States to the extreme North. They were planted side by side, the culture given them was precisely alike, and all controlling influences were similar. But in after years there was not the least perceptible difference in hardiness, or in the character or ripening of the crops.

The many attempts which have been made to render half tender plants, trees and fruits hardier, have nearly all proved partial or entire failures. Illustrations occur in the case of common vegetables. The Indian corn plant is not changed in hardiness by millions of plantings or endlessly diverse treatment. The first white frost in autumn cuts it. A slight apparent difference, however, should not be overlooked. The small northern varieties complete their growth sooner than the large southern sorts, which continue late in a more succulent condition, and show some difference in the amount of harm which a frost does to them; but the character of the plant is not changed, and there will be no difference whatever when both are equally mature. The potato and the tomato are always killed by the first white autumnal frost, and no horticulturist has been skillful enough to raise a frost-proof potato.

The fact that trees and shrubs which ripen their growing wood are hardier, and will endure the cold of succeeding winters better, than those of late succulent growth, may be taken advantage of by preventing late growth. A half-tender grape vine, planted on a well-drained and rather poor soil, will endure the winter better than the same vine growing late in wet and very rich ground. But no change whatever is effected in the character of the variety, for let the two vines change places, and they will change in growth.

The propagation of varieties from seed sometimes, however, causes a slight difference in inherent hardiness. Among apples, for example, the Fameuse and

St. Lawrence are hardier sorts than Baldwin and Rhode Island Greening; and the Flemish Beauty and Urbaniste pears are hardier than the Bosc and Bartlett; but these differences are very slight when compared with the endurance of an oak or a rock maple. The peculiar characteristics of the apple and pear are not changed.

When we come to the continued propagation of the same variety by cuttings, budding or grafting, no permanent change whatever can be effected. The Baldwin apple remains the same Baldwin, and the Bartlett the same pear, after an endless succession of trees have been propagated. A slight temporary difference may be effected in individual trees by promoting early ripening of the wood, or prolonging soft growth.

The apple and pear show more difference in their many varieties than most other species of vegetable growth, partly on account of the great multitudes which have been propagated by seed. On the other hand, the many varieties of the peach vary scarcely a particle in the degree of hardiness which they have been found to possess. As with other trees, the early and late maturity of the wood have a slight influence on the endurance of the trees in winter, but we have never been able to discover the least difference which an early or late growth made with the fruit buds. A certain degree of cold—averaging about 12° below zero—has always destroyed their vitality alike on rank or feeble growers, on well-ripened or succulent shoots.

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**A Cure for Red Spider.**—Since I learned, after a number of experiments, an easy and effective plan to be rid of the red spider, I will give it for the benefit of those who may have plants injured by his visits. First, shower the plant all over thoroughly with dry insect powder—don't be afraid of putting on too much. Let it remain about twenty-four hours. Second, plunge the plant, pot, earth and all in a tub of water, and let it remain there over night; in the morning, gently wash the plant while under water, lift it and set it in the sunshine to dry. The water needs to be of a temperature a little tepid or the plant will be chilled. The fingers can be run through the leaves while under water without any injury. The plant may lose a few leaves in the process, and these chiefly because of the previous injury done to them by the spider; but I have removed the spider utterly by one application of this treatment, even when they were very numerous, and had the plants rather improved by their bath than otherwise. As for the flat, white mealy bug that damages all plants that he visits, I have found no means for removing him, excepting to rub him out of existence with a small damp brush. These two are the worst of all enemies to house plants —Vick's Magazine

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VEGETABLES are backward, but the tomatoes will ketchup.—Philadelphia Record.

## ITEMS.

PEOPLE who enjoy the happy luxury of working on the land in the open air, may well be contented with their lot as viewed from a standpoint of health and pure enjoyment, if they compare their condition with the large majority of those who are confined in rooms where the percentage of pure air is very moderate, and the muscular effort required to till the soil is so conducive to the enjoyment of food and rest, and the absence of bustle and anxiety so promotive of thoughtfulness and meditation, that to call it a *luxury* to work in the open air, is by no means a misnomer.

Especially is this true when labor is connected with intelligence and a degree of management to prevent one's labor from degenerating into a slavish routine of mere manual effort. A man with a thinking head on his shoulders, must have *some* brain interest in what he is doing, or his physical plodding will wax irksome, and if he is of a poetic, sentimental, or a religious turn of mind, he must see something in his employment to respond to the yearnings of his peculiar temperament, and it is safe to say that in the management of a piece of land, if not too small, there is ample scope in coming in contact with Dame Nature and her many conferred favors, to interest the tastes and desires of the most unmovable, if he has any degree of appreciation whatever. Only do not let money-making be the ruling motive, desirable as that may be, but health, contentment, love of Nature, and a field for the enjoyment of a meditative spirit which is always a source of rich occupation of time, for

> **" A soul without reflection, like a pile**
> **Without inhabitant, to ruin runs."**

Well, coming down to more practical or temporal details in one's experience, let me say to those who are trying to garden on a piece of flat rich land, that to get rid of the surplus water in the most profitable way, is much to be desired. In raising strawberries, I have tried moulding up ridges 3½ feet apart and setting a single row on each to allow the water to settle between the rows as the snow melts off in the spring, to prevent freezing around the plants, which, if allowed, is apt to prove certain destruction, in most cases. This year I am ridging up nine or ten feet wide, and putting three rows on a ridge, and think it will prove as effective as drainage, as the other way, and the rows be more easily cultivated. As to varieties, I have found the Williams the best *all round* berry of any I have tried, and if I were to be shut up to two varieties and forced to plant no other, I would choose the Crescent and Williams, considering *all* things. Of course my experience has not run over 28 varieties, so my opinion is not worth as much as some others. Raspberries with us this year were next door to a failure, not one-third as much of a crop as the year previous; freezing down to the snow line being the cause, as we do not bury down for protection.

Speaking of freezing reminds me of the way I put in ice last winter, and the hint may prove serviceable to some the coming winter. To those who only use a moderately small quantity, the best way is to make a tight bin of boards, well stayed with studding, in a place where protection of sawdust can be piled up around of two feet or so in thickness ; fill in with water into the bin a foot or so each night during the freezing weather until the required amount is frozen, and then take away the bin and protect well with sawdust. This plan will keep one in ice the season through, when the same amount, saved in blocks cut from the lakes or rivers, would not hold out much longer than half the summer.

*Nepean.* L. FOOTE.

## THE APPLE EXPORT TRADE.

Surprise is sometimes expressed at the wide range in the prices for apples cabled from the English markets. The reason is not far to seek. A cablegram to hand this week read :—" Fruit importers say Canadian shippers of apples should exercise more care in packing. Many barrels were much depreciated in value on account of carelessness in this respect." Canadians might easily secure 25 per cent. more for much of their fruit sent from here than they now receive. The trouble is in the handling and packing of the apples. The prospects for Canadian apples in England are brighter. A recent report from London says : " We believe the bulk of the English apples will be on the market during the present month ; in fact, already a scarcity is felt, and apples are selling at higher prices now than they have been for some years in the month of September. Continental supplies are getting exhausted, and our opinion is that most of the apples on the continent will, as in our own case, be on the market during the present month, with the exception of the south of France. This is a thing that has not occurred before for many years, and we shall now have to look to the States, Canada and Nova Scotia for our supplies during the remainder of the season."

Another London firm writes :—" Now what is the outlook for this season as compared to 1891-'92 ? In that year we had a third of a crop of apples in England ; France had double the quantity she has this year, and the same may be said of Holland and Germany. This year, as stated in our report, issued in July, England has the worst crop of apples known for twenty years. At the present time the London market is in want of American apples, which is just one month earlier than she has ever had American apples here before. We have seldom wanted American apples here before the middle of October ; in fact, they have hitherto always done better in London towards the end of October than earlier. Freights are now the lowest they have ever been within the writer's recollection. We hear of 1s. 6d. freight from Boston, and 2s. from Montreal ; and from New York the freight will not be more than 2s. 6d. to 3s. per barrel. This is nearly 2s. per barrel less than it has been for years, and we do not think any important rise is coming."—The Globe.

# ❋ Novelties ❋

**The Columbus Gooseberry.**—Through the kindness of Messrs. Ellwanger & Barry, we give an engraving of a new American seedling gooseberry, said to be of the English type. We can say nothing definitely as yet concerning the value of this variety, for it has not yet been tested, even at the fruit experiment stations of New York or Michigan. The introducers say that it is of large size, oval in form, skin greenish yellow, smooth, of the finest quality. They also describe the plant as a strong robust grower, with large spines, and large, glossy foliage which has not yet shown any trace of mildew.


FIG. 706.—THE COLUMBUS GOOSEBERRY.

# The Garden and Lawn.

## THE CYCLAMEN.

IN our opinion the Cyclamen Persicum is one of the most useful and beautiful winter flowering plants grown. It flowers freely, lasts a long time in bloom, makes a good table plant, with great variety of color, and is often very sweet-scented ; in fact the plant has so much to recommend it that it is surprising it is so little grown here. I am sure that if private gardeners as well as florists were to give it a fair trial they would find themselves well repaid for their trouble. We think the chief reason why this plant is so seldom seen here in any quantity is that gardeners are under the impression it is such a difficult plant to grow in this country. I think this a mistake, and that if the mode of treatment given below were followed, and the same attention given them that is required to grow any ordinary plant well, that idea would be soon got rid of.

The seed should be sown in November in a shallow pan or box in light porous soil, in a temperature of about 55 degrees ; as soon as large enough to handle prick off into boxes and place near the glass. After remaining a short time in this way they may be potted into three inch pots and shifted on into 5 or 6 inch flowering pots as they require it, which will probably be in August. Rich, light, fibrous loam, with a little sharp sand and leaf soil, or well-rotted manure is the best compost to use, never use fresh rank manure. Keep them growing right along till they flower, without any check whatever. The old plan of resting them, by drying off before flowering at all, is almost entirely out of practice.

The Cyclamen may be kept outside in as cool a position as possible plunged in coal ashes and a sash over them to keep off heavy rains and hot sun if necessary, this is of course during the hot summer months. Take them in about the middle of September. I believe it is the custom in England to keep the Cyclamen very cool during its flowering season, but we have found its flowers come finer and better in rather a warm house.

The Cyclamen has several enemies including green fly, thrip and red spider ; these must be kept down as they soon do great damage. The green fly particularly will attack the young leaves and buds as soon as they break from the bulb, and cause them to come deformed. The best thing to get rid of them is tobacco dust.

A little weak guano water occasionally will help the Cyclamen, but don't over-do it. We have tried to flower them on benches, but would not like to recommend that plan until after further trial.

The Cyclamen may be grown the second year or longer by drying it off after flowering, but we prefer young year old plants.—Report Montreal Horticultural Society.

## HOW TO BUILD A SMALL CONSERVATORY.

[We have frequent enquiries regarding the building of small conservatories, attached to houses. Possibly this plan, which appeared in Gardening last month may be useful to some of our readers.]

THE drawings here presented show a small conservatory suitable to be attached to a private house. The dining and drawing rooms of many houses are about 15 feet wide, have a chimney in the center with windows on either side of same. This conservatory erected in conjunction with either of these rooms would be an artistic and serviceable addition. The windows could be altered to doorways with or without doors as desired. A foundation built of the same material as that of the dwelling with stone footings carried below the frost line should be prepared for the conservatory, or if this be too expensive, locust posts could be used instead. If posts are used the tops must be squared, and the proper angle given to those which form the corner of the octagon. German siding could be nailed to posts, the board at the grade line extending below the level two or three inches.

By consulting the scale details in conjunction with the following description you will, we think, understand the method employed in the construction of this building.

A sill 2 inches by 6 caps the foundations and should be laid in a thin bed of cement. Floor beams 2 by 10 inches secured to the sill and supported at the house on a 2 x 4 secured to dwelling, should be laid the 11 foot way of conserva-

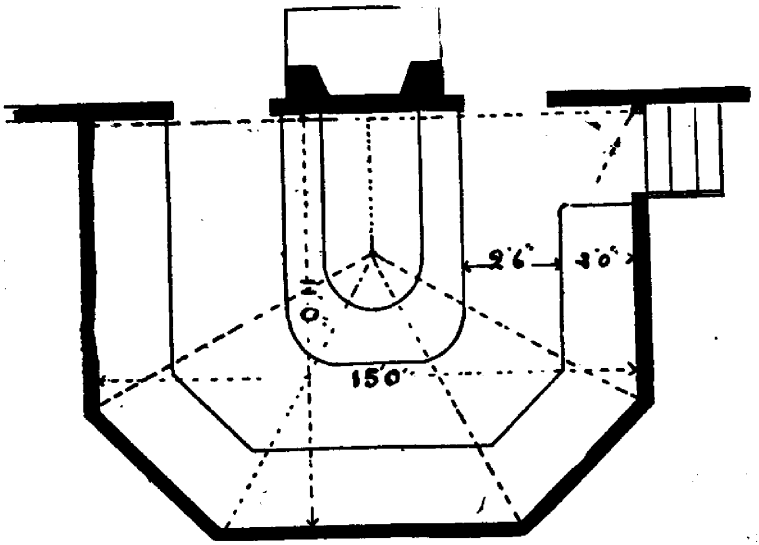


FIG. 707.—GROUND PLAN.

tory. A plate 2 x 4 inches is next fastened to the top of the floor beams, following the outlines of conservatory same as sill. To this plate the rafter feet are secured by cast iron lugs bolted to the plate and rafter feet. It will be noticed that this plate extends outside of the conservatory forming a cap for the base, and constructed in such a way that it is impossible for water to find its way into the joints. The height of the sides as well as the length of the rafters can only be determined by the room available, position of the windows in the second story, etc. This must all be carefully noted before operations are commenced and a large scale or full sized drawing made to determine these points. The

FIG. 708.—SIDE ELEVATION.

rafter feet and rafters are joined together with a wooden bracket, as shown, and securely bolted to each. The elevations and dotted lines on plan show the number and position of the rafters. Where the rafters join at the ridge they should be secured to the same with iron straps.

The sides of the conservatory from the top of the floor to the height of 2 feet 6 inches are panels running between rafters and secured to the same. A sash sill caps the panels, and above this are the side sash 1¾ inches thick, hinged at the top to facia and provided with iron straps to open them. The facia, 1⅞ inches thick, runs from rafter to rafter in one continuous piece. The

rafter feet should be cut away where the facia strikes them so that the face of the rafter foot and facia are on the same plane. The gutter is constructed in two pieces lined with tin and supported by brackets as shown. Care must be taken that the tin laps over the outside face of the gutter and extends close to the facia cap, as otherwise water will surely find its way into the conservatory. The roof is formed by rafters and sash bars, the bars being gained into the facia cap and mitred against the rafters. The position of these can be readily seen on elevations.

Either side of the short ridge are small sash for ventilation hung to the ridge and are intended to open by means of ventilating machinery, which can be procured for a small sum, of dealers in the same.

The tables can be built of wood, they should be strong and substantial with a band on the front projecting about two inches above the table.

**The Best House Plants.**—When looking around for the best kinds to stock up with, it will be well to have before us the answer which Mr. B. F. Critchell gave to the question of the 12 best window plants, at the recent florists' convention in Boston. He named Aspidistra lurida variegata—a Liliaceous plant from Eastern Asia, having oblong lanceolate leaves—easily grown in an ordinary window garden; small posts should be used. Azaleas of the Indian or Chinese classes continue to increase in beauty with each season's growth. Callas—few plants exceed these in popular estimation. Of Palms, a number were named as being very suitable for house decoration. Dracena, or Cordyline terminalis and indivisa are tropical plants of rare beauty, the attractiveness lying in the leaves, which vary in color from green to light crimson. The southern Palm (*Corpyha Australis* or more properly, *Livistonia Australis*) is a very ornamental plant from Eastern Australia, for window decoration. The Chinese Fan Palm (*Livistonia Chinensis*) is perhaps of all the Palms the most desirable, because being so easily suited to treatment. Kentia (or *Howea*) *Belmoreana* and *Forsteriana* are also Palms of great value. The India Rubber Plant (*Ficus elastica*) is one of the most ornamental and widely grown plants, being one that endures the dry dusty atmosphere of dwelling-houses exceedingly well, because of its leathery leaves. There is a golden variegated form that is very fine, being equally as well suited for house culture. Among Ferns for house culture, the Shaking Fern (*Pteris tremula*) is of the best; grows very rapidly, soon having handsome specimens. The small Sword-Fern (*Nephrolepis Duffi*) is an elegant miniature variety of the old but popular Sword-Fern that commends itself to all by its easy culture and graceful appearance. Any first-class florist should be able to supply most of the above.

MR. WATSON'S MOTH.—Mr. J. Alston Moffat, London, writes he has no doubt the moth described by Mr. Watson, on page 371, is Amphion nessus *Cram.*

## SHRUBBERIES.

OUR Canadian country homes are many of them deficient in yard adornment. Too little attention is given to that most important feature, a beautiful smooth shaven lawn, which is able to give a charm even to the most ordinary farm house. Indeed, the yard adornment is more important than the architecture of the house; if one has some grand old elms, maples and spruces, with some clumps of shrubs, so arranged as to hide boundaries, and objectionable features, and to shade the part of the lawn required for use in the sunny afternoons, the home will have an attraction that nothing else can give it. The plain old fashioned house itself need not trouble the owner, if, for want of means, he cannot replace it with a more expensive one. He can plant about it shrubs to hide part of the foundation walls, and the Japan Ivy, or the Virginia Creeper, to climb up the bare sides, and give his chief attention to planning a beautiful and attractive yard.

Aside from the lawn itself, it is often interesting to have on one side, a plot of ground, devoted to flowers and shrubs of various kinds. A writer in Popular Gardening, wrote some time ago, of such a collection, in the following terms :— The shrubbery walk at Lyndale was never more satisfactory than this year. To your recent readers let me explain that this is simply a portion of the outskirts of our rear lawn, so planted with two irregular lines of shrubs as to leave a gracefully curved grass walk of varying width between the continuous masses of shrubs. The bushes are seated on the grass at about three feet apart for dwarf growers, and from this up to eight feet apart for the larger ones, the latter being in the background.

The reasons why this walk satisfies me so well are : First it cost no great price, the shrubs having been bought mostly at from $3 to $5 per dozen, and I planted them myself. Then the selection embraces such a variety as to leave scarcely a week from April until November without some flowers, while to count the handsome berries of some, and the rich autumn foliage of others, and then some evergreens for winter, the walk is never without attraction.

Last of all, there is something so distinct about a shrubbery walk from other garden features. Here are verdure and size of growth that give character to the garden only second to a grove of trees; flowers that in beauty, fragrance and quantity almost equal the flower borders themselves, while the care of all amounts to almost nothing, embracing but the annual pruning and the winter protection of some of the more tender kinds.

# Forestry.

## DURABILITY OF TIMBER.

THE Commissioner of Agriculture, Washington, D.C., through the Chief of the Forestry Division, in relation to the treatment of timber in a late bulletin says :

With proper after-treatment of the wood the time of felling seems not to effect its durability. Early winter felling [December] should have the preference, because less fermentable sap is then in the trees, and the timber will season with less care, more slowly and more evenly, and before the temperature is warm enough for fermentation to set in. If the wood is cut "in the sap" it is more liable to fermentation and to the attacks of insects, and more care is necessary in seasoning ; for the rapid seasoning, due to the warm dry atmosphere, produces an outer seasoned coat which envelopes an unseasoned interior liable to decay. When cut in the leaf it is advantageous to let the trees lie full length until the leaves are thoroughly withered (two or three weeks), before cutting to size. With conifers this is good practice, at any season, and if it can be done, all winter-felled trees should be left lying to leaf out in spring, by which most of the sap is worked out and evaporated.

Always remove the bark from felled timber to aid seasoning—but not from the standing tree.

Never allow the log to lie directly on the moist soil.

If winter-felled, shape the timber to size within two weeks after felling and leave it placed on blocks—not upon the soil—in the forest, or if shaped at home place in a dry, airy—not windy—position away from sun and rain.

If dried too rapidly, wood warps and splits, the cracks collect water and the timber is then easily attacked and destroyed by rot.

With large logs, checking may be prevented by coating the ends with some fatty or oily substance mixed with brick dust, or covering with a piece of linen, cloth, or even paper, or by simply shading them to lesson evaporation ; cracks on the sides may be filled in with tow or cotton.

When piling timber, place laths or sticks of uniform size at uniform distances under each log, or post, or tie.

Sufficiently thorough seasoning for most purposes is obtained in twelve to eighteen months, while for special work, according to the size, from two to ten years is required.

The best method of obtaining proper seasoning without costly apparatus in shorter time, is to immerse the prepared timber in water, from one to three weeks, to dissolve the fermentable matter nearest the surface. This is best done by running water—if such is not at hand, a bath may be substituted, the water

of which needs frequent change. Timber so treated, like raft-timber, will season more quickly and is known to be more durable.

If practicable the application of boiling water or steam is an advantage in leaching out the sap.

Never apply paint or any other coating to green or unseasoned timber.

If the wood was not well dried or seasoned, the coat will only hasten decay.

Good coatings consist of oily or resinous substances which make a smooth coat, capable of being uniformly applied; they must cover every part, must not crack, and possess a certain amount of plasticity after drying.

Coal tar, with or without sand or plaster or pitch, especially if mixed with oil of turpentine and applied hot (thus penetrating more deeply), answers best. A mixture of three parts coal-tar and one part clean, unsalted grease, to prevent the tar from drying until it has had time to fill the minute pores, is recommended. One barrel of coal tar will cover 300 posts. Wood tar is not serviceable because it does not dry.

Oil paints are next in value. Boiled linseed oil or any other drying vegetable—not animal—oils, are used with lead or any other body (like pulverized charcoal) to give substance. Immersion in crude petroleum is also recommended.

Charring of those parts which come into contact with the ground can be considered only as an imperfect preservative, unless a considerable layer of charcoal is formed, and if it is not carefully done, the effect is often detrimental, as the process both weakens the timber and produces cracks, thus exposing the interior to ferments.—Farm, Field and Stockman.

## HORTICULTURAL INSTITUTES.

The writer has frequently pressed the importance of Horticultural Institutes, conducted much in the same manner as the usual Farmers' Institutes are, but wholly devoted to the discussion of topics connected with the garden and the orchard. The directors of our Association have each expressed their willingness to help forward such meetings, to attend and speak on the growing of fruits or vegetables, and thus distribute more widely the information received by their years of attendance at the meetings of our Association.

Little, however, has as yet been accomplished in this direction for want of organized effort. There is needed a local society to arrange for the meetings, and this is the very thing we are just now trying to encourage. Such societies may draw, from the Electoral District Grant, a liberal sum, which may be spent in the purchase of books and journals for distribution, and for providing for lectures on garden and orchard topics, etc. Each of the members of this society may also be members of the Ontario Fruit Growers' Association for the one fee which makes them members of their own society. Full details will be given anyone who writes to this office, asking for them. Or in places where such a society does not exist, possibly our Director of Farmers' Institutes would arrange for the holding of Horticultural Institutes in place of the usual meeting devoted to a variety of agricultural subjects.

# The Canadian Horticulturist

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

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

## Notes and Comments.

A LARGE QUINCE was grown by Mr. Charles Vanduzer, Grimsby. It measured twelve inches in circumference. The variety was the Orange. Quinces have colored unusually well this season, and are free from scab. The last were harvested at Maplehurst October 15th.

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WE USUALLY MARKET the quince in the twelve-quart basket; because purchasers usually want only small quantities. The market needs cultivating for this fruit, because in many places people seem scarcely to know what use to make of it. Quince preserves, marmalade, jelly, pickles, also quinces canned or baked, are all rich delicacies.

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A PECULIAR BUNCH OF GRAPES was shown us by Major Allan, Grimsby. There seemed to be two distinct varieties in the same bunch, one the Niagara, the other the Lindley—white and red grapes with distinct flavor. Only one branch of the vine produced this peculiarity.

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OUR EXPERIMENTAL VINEYARD of eighty varieties, at Maplehurst, is a great attraction. Of the white grapes *Victoria*, one of Miner's seedlings, is one of the most showy, it might be called a white Concord; *El Dorado* is of remarkably good quality, and very fine; *Pocklington*, well ripened, at this season is very fine, much superior in quality to *Niagara*. This last is a wonderful grower, and producer of immense clusters. The pulp separates easily from the seeds, and the abundant juice is very refreshing and pleasant when well ripened; but let the eater be careful not to eat Salem, or Lindley just before he begins with Niagara, or he will vote the latter insipid.

Of red grapes, *Lindley* is our favorite for general purposes. It colors early, is fairly productive, and of good quality. *Salem* is richer in flavor, and fine for winter use, as is also the *Vergennes*, which is also a very fine grape. *Woodruff Red* is a magnificent looking grape, so large and well colored, but inferior to either of the former in quality.

Of black grapes we cannot yet select any in preference to *Concord*, for general purposes. The bunches this year were immense and the berries very large. It produces in the Niagara District from three to four tons per acre. The *Wilder* is far superior in quality, but, so far, is comparatively unproductive. Mr. T. P. Carpenter, of Winona, however, has had different experience. His Wilders have produced about equal to Concords. He gives this variety no fertilizer. The *Worden*, though a little earlier, does not equal the Concord in productiveness, it does not carry as well, and has an unpleasant flavor if it hangs too long, while the Concord grows sweeter the longer it hangs on the vines.

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THE *Victoria* above mentioned is one of 1,500 seedlings, mostly white, grown by Mr. T. B. Miner, in Central New York. The berries are large and of waxy lustre, with thick bloom, and quality fair. We will describe it more fully after growing it one more year. This white grape and *Woodruff Red* present a superb appearance together in a basket, or on the dessert dish. The latter is the most beautiful red grape we know of. It is a Labrusca, originating with C. H. Woodruff, Ann Arbor, Mich., in 1874. At Maplehurst it is very productive, and the magnificent berries have taken on a bright rich carmine (Oct. 12th).

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TWO COLORS OF GRAPES ON ONE BUNCH.—Mr. L. F. Selleck, of Morrisburg, sent us (Sept. 28th) a bunch of grapes with two distinct colors; one half the bunch black and the other half red grapes. He asks if the freak can be propagated. On examination we found the stem was ringed, or dead, in the middle of the bunch, causing this curious appearance. The grapes were black and of good quality up to this ring, and beyond were red and insipid, because the sap from the leaves could not circulate into them to ripen them. Of course this could not be propagated.

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THE EFFECTS OF RINGING were never so marked as in the instance of a vine at Maplehurst of the Goethe, or Rogers, No. 1. This variety seldom ripens in Canada, and just now (Sept. 29th) is quite green both in appearance and in flavor, but in passing it we were surprised to notice the branch loaded with brilliant red grapes of high quality, apparently quite another kind. On examination it proved to be a branch that had been ringed with a wire, and in consequence the berries on it were ripened far in advance of the others. This is the opposite of the effect of the ringed stem of a bunch above referred to, because this latter has no leaves to elaborate the sap.

# Question Drawer.

## Wash for the Peach Tree Borer.

An inquiry was received some time ago with regard to the composition of Mr. Hillborn's wash to destroy the peach tree borer, because as first published it was indefinite. The following is his recipe:—One bushel each of fresh lime and hardwood ashes, with enough water to make a good whitewash. This will require thirty or forty gallons. To this mixture add one pint of crude carbolic acid. Mr. Hillborn says, "I remove the soil from the base of the trees and apply the wash with a brush, as near the roots as possible, extending up one or two feet This should be applied during the last of May, and completed early in June."

## Spraying Pump.

**680.** SIR,—Would you be kind enough to tell me where I can get a good spraying pump, and what nozzle to use? I have sent to Montreal, Toronto and Boston for the McGowan nozzle, but no one seemed to have it.

EDWARD BAYFIELD, *Charlottetown, Ont.*

There are few really satisfactory spraying pumps manufactured in Canada, and, as a rule, we have found it necessary to import from the United States our first-class pumps. The one which has been advertised in our journal, first under the names of Little Dandy, and later, as the Ideal, which is now being made in Brantford, comes closer to our requirements of any manufactured in Canada, so far as we know. If the manufacturers will remedy some little faults in it, which can be done without much trouble, we would be able to highly recommend this pump. It is not so expensive as American pumps, and works quite satisfactorily indeed. The McGowan nozzle can be purchased from Mr. W. H. Bunting, of St. Catharines, Ont. The price is $2.25, but these nozzles do excellent work. For a small hand pump write Mr. W. E. Saunders, London.

## Apples for Leeds County.

**681.** SIR,—I have a couple of farms, which I lease out, and I have been thinking of planting an apple orchard on one or both. I only want one or two varieties, and these winter fruits. Some admire Spy, some the King, some McIntosh Red, some the Ontario. I hear good and bad accounts of each. How many trees should I plant to the acre?

J. R. DARGAVEL, *Elgin.*

In our opinion the Ontario would be the best apple for the County of Leeds, of the four mentioned by our correspondent. The *Spy* is one of the very best apples in quality, but a little tender; the *King*, also ranks among the highest flavored apples, but is a wretchedly poor producer of fruit; the McIntosh Red is a beautiful dessert apple, but inclined to spot; while the Ontario does not spot, is very productive, and, being quite hardy in South Hastings

would probably be quite so in Leeds. However, our District Fruit list, as published in our reports, recommends neither of these four, but only Golden Russet, Pewaukee, La Rue, Ben Davis and Red Canada.

In Leeds County, probably apple trees of most varieties could be planted 30 feet apart each way, and at this distance fifty trees would be required per acre.

## Powdery Mildew on Raspberry Leaves.

**682.** SIR,—We have about one acre of Turner raspberries, that in the early part of the season were affected with a sort of mildew, and which greatly decreased the yield. Since fruiting, the young canes have died back from 6 to 8 inches and is still creeping downward, while some of the more tender canes are completely dead. Enclosed you will find some leaves taken from the canes of this last spring's planting. What is the trouble, and can anything be done to prevent it? Rows are planted north and south, and are exposed to the full heat of the sun. Is this the right way to plant?

WILLIAM DOAN, *Newmarket, Ont.*

*Reply by Prof. John Craig, Ottawa.*

The raspberry leaves forwarded for examination are affected by what is known as the mildew of the raspberry; a genuine powdery mildew, technically called *Sphærotheca humuli (D.C.)*

This frequently attacks wild raspberries, but, to my knowledge, has not been destructive in cultivated plantations. It is questionable whether it could be satisfactorily treated if it has secured a good hold on the plants. Flowers of sulphur may be successful in combatting this. It should be applied to the canes and upon the ground, in the same manner as used to prevent the powdery mildew of the grape. Where plantations are severely attacked, it will probably be best to cut off the canes and burn them after the fruiting season in autumn.

## Leaf-Blight of the Rose.

**683.** SIR,—I enclose a sample of rose leaves taken from a Marechal Niel rose in my glass house. Please tell me what is the pest, and prescribe a remedy.

J. H. SINCLAIR, *New Glasgow, N. S.*

*Reply by John Craig, Horticulturist, Ottawa.*

The enclosed rose leaves are affected by two fungous diseases. The one causing the black, irregular blotches on the upper surface is known as the "Leaf-blight of the Rose" (*Actinonema rosea, Fries*). The leaves are also affected by a rust more or less common to roses, both under glass and out of doors. This rust is called *Phragmidium mucronatum, Winter.* When roses grown under glass are affected by these diseases, the trouble can usually be prevented by applying flowers of sulphur, or subjecting the plants to the fumes of sulphur. Outdoor plants may be successfully treated with a weak formula of

Bordeaux mixture, say three pounds of copper sulphate to three pounds of lime, to forty gallons of water. If the plants are in bloom, ammoniacal copper carbonate can be substituted, and by using this the flowers will not be stained. In house culture the fallen and diseased leaves should be carefully collected and destroyed. For the treatment of scale diseases a wash of strong soap suds is probably the best preventive. Kerosene emulsion, if applied frequently and carefully, will be found the most satisfactory on the whole.

# Open Letters.

## Quid Pro Quo.

SIR,—On page 315 may be read: "*As a rule* we need not expect the regular practising M. D.'s to recommend preventives to disease, when it puts money in their pockets to keep people comfortably sick." The rule by which the writer gauges his fellow-men is not a large one, neither does it indicate the possession of a large and generous disposition on his own part. The assertion is not only ill-natured, but untrue. It is not safe, evidently, for a member of the medical profession to call in question the authoritative declaration of this Solomon come to judgment. At least he may only do so at the risk of having his character basely aspersed. It is surely not calculated to strengthen a recommendation relating to medicine to allow it to be inferred that those who have made a special study of the subject are opposed to it. Possibly the use of fruit in the diet may be one of the very few practices that require no discretion in their application. Fruit, perhaps, does good always; but does harm never. An apple-diet may be the best for a dyspeptic. Because I am a practising M.D. I cannot be expected to know—or, at any rate, not to tell. The writer agrees with us, doctors, in one respect. When we find it necessary to give a particularly nasty dose, we endeavour to disguise the nauseousness of it by the addition of something nice. Acting on this principle, Mr. L Foote would fain conceal the ill-nature that constitutes the active principle of his composition by mingling with it a little sanctimony. He has, however, overdone it, and the result is a compound so vile that it may be trusted to serve as its own antidote. Nevertheless these petty slurs upon a noble profession, to which mankind at large is so greatly indebted, are so often repeated and allowed to pass unrebuked, that every ill-natured fellow thinks he can do this thing with impunity. If the doctors are not all saints, it may yet be asserted that no body of workers on the footstool can compare favorably with them in the amount of gratuitous services ungrudgingly rendered to their fellows, irrespective of race, creed or social condition; in confirmation of which I appeal to the personal experience of each one of your readers. Yours truly,

W. O. EASTWOOD, M. D.

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## Trotter's Hybrid Plum.

SIR,—In reply to your inquiry I may say that I have only one tree of my hybrid plum. Last year was the first bearing. This year I pulled a twelve-quart basket of plums from it, and I believe it will be very productive. The fruit is of uniform size and appearance, and colors well, taking on a beautiful bloom before it is fully ripe. It hangs well on the tree when it is ripe, and keeps well after being gathered. Twelve plums which I had at the exhibitions weighed 1 lb. 8 oz., and were much admired. Some of our best judges pronounce the quality excellent when fully ripe. The tree is a rapid and strong grower and appears to be healthy. It is from hardy parents. The foliage is thick and retains its leaves late in the season.

R. TROTTER, *Owen Sound.*

# Our Fruit Table.

**A Seedling Apple** has been received from Mr. S. Greenfield, of Ottawa. says the tree is one of the hardiest he has in his garden, and it grows on heavy clay. The apple is very beautiful, about equal to the famous Gravenstein in appearance, and is very good in quality; size large, measuring three by three and a quarter inches in diameter; season, September and October. Possibly this apple would be of great value where the Gravenstein is too tender.

## Fruit Samples Received.

**Currants** from F. W. Porter: Mount Forest, Victoria, White Grape, Red Dutch, Porter's Seedling, and other seedlings, all fine samples, but much bruised in transit. Date of receipt, August 18th.

**Plums** from A. M. Smith for name, medium size, dark blue. We do not recognize them. Mr. Cline thinks they are either Glass or Quackenbos, and under size on account of the dry season.

**Two Seedling Peaches** from B. R. Nelles, Grimsby. One is a cling stone, yellow fleshed, of very large size, resembling lemon cling, but very late, ripening about middle of October; the other, a medium sized yellow peach, about the size of the Smocke, a free stone, of fair quality, ripening about the same time.

**Canadian Grown Figs.**—We have just received from the Central Experimental Farm, Ottawa, a package containing nine ripe figs, in excellent condition. They are of fine quality, and show what is being done in fruit growing under glass in Canada. At Niagara-on-the-Lake, one of the members of our Association ripens the fig out of doors. He cuts back the old wood every year to the ground, and lays down the young growth, and covers it with soil. In this way he grows a crop every season.

**A Big Apple** comes to hand from the Beaver Valley, grown by Mr. Andrew Thompson, near Clarksburg. The grower says it keeps till the last of March. It is about four inches in diameter, somewhat oblong in shape, ribbed, and crimson in color.

**The Rochelle.**—A hardy winter seedling apple, one sample of which comes to hand from R. J. Shepherd, Montreal. He writes: "The original tree is about eighteen years old, and grew from the root of root graft, set out in my nursery at Come, in 1877. It still remains where it first sprouted, having never been transplanted. The tree is to all appearances perfectly hardy, and bears abundantly every second year. Growth vigorous, spreading. like St. Lawrence. The terminal shoots large and well ripened every year. I am inclined to think this apple is a fairly good keeper, and judging from its fine coloring and good quality, it ought to be a good apple for export." The apple is very attractive, almost equal to Duchess, and if a good keeper and hardy, it may prove valuable, When tested we will report on the variety more fully.

## THE COURSE IN HORTICULTURE AT GUELPH.

Probably very few of our readers know of the excellent course in horticulture which is now provided at the Ontario Agricultural College. A year ago, Mr. H. L. Hutt was appointed professor of horticulture, and he has since been working out a careful course of instruction, which is persued by students of the second year. The fruit farmers of the next generation will be far in advance of the present one, especially those who take advantage of such excellent priviliges. We therefore advise all young men intending to follow fruit or vegetable gardening to take the full course at this excellent college. The following is an outline of the course in horticulture :—

1.—FRUIT GROWING.

*Introduction.*—Brief history of Horticulture ; extent and importance of the industry ; Ontario as a fruit-growing country ; the outlook for the fruit industry ; requisites for the business.

*Leading Principles in the Growth of Trees.*—Description and function of roots, stems, branches, buds, leaves, flowers, fruit and seeds. Illustrated by specimens in the class-room.

*Production of New Varieties.*—Species and varieties; natural and artificial pollination ; crossing and hybridizing practised by students in the green-houses and orchards.

*Propagation of Varieties.*—By cuttings, layers, grafting and budding. Illustrated by specimens and practised by students in the green-houses.

*Setting Out Orchards and Fruit Plantations.*—Suitable soils and situations ; distances for planting ; marking out the ground; obtaining nursery stock ; transplanting ; watering ; mulching.

*General Management of Orchards and Fruit Plantations.*—Cultivation ; manuring ; spraying ; thinning fruit ; implements suitable for the different operations.

*Different Kinds of Fruit.*—Apples, pears, quinces, plums, apricots, cherries, grapes, raspberries, blackberries, currants, gooseberries, strawberries, etc., treated of in detail according to the following syllabus :—(1) History and botanical matter ; (2) Extent of cultivation ; (3) Methods of propagation ; (4) Soils suitable ; (5) Culture required ; (6) Methods of pruning and training ; (7) Time and manner of harvesting ; (8) Packing and marketing ; (9) Method of keeping and storing ; (10) Varieties grown.

2.—VEGETABLE GARDENING.

*Gardening as an Occupation.*—Extent and importance of the industry ; market gardening near large towns and cities.

*The Farmer's Garden.*—Location, size, and soil suitable.

*Fertilizers for the Garden.*—Barn-yard manure ; composts ; artificial fertilizers ; time and manner of applying them.

*General Management of Garden.*—Preparation for and cultivation of crops ; rotation of crops ; plan of garden.

*Garden Seeds.*—Method of obtaining ; vitality ; time and manner of sowing ; conditions favorable to germination.

*Raising Plants.*—Construction and management of hot beds and cold frames ; transplanting.

*Forcing Garden Crops.*—Illustrated by growth in the green-houses of radishes, lettuce, onions, potatoes, tomatoes, cauliflowers, cucumbers, melons, rhubarb, mushrooms, etc.

*Garden Crops.*—Beets, carrots, parsnips, salsify, radishes, turnips, potatoes, onions, asparagus, spinach, lettuce, cabbage, celery, rhubarb, cauliflower, peas, beans, corn, melons, squashes, cucumbers, tomatoes, herbs, etc., treated of in detail according to the

following syllabus:—(1) History and botanical matter; (2) Importance and extent of of cultivation; (3) Soils and fertilizers suitable; (4) Propagation; (5) Culture and general management; (6) Harvesting; (7) Packing and marketing; (8) Storing; (9) Varieties grown.

3.—LANDSCAPE GARDENING.

Location of buildings; making and care of lawns; kinds, arrangement, and care of trees, shrubs, vines, hedges, and flower beds; course and construction of walks and drives; general surroundings.

4.—ARBORICULTURE.

Importance of forests; their effect on climate; different kinds of trees; their occurence, habits and uses; where trees should be planted; raising trees from seed; planting operations; transplanting large trees; care and management of trees, with a view to ornament, shelter, and economy.

5.—FLORICULTURE.

Soil for house plants; methods of potting; propogation of plants; effect of atmosphere, temperature and light on plants; watering; trimming and training; treatment of frozen plants; resting plants; kinds of plants suitable for window or conservatory; hanging baskets; rockeries; flower beds; etc.; arrangement of plants for effect.

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**The Annual and Winter Meeting** of the Ontario Fruit Growers' Association will be held in Orillia, in the Town Hall, beginning on Tuesday evening the 4th December, at 8 o'clock, with an illustrated lecture on Fungi, by Prof. J. H. Panton, of the Ontario Agricultural College, Guelph. Papers will be read and addresses made by prominent fruit growers from every part of Ontario. The meetings will be continued throughout Wednesday, Thursday, and Friday, beginning at 11 a.m.; 2 and 8 p.m. All sessions are open to every one—ladies or gentlemen—interested in fruit growing. Prof. Beach, of Geneva Experiment Station; Professors Craig and Fletcher, of Central Experimental Farm, Ottawa; Prof. Hutt, of O. A. C., Guelph; Mr. James, Deputy Minister of Agriculture, Toronto, and others, are expected to be present.

Numerous papers will be contributed by members of our Association for publication in our report, and the most of them will be read and discussed at this meeting. Programmes will be ready soon, and may be had from the Secretary, Grimsby.

There will be no public meetings until Tuesday evening at 8 o'clock, when the lecture above mentioned will be given. On Wednesday and following days the public sessions will open at 10.30 a.m., thus giving time for committee meetings in the morning.

The Board of Control of Experiment Stations will meet on Tuesday afternoon at 2 o'clock. The Directors of the Association will meet on Wednesday morning at nine o'clock, and arrange for details of programme and considering report of Experiment Stations.

# Question Budget.

Is Prince Engelbert a desirable plum? What are its faults? Is the tree healthy and productive? Can you name any peaches more suited to this locality than Crosby, Hyne's Surprise, Horton Rivers? Is there any other class of Dwarf Juneberry better than the ordinary Saskatoon?

ED. MANS, *Echo Place, Brant Co.*

What fruits can be grown in South Edmonton, Alberta? Would Russian apples succeed there?

C. E. GWYN, *Dundas.*

## APPLE CROP.

To-day's cable from Messrs. Woodall & Co., Liverpool, reports market active and prices steady at 11/ to 15/ for Baldwins 12/ to 14/6; for Greenings, 19/ to 23/; Kings, seconds, about 3/ less. London, Glasgow and Hull, offer about same prices.

| Estimated shipments to Liverpool, | | London, | Glasgow: |
|---|---|---|---|
| From Montreal . . . | 16000 | — | 12000 |
| " Boston . . . . . | 28000 | 6000 | — |

A. OTIS, *Montreal, 26th Oct.*

MESSRS. JAMES ADAM, SON & Co., Liverpool, this day cable: "Winters, market unchanged Falls, market declining. Baldwins, 11/ to 15/; Greenings, 11/ to 13/6; Spys, 12/6 to 16/." Messrs. B. and S.H. Simons, Glasgow, this day cable "There is a favorable change in the market: Baldwins, 15/ to 17/; Greenings 14/ to 16/; Kings, 22/ to 24/."

M. H. PETERSON & Co., *Colborne, Ont.*

**Apples.**—Receipts still come pouring in in large quantities, and sales are very slow at $1.00 to $1.75 per barrel for fall varieties and $2.00 to $3.00 per barrel for winter varieties.

**Pears.**—The market is still over-supplied with pears, which is owing to the heavy receipts during the week; basket pears are unsalable at any price, while barrels are selling slowly at $2.00 to $3.00, and fancy $3.50 to $4.50; California pears $1.50 to $2.00 per box.

**Peaches.**—With a limited demand and a full supply California peaches are selling at $1.00 to $1.25 per box.

**Potatoes.**—The demand for potatoes continue good, and we quote 50c. per bag of 90 lbs. on track, and 55c. to 60c. in a jobbing way.

**Onions.**—Canadian onions are selling well, but the receipts are very heavy, which keeps the market over-supplied at $1.75 to $2.00 per barrel. In Spanish onions some good sized sales have been made at 67½c., but for jobbing lots we quote 75c. to 80c per crate.

*Montreal Trade Bulletin, Oct. 26.*

**The Forms for Fruit Stations.**—Secretary Woolverton has favored us with a set of the blank forms to be used by the managers of the several experimental fruit stations in Ontario. These forms are ruled with printed headings, asking for the fullest possible information regarding the fruits under cultivation. When properly filled in they will present in tabular form complete details as to the varieties, origin and characteristics of the tree, bush or vine, the soil and management, size, form, color, quality, productiveness and other points relating to the fruit, as well as its freedom from disease, marketing qualities, seasons, etc. These forms show that the intention is to make the operations at the Ontario experiment fruit farms as thorough and useful to everyone interested as it is possible to make them.—*The Weekly Globe.*