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BARON DE BONSTETTEN. 5

LEONARD VAN BOSTICULTURIST.

THE
Canadian Horticulturist

VOL. XII.

MARCH, 1889.

No. 3

THE ROSES.



IN distributing among our members the Paul Neyron and the Baron de Bonstetten roses, we hope to be the means of increasing the interest in rose culture. Both of them have been well described by Mr. Fred. Mitchell, on page 16, and we have now pleasure in giving a colored plate of this latter variety, as a frontispiece to this number. It is a splendid rose, large and full, of a rich velvety maroon color, and one of the very best hybrid perpetual roses which an amateur can plant. By selecting some such easily grown varieties at the outset, and finding himself rewarded with a profusion of beautiful flowers, he may be encouraged to try other improved varieties requiring special attention.

To have the best success, it is necessary to have a good rich soil, made by digging in a compost of sods and cow manure. The latter should be about one year old, and mixed in the proportion of one load to eight of the former, and if the soil is inclined to be heavy, add one part to ten of good sharp sand.

Our readers need have little difficulty in propagating roses by layering, if in the month of July they will bend down the branch, and pin it to a shallow trench in the soil, pressing down the earth firmly upon it and leaving the tip growing upward. Care should be taken, however, first to cut a slit on the under side, about an inch long, to the pith. By thus partially breaking the connection with the parent bush, the layered cane will send out rootlets of its own, and when cut away in the fall or spring, will be able to depend upon its own roots for nourishment.

The enemies of the rose are numerous, the chief of which are well and briefly alluded to in the following from *Vick's Monthly*:

The insects most harmful to roses are the green fly, red spider, rose hopper or thrips, and the rose bug and the black slug. Now, though combatting these insects involves some little trouble, yet success will attend all persistent efforts.

The green fly, the thrips and the black slug can all be kept under by syringing the plants with a solution of whale oil soap. One pound of soap is sufficient for eight gallons of water. Throw the water in a fine spray on the

under as well as the upper sides of the leaves. A syringe with a bent nozzle is the best instrument with which to apply the liquid to the lower sides of the leaves.

The red spider can be held in check

by syringing the leaves with clear water; in dry times this should be done every day. If the rose bug, *Melolontha subspinosus*, makes its appearance, which is not very often, it can be destroyed by the Insect Exterminator.

PRUNING TREES AND VINES.

DEAR SIR,—I would like to have your opinion on the proper method and time for trimming and pruning fruit trees, shade trees, grape vines, etc. In a great many orchards very little pruning is done. Some people let the trees go without pruning until the limbs become very large, and then cut out large limbs in the centre, leaving the stump sticking out from the trunk—in my opinion, a very good way to start the tree to rot. I have seen trees that it would require a twenty-foot ladder to prune the thick brush off the ends of the limbs, so that the sun could get near the fruit. Is it right to cut out the centre of a tree?

Grape vines are often allowed to run over fences and buildings year after year without pruning, only having bearing wood on the ends many feet from the roots, the buds having been killed out by the steel bug in the spring, or the frost in the winter, as very few lay them down, as they should be in this cold latitude. I have had to cut out vines one half of which were dead and useless wood. I think a few good practical hints to slovenly fruit growers through your journal would do much good. Many here do their pruning in winter, but I prefer to do it when the blossoms are on the fruit trees, when the maple is coming out in leaves; and the grape vines late in the fall, after the leaves are off. Am I right? Trusting that this will not only find space in your journal, but that you will make some comments on it.—W. C. SEARLE, Clinton, Huron Co.

Probably there is no subject upon which more confused notions exist than with regard to the time and manner of pruning trees and vines. Some who pretend to know give such definite advice as, "Prune when your knife is sharp," and others advocate no pruning at all. Some say

prune in the winter, some in summer, and others in the fall. In the multiplicity and contrariety of the advice, who wonders that we see so many slovenly kept trees throughout our country?

First, with regard to the TIME of pruning. We have under this head a very old adage, which it is well to remember, viz.: "Prune in winter for wood, in summer for fruit," and probably no better general rule could be given. The philosophy of this is explained by the fact that anything which checks the wood growth of the tree tends to the metamorphosis of leaf buds into fruit buds; and, on the contrary, that which favors wood growth lessens that tendency. Thus, while a tree is young and growing rapidly, it produces no fruit; but when it has attained a certain degree of maturity, and grows less vigorously, it begins to produce fruit. On the same principle it is that a tree that has been girdled will often be overloaded with blossoms, though not yet of the usual bearing age, or limbs which are artificially bent down will yield fruit before the other limbs of the same tree. Now, summer pruning checks the growth

of the tree, and therefore tends to increase its fruitfulness. By it we remove the foliage just when it is in active operation, taking in from the atmosphere carbon, and otherwise transforming the crude sap into a suitable liquid for building up the cellular tissues of the trees. To a limited extent this may be done in safety, but if done too freely the tree will be some time in recovering its strength.

On the other hand, early spring pruning, being done when the tree is dormant, does not affect the vigor of the tree so much, and consequently strong growth results in order to maintain the equilibrium between the roots and the branches.

In favor of the summer time, it is urged that wounds made then heal more readily than when made in winter. This is true, for the growth at that time begins to cover the wounds while they are yet fresh; but perfect healing will also follow the winter pruning, provided the wound is properly protected from the air by paint or varnish.

To a limited extent, then, summer pruning is advisable, especially where trees are growing thriftily, and need a check to induce fruitfulness; and the proper time for it is when the first growth is completed, and the terminal bud formed, for by that time the cambium is sufficiently matured to perform nature's cure of the wounded portions. Generally speaking, this period is from the middle of June until the middle of July.

Winter pruning is generally adopted because it is the season of the

greatest leisure, and the naked limbs enable the operator to judge best which should be removed; but the term is misleading, for it must never be done when the wood is frozen,



FIG. 13.

and hence either the fall, the early spring, or only the mild days of winter, are at all suitable.

Another caution must here be

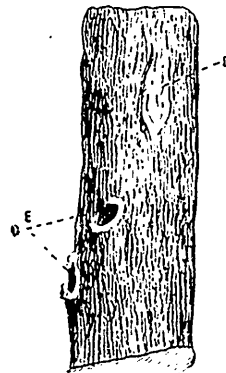


FIG. 14.

given, and that is, never to prune in spring after the buds begin to swell and the first growth is pushing, for the sap, being active and not yet sufficiently matured for healing the cut, will leak, and this so-called

"bleeding" will continue perhaps for a long time.

So much concerning the time of pruning; now concerning the MANNER. No; we wholly condemn the common custom of neglecting to prune until the limbs are very large, or cutting them out in such a way as to leave a stump sticking out from the trunk. We copy from the *American Garden* an illustration, figure 13, showing the evil effects of such faulty pruning, where the dead stubs are gradually introducing decay into the heart of the tree, soon to cause a hollow trunk, and early death; and figure 14, where at *d* a limb has been lopped off closely, and so healed that the scar is scarcely observable; while at *e* some have been removed in such a way as to leave open basins almost beyond the power of nature to heal. Large limbs should never be removed, if possible to avoid it, but, if necessary, they should immediately be covered with some preparation which will exclude the air. For this purpose various preparations have been recommended, as a coating of thick paint, or of coal tar of such a consistency that it may be applied with a brush. Mr. Downing recommends the following composition viz.: Take a quart of alcohol and dissolve in it as much green shellac as will make a liquid of the consistency of paint. Apply with brush. Keep it in a well corked bottle, sufficiently wide mouthed to admit the brush, and it will always be ready for use.

Neither do we believe in removing the large limbs in the centre of the tree to let in the sunlight. The right and the wrong ideal of the

form the pruner should have in mind when at his work are well shown in figures 15 and 16, in the first of which the limbs have been removed according to the reckless butchery so



FIG. 15.

often performed upon our helpless apple orchards, and which is one cause of the decrepit, half-dead appearance such orchards usually present.

The second represents a tree which has been allowed to grow according

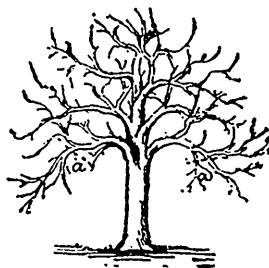


FIG. 16.

to its natural inclination, and the pruning has been simply an annual thinning of such small branches as threaten to cross others, or thicken the head too closely, and in this way the removal of large limbs is altogether avoided. Such a tree will live in health and vigor to almost twice the age of the former. The

pruner should study the natural growth of the tree and prune to favor that; thus the Spy and the Rambo

apart when heavily laden with fruit.

PRUNING THE VINE.

In the home garden, where the vine is needed to cover a verandah, an arbor, or to screen the sides of an old building, the shears may be sparingly used; but in the commercial vineyard it is almost impossible to succeed without them, because by intelligent pruning far more fruit is produced to the acre, and that both



FIG. 17.—VINE ONE YEAR TRANSPLANTED.

are upright growers, and with them one leading branch should be encouraged in the centre, and side branches at suitable intervals. The Greening and the Roxbury Russet have spreading heads, and hence should have several main branches so trained as not to interfere with each other.

But of all barbarisms, that of cutting out the leading branches in the centre of a tree, should be avoided, for numerous sprouts will spring up, decay will ensue from the large wound, and, worse than all, the tree will in time be apt to split



FIG. 18.—VINE TWO YEARS TRANSPLANTED.

earlier in ripening and of a better quality.

The most pleasant time for this work is in the fall, after the fall of the leaf, or in mild days in winter; but many growers wait until March, a month of chilly winds and muddy

ground, when it is anything but pleasant.

Methods of pruning the vine have been so often given and illustrated in

stand six feet above the ground and be placed twenty-five feet apart, and be well braced. No. 16 wire, running about 100 feet to the pound, will



FIG. 19.—VINE IN THE SPRING OF THIRD YEAR WITH ARMS EXTENDED.

these pages that we hesitate to touch upon them so soon again.

While the Fan System, referred to in vol. x., page 76, from its simplicity, is very commonly employed in Canada, we commend to the tidy gardener the *Renewal System* of the

answer, and three or four strands will be sufficient.

According to figure No. 20, all the upright branches are about a foot apart, and are annually cut down to within two or three buds of the main laterals;* but English gardeners an-



FIG. 20.—THREE YEAR OLD VINE IN FRUIT.

English vineyardist, or some modification of it as shown by the accompanying illustrations, which almost explain themselves. We may remark, however, that the cutting back at the end of the first year should be at about the height of the first wire of the trellis, and this in cold sections should be quite low for easy protection.

Light temporary stakes will be enough for the first two years, but in the spring of the third year the posts will need to be set. They should

usually cut back every alternate cane and leave the others to bear fruit on the small lateral branches which will grow from them. Some Canadians, who practise this system, ring each bearing upright either by removing a ring of the outer bark, or by twisting a wire tightly around it near the place where it is to be cut off at the next pruning. The sap, being thus prevented from descending beyond a certain point, goes to enlarge to an abnormal degree the fruit of the

* This is known as the Fuller system.

ringed branch; it is claimed, however, by many that this is done at the expense of quality. Others, again, say that the slight difference

is instanced in another column.

The most convenient tool for grape pruning is a pair of French Vine Pruners, such as is shown in figure

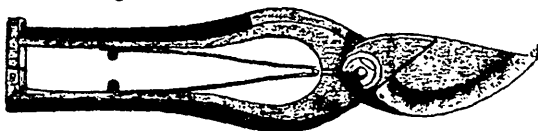


FIG. 21.—FRENCH VINE PRUNERS.

in quality is far more than counter-balanced by the early maturity and increased size of the fruit, as

21, and with this a great many vines may be operated upon in a day.

A FEW HINTS ON LANDSCAPE GARDENING.

SIR,—I have a place with a frontage of 198 and two sides of 160 feet each. I know very little about ornamental trees and am desirous of planting the three sides with ornamental trees and a hedge.

What trees would you recommend? I thought of Mountain Ash, including Oak Leaved Horsechestnut white and red flowering, Acacia or Honey Locust, Walnut, Flowering Thorns, Maple and Basswood. I can get these. I would also want some evergreens, different kinds.

How would a thorn hedge do? Some agents recommend a thorn hedge. I forget the name. They say it grows very quickly. I also require a large number of fruit trees, and small fruits for back lot. Would like if you would send me a list of reliable nurserymen. I do not wish to order through agents.

I like your journal very much and get a great deal of information from it although I would like to see more about ornamental trees and flowering plants treated in it. An early answer will oblige very much.—A. B. KLEIN, Walkerton.

A very artistic plan for laying out a small lot was recently given in the *Country Gentleman*, which we reproduce here as being one which might be helpful to our correspondent. The frontage is about the same as his, but the depth is about 400 feet, thus taking in the kitchen and fruit garden, and altogether enclosing an area of about two acres in extent. The useful and the ornamental are so artfully blended that one might suppose the whole to be ornamental, for the gar-

den is concealed from the carriage drive, which surrounds it, by hedges of tall growing shrubs such as Tartarian Honeysuckles, Lilacs, Spiraeas, Purple Fringe, etc., etc.

There are two driveways, one of which curves gracefully past the house and the other forms a partly concealed side entrance to the barn and garden, for conveying fodder, grain or manure. The grounds in front are chiefly devoted to a smooth lawn, except as occupied with trees or beds of flowers and shrubbery, while the whole boundary through which the carriage way is laid out in the rear, is gracefully planted with groups of ornamental trees and shrubs.

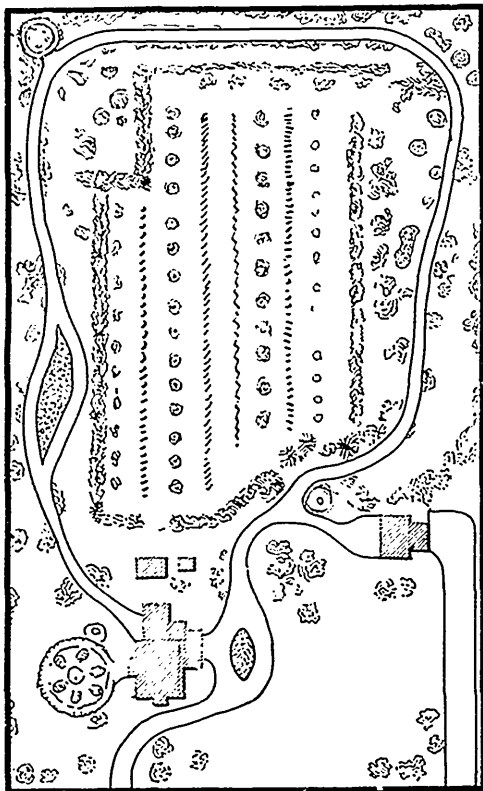
The whole is so planned as to be managed economically; one day sufficing a man to cut the front lawn with the lawn mower, one to put the flower beds in order, and one to cultivate the kitchen garden with the horse and finish with hoe and rake.

For the planting of the side and rear of such a lot as this, we have a large list of deciduous trees that are hardy enough for the latitude of

Walkerton, and we mention the following varieties from which our correspondent will be safe in selecting, viz:—Wier's cut-leaved, Silver, Red and Norway Maples; American and Cork Elms; European Silver Basswood; Swamp White, Scarlet

Box-elder, European Larch and Walnut.

Among the coniferous Evergreens, we may mention, as hardy and very desirable in grouping:—Norway, White and Hemlock Spruces; Nordman's Fir; Red Cedars; Scotch



Fruit Road.

FIG. 22.

and Red Oaks; single and double flowering Horsechestnuts; Showy Catalpa (*C. speciosa*); cut-leaved and American White Birches; White and Honey Locusts; Buttonwood (*Platanus occidentalis*); Wisconsin weeping Willow (to be used very sparingly, and preferably near water, see fig. 23); Wild Black Cherry,

Austrian, White and Cembrian Pines, of which the latter is particularly adapted to small grounds.

For planting in prominent positions about the front lawn, or as single specimens, we may suggest the cut-leaved Weeping Birch, the Scarlet Oak, the European and the Oak-leaved Mountain Ash, the Purple

Leaved Beech and the Ginko (or Maiden Hair tree.)

With regard to the enquiry about hedges we would not recommend the Buckthorn, on account of the expense of keeping it properly pruned; indeed unless needed to turn cattle, we see little use of thorn hedges of any kind. But, if a thorn hedge must

shears. It should be set while the plants are quite small, at from ten to twelve inches apart. Of deciduous shrubs the Privet, Barberry, Japan Quince and Spiraea Van Houtii are all very desirable. The first is easily grown, even in the shade of trees, bears the shears remarkably well, and, pruned in a conical shape from



FIG. 23.—WEeping WILLOW.

be had, the Honey Locust is about the best for Canada, although it, too, is a very rampant grower. It should be planted in double rows about nine inches apart.

As a hedge simply for an ornamental boundary, we know of nothing more suitable than the American Arbor Vitae, often miscalled the White Cedar. It is a slow grower and thickens up gracefully under the

the ground upward, forms a beautiful hedge, holding its foliage far into the winter. Nor is the pruning difficult, for the young shoots are slender and easily cut with the hedge shears.

Regarding reliable Nurserymen from which the above, and other stock may be purchased, we would refer our correspondent to our advertising columns.



MR. ALEXANDER McD. ALLAN,

PRESIDENT OF THE F.G.A. OF ONT.

IN volume xi., page 4, of this journal, there appeared a brief biographical sketch of this gentleman, together with an outline engraving of his face. The latter, however, failed to portray his features with any degree of correctness, and therefore we have had a new and much more expensive engraving prepared, both for these pages, and as a frontispiece to the Annual Report for 1888. The Report, which was sent on to the Government printers early last December, will soon be ready for distribution, and contains, besides, three beautiful, full page engravings of beds and bedding plants, as arranged on the Government Grounds, Ottawa, by Mr. N. Robertson.

THE APPLE MAGGOT.

By I. F. ABBOTT, LEWISTON, MAINE, U.S.A.

IN the January number of the HORTICULTURIST, in your remarks upon the *Trypeta Pomonella*, you speak of allowing sheep and hogs the run of the orchard to help destroy this pest; and also say that the worms leave the apple and burrow in the ground before passing to the proper stage. My observations regarding this insect have led me to think that but very few apples fall from the trees as a result of the presence of the apple maggots. We find both insects, the Codling Worm and the maggot, infesting the same specimens of fruit. As a result of the presence of the former, many apples come to the ground, and hence your advice, to give the sheep and hogs—particularly the former—the run of the orchard as late as practicable before harvesting the apples, is always in order, for, doubtless, many of both species of insects would be destroyed, though it is pretty well established that a majority of the Codling Worms leave the apples before they fall. But I believe the chances are, that larger numbers of the *Trypetas* than of the Codling Worm would be destroyed by the animals, from the circumstances, which my observations have shown to be the fact, that a part, at least, of these maggots pupate in their burrows within the apples they infest. I have several times had specimens thus change in confinement, usually

about one half remaining within the apple, the remainder crawling out and into a corner of the box in which they were confined.

Frequently I have found specimens of the maggot in pupa form in apples in winter when brought from the cellar. All of which goes to show that, like the Codling Worms, many leave the apple to pupate, and a portion remain in the fruit later—perhaps a later crop of worms.

I am in hopes the use of arsenical insecticides upon our orchards is going to be the means of staying the progress of the *Trypeta* as well as of the Codling Worms. Very few of our Maine orchardists have the courage to spray their trees with London purple or Paris green, but a few, like Mr. Pape, President of the Maine Pomological Society, and a few other prominent and progressive orchardists, have done so, and with the best results. If spared till another season, I propose to experiment in this line and carefully note results.

Mr. P. M. Augur, of Connecticut, stated, at the Winter meeting of our State Pomological Society, that in the season of 1887, orchards sprayed with Paris green for the Codling Worms were remarkably free from the ravages of the *Trypeta*. May we not hope that this will prove the sovereign remedy for both these pests of the orchard.

THE FARMER'S GARDEN.

A PAPER READ BEFORE THE STORMONT FARMERS' INSTITUTE BY MR. JOHN CROIL,
DIRECTOR FOR DIVISION NO. 1.

I MAKE no apology for being on your platform to-day other than to say I am asked, as a director of the Fruit Growers' Association of Ontario, to make a few remarks on gardening as connected with farming. We think they should go hand-in-hand. A good farmer is a poor gardener, so it is often said, but why should it be so? The thorough farmer is, of all others, the best qualified to be the best gardener. One reason for this idea is, we think, the belief that there is no money in the pursuit. Cheaper, you say, to buy vegetables than to raise them. But do you buy them? The farmer's table, as a rule, isn't half as well supplied with vegetables as the town man's. We don't advocate, in all cases, a large garden. The size of it will be best regulated by the facilities you have of disposing of the surplus after the wants of your family have been supplied. Let it be situated convenient to the dwelling. Your wives and daughters will, in all likelihood, have more to do with it than you. Don't tell them you will plough or dig it for them

AS SOON AS ALL YOUR CROP IS IN.

Your wives should make the house too hot for their liege lords till you get this done. If possible, let there be no trees to shade your garden. Plant seeds of the best kinds and of the best quality you can find as soon as the ground is in good working order, and not sooner. Don't wait for the moon; I think this is an old-fashioned idea. "He that observeth the wind shall not sow." I think the same may be said of the moon. It is economy to use the best known kind of seeds at any reasonable price. Last spring I had some of Burpee's New Express Cabbage; it matured about the time some were thinking

of planting, and sold readily for eight cents a head, not large ones either; while large heads of the late kinds were sold freely at from two to three cents a head.

FIGHT THE WEEDS.

You are sure to have them; kill them in infancy. If you have not learned the truth of the Bible words, "Thorns also and thistles shall it bring forth to you," you will before the season is far advanced. Supply yourself with the best tools. None better than I know of for keeping down the weeds than the Dutch or flat hoe. Use it as soon as you can see the seed rows, and use it often. A lively man will go over a good-sized garden with it in a day. A wheel cultivator works well in mellow soil. I prefer the hoe in stiffer soil. Sowing in beds, I think an old-fashioned system and a waste of time. Run your line the length of the garden with the assistance of a smart boy—better if the man is smart too; you will be surprised how much ground you will plant in a day.

GIVE YOUR GARDEN ACRE EQUAL CARE,

and I think it will pay you as well, or better than any of the others. I claim to be one of yourselves, having for the last forty years employed all my time in your profession, and gardening as well. We are often advised to profit by our failures as well as our successes. I have had a goodly share of the former, and hope I in some measure learned wisdom from them. Let me give you a few figures from my own experience. This last year my garden occupied a space of measured ground 2,478 square yards, a little over half an acre. Besides having a bountiful supply for household use, I sold off this:

Cabbage to the amount of	\$40 00
Onions.....	25 00
Celery	7 00
Carrots, turnips, beets, toma- toes, etc.....	5 00
Grapes.....	10 00
	<hr/>
	\$87.00

This, I considered, about an average crop. The ground, moderately manured, was in good condition, and kept as clean as the excessively wet season would allow. You can no more expect to get a heavy crop of vegetables than of wheat unless you

GIVE THE GROUND FAIR PLAY.

The above results, I think, you will admit are better than you would expect from wheat, even supposing you had forty bushels to the acre. A friend of mine, however, in Cornwall did better than this. I measured his ground, 1,310 square yards, a trifle over a quarter of an acre. Off this he sold:

Vegetables	\$53 06
Strawberries	28 38
Currants and gooseberries.....	13 47
Grapes and apples.....	3 23
Tomatoes	6 86
	<hr/>
	\$105 00

Besides being a better gardener than I, he had the advantage of a ready town market. Working in the woolen factory from 6 a.m. to 6 p.m., all the time he had for the garden was before or after these hours. All his hired help for the garden didn't amount to more than \$10. I call this profitable gardening. Besides the vegetable garden, I had, in strawberries, 1,488 square yards, about five-sixteenth of an acre. These were in rows four feet apart. Off this piece I sold to the amount of \$100, which I considered above the average crop, and having sold all the fruit in a home market, saving all the expense of boxes, crates, freight and commission, I did better than if I had been obliged to ship them. We often read of \$500 to \$700 or \$800 from an acre of strawberries, but I would advise you to receive all

such reports with caution. No doubt it has been done, but don't you expect such a crop. Some of you who may know more about strawberry-growing than I do may say, that crop of strawberries cost you a whole season's work, the year before yielding you no crop. True, but this year's was the third crop on the same ground, so you must divide the extra year's labor among the four crops. Again you say, you had any amount of

HOEING AND WEEDING.

Yes, we had; and sore backs, too, picking; but tell me, what do we get that's good without labor? And, as a rule, the better it is the more labor it costs us. Besides the pecuniary gain, isn't there pleasure and profit of another kind in having your fruits and vegetables fresh from the garden? A happy contrast to those that have wilted in the market waiting for a purchaser. We often hear our town friends say: these are not like the strawberries we get in the city; and we believe them.

A WORD ABOUT THE ORCHARD.

You want that, too, not necessarily a large one. A few trees are indispensable for your family; an acre or two out of your hundred will, I think, be a safe investment for most of you. My first orchard was planted forty years ago. I may say I have been re-planting ever since. I have been complimented on having the thriftiest looking orchard in our neighborhood. The trees grew well, with every appearance of healthiness, but I have had lots of failures. My first and greatest mistake was planting trees unsuitable to our climate. The nursery catalogues told me they were hardy, but they were not enough so for our cold north. The kinds we can successfully grow here, so far as I know, are comparatively few; but it's only a few good kinds we need. It's a mistake to have

TOO MANY KINDS.

Get a few selected trees of undoubtedly hardy varieties, mainly of such kinds as you find thriving in your neighborhood, and no more than you make up your mind to attend to. Prune early and regularly, and so avoid the necessity of ever cutting off large limbs. Don't avail yourself of the assistance of the cows in the operation; they will do it unmercifully. Fence them out, and the hens out of your garden. Prepare the ground, as for a good crop of corn, set your trees thirty to forty feet apart, and cultivate as long as the trees will allow you. Let your aim be in the orchard to raise

APPLES AND NOTHING ELSE.

Other crops among your trees will be at their expense. The greatest drawback to our orchards has been the black spot. It has troubled longer than many suppose. In a report of the fruit growers of the County of Lincoln, dated 1869, we have the following: "The black spot, as it is called, has been worse than ever known before." And the report goes on to name the varieties most affected. So it appears the disease has been going on and increasing for some years previous to 1869, without either its cause or a cure being discovered. Suddenly as it came, in the season of 1887, it left us, as we hope, for good. During these years, such orchards as had a large proportion of Fameuse and other kinds most liable to the disease, were almost worthless. Mine, about six acres, mostly Fameuse, didn't pay the expense of gathering—a lesson not to have

TOO MANY EGGS IN ONE BASKET,

which, when I learned, induced me to go into strawberries, of which I have one-and-a-half acres to crop next year. This year we hand-pulled 500 barrels of apples, and sold them mostly at \$2 per barrel—a fair price, considering the immense crop. But

new barrels—and it won't pay to ship them in any other—cost me 32 cents, and freight about 27 cents, reducing the net price to about \$1.40. Besides these I had about 200 barrels fallen apples, which netted me 75 cents per barrel. That gives the returns from six acres:

500 barrels, at \$1.40	\$700 00
200 " " 75 cents	150 00
	\$850 00

When I see, as I often do, farmers driving out from our back country, depositing our carefully hand-picked apples in bags, and transporting them over roads the roughest, and distances from twenty to thirty miles, I fancy their load reaches their homes in a condition fit only for the cider press, without the trouble of further grinding, certainly not for the desert, and if I could reach their ears to-day I would say, plant an orchard. E. L. Wakeman, in a letter to the Cincinnati *Times*, during a trip through Nova Scotia, says: "When traveling through the valleys (Annapolis and Gaspereau) an interesting reflection came to me, and I wondered whether it might be so to others. That was, that wherever apples grow a kindly, sturdy and progressive people are ever to be found. Think it over, and the idea grows upon one. Great houses, greater barns, fine stock, ample competence, large provision for all seasons and needs, sturdy ways, sensible thrift, genial neighborings, and all that dear procession of country-side life that has vigor and cheer with Autumn's noble housings and stores and winter's large and generous delights, marshall the thought in memory's bravest trappings." Before closing, allow me to remind you of the advantage you may turn these long winter evenings to by storing your minds from the book-shelf. Many, even of the priceless catalogues of the day, afford useful information to the gardener. The

monthly magazine of our Fruit Growers' Association has a good man at the wheel and a staff of able contributors. For the small sum of \$1 a year, which enlists you as a member of the Association, you will, at the end of the year, be in possession of a handsome volume, brimful of valuable information in all matters

pertaining to the garden and orchard; besides, you will receive a copy of the annual report, which contains a careful verbatim report of the discussions on fruit culture which took place at the various meetings of the year, and a selection from a large list of plants, etc., to be distributed in the spring.

FRUIT RAISING IN NORTH HASTINGS.

Hardy Apples—Protection from Mice.

THE scions of *Vladimir Cherry* were received in good order, and I grafted them on the wild red cherry. They grew too vigorously, I thought, and seemed tender in the fall; the frost cut them. I cannot say how they would have stood the winter, as the mice girdled them all. I should like to try them again; I think they would grow slower on the *Choke Cherry*. I have one early *Richmond* which grows well and does not kill back. It has not fruited yet, though three years planted.

The *Dewberry* is too tender here.

The *Jessie* strawberry is growing vigorously. I will report on the fruit next season.

Grapes grow well, but have not fruited yet.

Gooseberries a complete failure, except the wild sorts. The *Houghton*, *Smiths Improved* and *Industry*, all mildew to kill; they will bear fruit for one or two seasons. I tried salt, it helped them some; will try it heavier next year.

Apples.—The *Duchess of Oldenburgh* heads the list for productiveness and hardiness, the young trees will kill frequently, I think from the frost and

the sun in early spring, but after three years planting they do not kill, as they ripen their young wood sooner and better before winter.

The *Peach Apple* is perfectly hardy and a very vigorous grower.

The *Mackintosh Red* is quite hardy, but is very subject to a black fungi on the bark. I use lime and wood ashes as a wash, which I find effective.

The *Wealthy* like the *Duchess*, is a valuable tree here, but kills easily when young. In speaking of the young trees killing, I have reference to the imported stock from Toronto and Rochester. I find that the same varieties budded on seedlings raised here do not kill. I also see that the hardiest and best producers have very short trunks, and have generally died down when planted to about twelve inches of the ground. I raise all my young stock with short stems. I never prune at all, that is, never use the knife. I rub off some buds on young trees. I am certain that the pruning knife is sure death to any tree, sooner or later, even a forest tree.

Our soil is a rich, yellow, sandy loam. An orchard, to succeed, must

be planted on an eastern or north-east slope, and must be, in any case, where the summer frosts will not kill potatoes. In low places, subject to frost, the young wood on the trees is killed before the winter sets in, or has not ripened sufficiently to stand. The cheapest and best protection for young trees against mice I find is tar paper. About fifteen inches is quite high enough up the stem for the paper to come. Open your roll of paper which is wide enough to cut in two for the height, cut off about twelve inches, and you have enough for two trees, roll up to about three inches in diameter, so as to give

plenty of room for air round the tree, tie on with a string, put a little soil round the bottom to prevent the mice getting under. I did not lose a single tree last year, while the year previous I lost thirty-five girdled, although they were carefully banked up with earth and the snow tramped. I did not tramp the snow around the papered trees and they were safe, concluding to let them go if the paper would not save them, after all the fruitless labor of the year previous.

I should very much like to test the Moyer grape here if you can spare one.—A MEMBER OF THE F.G.A., OF ONT.

GRADING FOR DRAINS.

CAREFULLY laid drains are important to success in fruit culture. The apple tree may grow on wet soil, but is much more liable to injury by cold in such a situation, and often protracts an enfeebled existence. The Quince, though a lover of water, yet soon succumbs to the effects of the cold in undrained soil; and almost all our small fruit plants are rendered sickly and unfruitful if placed on wet soil and draining neglected.

Besides this, under-draining is a means of direct benefit to growing plants, for the rain water, instead of overflowing the surface, is drawn through the soil, carrying with it the growth elements with which it is laden, such as nitrogen, carbonic acid, etc.

In this connection some of our readers may be interested in the fol-

lowing simple method of grading for drains, from the *Drainage and Farm Journal*:

I use two targets, which I will name No. 1 and No. 2, to describe

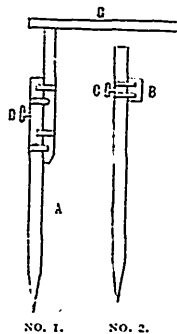


FIG. 24.—GRADING FOR DRAIN LAYING.

them, and a pole. No. 1 A, is a piece $2\frac{1}{2}$ inches square by two feet long pointed so as to drive in the ground, two clasps on as shown in cut, for B to slide in. B, one by two and one half inches, by two feet long.

G, one by two inches, eight inches long, fastened on A with thumb screw D. No. 2 is a piece one by two inches, six feet long. B, block two inches square made to slide up or down as is necessary—fastened with thumb screw C. Dig ditch deep as desirable at outlet. Set No. 1 so that arm G extends over ditch. Then take a pole and set up in ditch and slide B down or up on No. 1 till it comes even with top of pole. Next take No. 2 and stick it into the ground several rods *back* in the opposite direction that the ditch is to run from No. 1, in line with ditch. Now take pole and go ahead about six rods on the line of the ditch, and

sight from three feet on pole back over No. 1 to No. 2 beyond, and slide B on No. 2 up or down as is required till you have it in range. Commence to dig at No. 1, and set pole in the ditch every foot or two to see whether the top of pole comes in range with target on No. 1 and No. 2; when you have dug back to where the pole was sighted from, proceed as before. No. 1 can be leveled with pocket level if ground is laid off by a civil engineer. Set targets with grade stakes. There are a great many tile laid uneven in grade, which soon fills with mud, the users get discouraged and blame the tile, saying it don't pay.

SUCCESS WITH SMALL FRUITS.

By E. MORDEN, NIAGARA FALLS SOUTH, ONT.

PROFITABLE results from small fruit culture depend upon several conditions:

1. *A soil naturally good.* To make a good soil of a very poor sand or a hard clay is, perhaps, possible, but it is rarely profitable. No one soil suits all fruits. Many fruits can only be grown with profit upon soils specially adapted to them. A good dry, sandy loam will grow many of them. A clay loam will grow others to better advantage.

2. *A manure supply within convenient reach.*

3. *Nearness to a good shipping station.*

4. *Nearness to a local market.* Sometimes the local market will take the crop and make shipments of fruit unnecessary. Sometimes all the fruit may be profitably shipped. Commonly we need both methods.

5. *A selection of the best market*

varieties. This is of vital importance. The beginner who relies upon catalogues will probably buy very expensive and mostly worthless varieties. Visit the grounds of experienced market growers and see what they are planting this year. No other plan compares with this for safety.

In the absence of such opportunity write to or talk to an honest market grower, who does not make secrets of his knowledge. Buy your plants directly from reliable parties.

6. *Some knowledge of practical field work, and of the necessary business management.* City men seldom succeed. A good practical farmer with study may succeed.

7. *The right kind of a man.* In addition to practical knowledge of field work and business methods he must have persistent pluck to fight the weeds for seven months in the year for a series of years. He must

do the things that ought to be done. He must have nerve to dig out as well as to plant. Raspberries, goose-

berries and currants should be grown on plants of a less age than ten years.

A FAMOUS APPLE TREE.

THE *Western Chronicle*, Kentville, N. S., is responsible for the truth of the following extract:—

There is a famous apple tree on a farm in Lakeville, Cornwallis, Kings County, Nova Scotia, owned by Mr. Joseph A. Kinsman, and purchased by him in 1878 from the heirs of the late Lawson Rackwell, Esq. For the benefit of those wishing to know the facts concerning the productive powers of this famous tree, we give its record for the six bearing years that have elapsed since it came into the possession of its present owner, for which facts we are indebted to that gentleman:

In 1878 it produced	15	barrels.
1880	18	"
1882	21	"
1884	20	"
1886	21	"
1888	23	"

being 118 barrels of merchantable fruit produced in the six years. In addition to this it has produced during these same years 20 barrels of apples which, owing to bruises, etc. (the tree being a difficult one to pick) were unfit for market. The most of these apples would be among the largest and finest which the tree bears, and should in justice be taken into account in giving statistics of its productiveness."

It would have been interesting had we been told the variety of apple tree giving such a famous yield; and also its age and the kind of soil upon which it is growing. We are not prepared, without these particulars, to yield the palm, in apple culture, to our Nova Scotian friends.

On the Woolverton Homestead, at Grimsby, Ont., there is a Greening apple tree, nearly one hundred years old, the branches of which cover an area of about forty feet in diameter, and which has frequently yielded from seventeen to twenty barrels of marketable fruit, in addition to large waste from falling. The soil is a deep, rich, sandy loam, situated at the base of "the mountain."

No doubt, however, that the Annapolis and Gaspereau valleys of Nova Scotia, are especially adapted for apple culture. They contain about 600 square miles of arable land, of which about one-tenth, about 40,000 acres, is planted with apples, and about 500,000 barrels of Gravenstein, King, Baldwin, etc., are exported annually; and these are chiefly grown upon young trees not yet of bearing age.

FLOWERS

THE ORCHID HOUSES OF W. S. KIMBALL.

BY FRED. MITCHELL, INNERKIP, ONT.



THERE is much in the pleasant city of Rochester which is of special interest to the flower-lover. But there is in it no other place, perhaps, in which there is so much of interest, or in which so much of interest or in which so much can quickly be learned of the rare and beautiful in floral nature as at the private conservatories of W. S. Kimball.

When in Rochester the past summer I spent several hours in these conservatories, and although I could not, in so short a time, systematically take in the whole round of this great private establishment, yet I saw enough to give me an idea of the value and magnificence of the collection. Knowledge regarding the treatment of orchids is limited to as yet but few in Ontario. I do not know where the knowledge of the varied treatment of this great family (according to the requirements of each member of it) can be more quickly obtained than at these conservatories. Anyone premeditating the commencement of the pleasant, but often uncertain pursuit of orchid culture, would also do well to visit these houses in order to make a wise selection of varieties.

There are, I think, at least seven houses devoted to orchids alone. Many of the varieties which I saw

were so costly as to be beyond the reach of those of ordinary means. There were *Cypripediums* in three-inch pots, which had cost two or three hundred dollars each; and epiphytal orchids on billets, or in baskets, which had cost fabulous sums, one (a vanda) which I was informed cost fifteen hundred dollars and was considered to be worth, at the time I saw it, at least two thousand. It is rarity, however, and not extraordinary beauty, which makes certain varieties so high priced. Some of the varieties of *Cattleyas* (which to me were among the most beautiful of all) are within the reach of everyone.

The *Cattleya*, in its variety, was to my mind, the grandest orchid of all. Most of the varieties bear immense bloom, beautifully tinted and deliciously fragrant. *Cattleyas* are not so difficult to manage as some less beautiful orchids. Some orchids are wonderfully prolific of bloom. I saw a *Cattleya* and also a *Coelogyne* which, each, at one time, bore five hundred flowers on a single plant. I was told that the *Lycaste* is one of the easiest managed of all orchids and therefore specially valuable for beginners in orchid culture. It is, however, *not* quite so beautiful as some others. It is a matter of interesting study to behold these epiphytal orchids, strong in growth and rich in bloom, and yet with no

power of deriving nourishment but such as they receive from the air. The butterfly orchid, the bee orchid, the man orchid, the wonderful *Esprite de Sante*, or flower of the Holy Ghost, and many others, equally wonderful, can all be seen here, and seen in the greatest perfection and beauty. Besides the orchid houses, there are two rose houses, a house for violets and other plants of a like nature. There is also a house which contains a general collection of tropical plants. Here may be seen the Devil Plant and a host of other rarities. I never saw elsewhere *Anthuriums* so full of bloom as I saw them here at the time of my visit. As we ordinarily meet with it this plant is not generous in its gift of bloom.

Besides all these there is an aquatic house. An artificial pond covers the inner area of the house, with the exception of a walk which extends around the whole circumference of it. In this miniature lake are gathered aquatic plant wonders of many climes. There are magnificent blue water-lilies from Zanzibar, the *Victoria Regia* from the tropic lagoons of the Amazon, the leaves of which, when fully grown, will support a boy as on a raft; the bulrush of Egypt,

from which was made the Papyrus on which the ancient records of the country were written and preserved, and of which also was formed the protecting ark of the infant who was later the great law-giver and leader of the people; the Lotus of the Nile, with its famed, accredited power of dispelling care, and of producing in its stead forgetful, sensuous happiness. These, with many others of like rarity, or association, or beauty, make this collection a particularly interesting one. *Allemandas* and other climbing or trailing plants cover the sides of this house, and when, as I saw them, a perfect bank of bloom, add greatly to the general effect. Not a flower or a plant is ever parted with for money. Mr. Kimball provides this magnificent exhibition at great expense and without one cent of returning profit. Everyone is made welcome; the sight is perfectly free to all.

In the ever-increasing interest in flower culture in our own people, I look forward to the time when our country can boast such grand collections. We have men of wealth within our borders, and men of as high taste, and of equal benevolence to any in the world.

SPRING TREATMENT OF WINDOW PLANTS.

By G. M. ROGERS, PETERBORO'.

THE treatment of window plants depends upon so many varying conditions that it would be impossible to lay down rules applicable alike to all cases and kinds, but the suggestion of a few general

principles may assist the plant student in the study of the elements which contribute to their successful culture, and upon the closeness of such personal observations will ultimate success depend. The various pro-

portions in which light, heat and moisture contribute to the health and vigor of different plants will always afford an interesting subject for observation to those who take pleasure in cultivating them. As the increasing heat of the season will produce an increased growth, it is well to consider how this should be met.

TRIMMING AND PRUNING.

And first comes, I think, the thorough cleansing and trimming of the plant. Remove all dead and decaying leaves and wood. Freely prune back all such hard-wooded plants as Roses, Fuschias, Heliotropes, etc. Take the plants out where they can be thoroughly doused with water and wash and cleanse them of all insects. If much troubled with the latter, it is often well to remove the surface soil from the pot and replace it with other, so as to get rid of any eggs or larvæ deposited there. The fir tree oil insecticide is commended as a wash by many, but the writer's experience is, that the safest and most effective way to get rid of insects, is to remove them by hand, and that no better wash is wanted than soap and warm water.

REPOTTING.

While nothing is gained by placing plants in unnecessarily large pots, nothing is more important than giving them root room enough to maintain a continuous growth. Better far a vigorous, growing, healthy plant than an aged, decrepit plant, so pot-bound that growth is impossible and disease inevitable. The former is a pleasure to the eye, will resist disease and insects better, and bloom freer; the latter is only a

nuisance and an eyesore. So soon as the roots lining the pot show signs of hardening, put them into a slightly larger pot. Keep pots clean, that the plants may breathe the easier through them and keep the surface soil in the pot loose.

WATERING.

When in active growth or bloom plants want plenty of water. Water thoroughly, when you do water, so as to keep the soil moist without soaking it. As water often injures the flowers, it is better, when plants are in bloom, to water direct into the pot and not upon the flowers.

MANURING.

Most plants are greatly improved by the application of a little manure, especially when approaching bloom. This is most effectively applied mixed with water. Any kind of manure will do, the prepared plant-foods being specially easy of application in this way. Care must be taken not to apply too much; there is more danger of overdoing it than not giving enough. Desist on the least sign of wilt or ill-health. The mixing of a little superphosphate or other ground manure with moss and placing on the soil about the plant is highly recommended. The moss serves as a mulch to keep the soil moist and each watering carries a little of the plant food down to the roots.

In conclusion, allow me to suggest that no commoner mistake is made than the attempt to grow more plants than there is room to handle properly. A lesser number, given more room and attention, will give much more satisfactory results. Air and

light are important factors in the health of plants, without which they cannot thrive, and crowding deprives them of both. Use caution in first bringing out the house-plants in the spring; remember that they have become accustomed to the subdued

light and equable temperature of the living-rooms and will be sensitive to the glare of the sun or the chill of the evening. Don't try to bring them out too soon, but let the change be gradual by placing them for a time in a sheltered, shady spot.

FLORICULTURAL.

THESE are my questions—Three Clematis plants were sold to me by an agent about three or four years ago, said to be double blue, double white, and a single cream white. They were good, strong plants, and grow quite close to a blue single flowering Clematis covered with bloom year after year. But these three have shown no signs of flowering all this time. They are laid down, deeply covered, every autumn, and are growing stronger every summer. They were well rooted when I got them. I have been told they are a kind, perhaps, that don't flower. Before I throw them away as useless, please tell me if there is anything I can do better. I don't want them otherwise.

Also, would it do harm to potted plants to water them sometimes with weak washing soda suds, or pearline suds? or would it be good for them?

I have never seen what should be done with Honeysuckle climbers in the autumn. I have one that has not bloomed since I got it; all the growth of the last year dies the next summer, though it looks pretty green when uncovered in the spring. I do not now the kind it is. I cut the most of it down, as I see it not doing, but the new growth, which is abundant, does not flower.—A GARDENER-ESS, Peterborough.

By Hermann Simmers, Toronto.

It is somewhat difficult to say whether the Clematis mentioned are worthless, but I imagine they are nothing but the commonest kinds, such as *C. Flammula* and *C. Integrifolia*, which flower but very little, throwing any amount of foliage and but an insignificant flower. If the plants will suit for foliage, keep them, but if for flowering purposes they are worthless.

Watering house plants with washing soda suds is detrimental to their growth; sooner water them with a solution of liquid fertilizer once or twice a week, which will be a benefit, whereas in the other case it has no avail. Regarding the Honeysuckle, you do right to cover it, and the only fault may be want of age. Try it again this summer, and if it still refuses to bloom plant some other variety.



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Girdling the Concord Grape.

NOTWITHSTANDING the advice of many of our best horticulturists, many vineyardists in Massachusetts strongly favor the girdling of the grape for early maturity, and for increased size of the berry. On the 13th Sept. last, a committee of the Massachusetts Horticultural Society, visited a vineyard of Concords of several acres in extent, near the town of Concord. In one-half of the vineyard girdling had been practised for three years. As a result, although the vines did not appear quite as vigorous in this portion, the fruit was as advanced in ripening as the Moore's Early, while in the other part, the Concords of normal treatment were much smaller in size and hopelessly behind time.

The inference was that, under some circumstances, and with some varieties, there are decided advantages in the process; and continued experiments in this direction are advisable.

Russian Apples.

ACCORDING to the Iowa Experiment Station, the Russians differ from our ordinary apple trees in such points as the following:—larger flowers, thicker petals, shorter and more stocky pistils and stamens, larger stigmas, anthers and pollen grains; thicker leaves; wood, bark and bud scales of finer texture; and roots penetrating more deeply.

These peculiarities are protective against summer drought and winter cold. Also having been developed in a region of short Summers they ripen their wood early, their Cambriun layers do not contain so much liquid, and are, therefore, less subject to the scalding of the bark on the south-west side, when freezing temperature quickly follows warm weather in early spring.

Kerosene Emulsion for Plant Lice.

To be forewarned is, or should be, to be forearmed. During the dry, hot weather of June and July, these insects become a terrible pest, and increase at

an enormous rate. The earlier the cherry and plum trees are sprayed with the kerosene emulsion the easier these lice are destroyed. The manner of making this is simple—a strong soap-suds is made, and, while boiling, the kerosene is added and well churned, before adding water. The usual formula is : *Kerosene, 2 gals ; Water, 1 gal. ; Soap, ½ lb., mixed as above, and then diluted with about 30 gals. of water.*

The English Sparrow.

At a recent meeting of the Dominion Farmers' Council, at London, the following resolution was passed :—

“That the Dominion Government be asked to offer a small bounty for the heads of English sparrows, and in case that government declines to take action in the matter, that the Ontario Government be asked to do so in this province, and that a copy of this resolution be sent to the agricultural departments of each government, and to the secretaries of fruit growers' and agricultural societies throughout the Dominion.”

At our Winter Meeting in Ottawa, a valuable paper on the House Sparrow, by Mr. P. McIlwraith, of Hamilton, was read ; and in it some wise recommendations were given for favoring the destruction of this bird, such as :—(1) Repeal of laws affording it protection ; (2) Enactment of laws legalizing the killing of it at all seasons of the year, and the destruction of its nests, eggs and young ; (3) Enactment of laws protecting the great Northern Shrike, the Sparrow Hawk, and the Screech Owl, which feed largely on the sparrows ; and a resolution was passed asking the government for legislation for carrying out these suggestions.

For a riddance of our premises of them, a good plan is to destroy their nests, eggs and young, by means of a

long, light pole, with an iron hook at the point. At the Council above mentioned, Mr. Little reported that he had been successful in poisoning them by placing a dish of wheat soaked with water, in which Paris green had been dissolved, on the eave-trough of the building where it was out of the way of other things.

Treatment of Girdled Trees.

E. A. RIEHL, in *Orchard and Garden*, gives the following opportune advice :—

The most satisfactory way of treating trees girdled in the winter by mice or rabbits is to cut them down to the ground and let them make a new stem and top, which they will do quicker and be better trees after than by any other method I have ever tried. The sooner this is done after discovery of the damage the better. Should the girdling extend below the point where the tree was budded or grafted, it will still be better to cut down and then bud or graft the young tree after, or the graft can be inserted at once into the root or collar.

A Portable Propagating Case.

I herewith enclose a sketch of a propagating case now in use in my conservatory, and which pleases me better than anything I have ever before seen. Water (having an oil lamp below) is the heating medium for the sand, and this is preferable to a body of heated air, as sometimes used, a fact that any good propagator will, I think, substantiate.

In the construction of this case (size, three feet by four) a strong board outer case, with no bottom, is made. A tight-fitting glazed sash should be hinged on, and the woodwork is, in the main, finished. Two feet of the lower part is made double, with projecting pieces, as shown, upon which the water tray rests, and other projections on each side, about an inch wide, should be fixed inside the frame, and

about four inches from the bottom, which will hold the sand tray.

Assuming the frame to be four feet

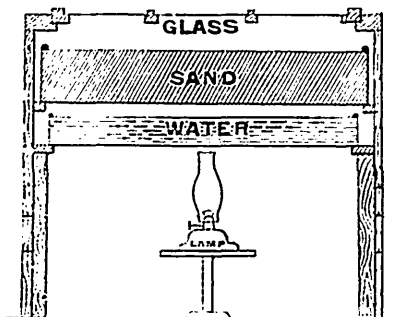


FIG. 25.—A PORTABLE PROPAGATING CASE.

long, three feet wide, and two feet deep inside, a tray of fairly stout galvanized iron, three feet nine inches long, two

feet nine inches wide, and four inches deep, should be had to form the water tank; and the one for the sand to be half an inch less than the frame in length and breadth, and about six inches deep. Besides these, a kerosene lamp of ordinary form will be necessary to stand under the case to keep the water warm, but not touching the tray, standing on a support to raise it to the proper height. The bottom tray is placed in position and nearly filled with hot water. Then the second tray, half filled with sand, is put into place, and the case covered down. The lamp should be lighted, and after the sand has become warmed the cuttings or seed pans can be placed in; and, by regulating the distance between the lamp and the water tray, a proper uniform heat can be maintained.—MARY A. NEWCOME, *Bureau Co., Ill.*, in *Popular Gardening*.

QUESTION DRAWER

Asparagus.

15. (1) CAN it be grown profitably for a distant market? (2) Is there any better varieties than Conover's? (3) What is the best method of handling and shipping? A CONSTANT READER, Napance.

Reply by Jas. Dunlop, gardener, St. Catharines.

1. Yes. 2. None that I have grown. 3. Packed in cases holding, say, five dozen bunches after it is cleaned and trimmed.

Reply by J. A. Bruce, Hamilton.

Asparagus can be grown profitably for a distant market; never knew of a glut in the market—the demand is always equal to the supply.

Conover's is a first-class variety and more largely cultivated than any other. Lenormand's Mammoth and Early Purple Argenteuil are famous varieties in the Paris (France) mar-

kets, and are getting better known in America.

Shippers will require to find out the requirements of the markets to which they purpose shipping. As to size of bunch etc.—pack in slatted cases, and on newly mowed grass to put between the different layers.

The following from Burpee's "Kitchen Garden of One Acre," may also help to amplify our replies to our correspondent.

In planting the crowns they should be set at a depth of three or four inches at the most; not one foot under ground, as is the common practice of truckers. Market gardeners cut the shoots as soon as the shoots appear above the surface, so that their shoots are blanched the whole length; but they do this at the expense of their table quality, as only the tips are edible in this way, and even these taste very much like

old hay to any one who has been accustomed to the richness and delicate flavor of shoots cut at the surface when they are from three to four inches in height; this method has also the advantage of not destroying the young shoots just coming up, as the stalks are only cut an inch or so under ground, and the knife only reaches the one intended to be cut. If the appearance of blanched asparagus is desired it can be much better obtained by placing four or five inches of hay, or other litter, over the crowns, which can be pushed away from the stalk when cutting, and easily replaced. There is another strong reason for not following the deep planting, as usually practised, and that is, in having your crowns so much nearer the surface they feel the warming and growing influence of the sun sooner in the season, and you are able to have your asparagus for cutting a full week earlier than your neighbor who plants deep.

The old Purple Top variety is no longer grown, its place having been taken by the larger shoots and better quality of the variety known as Conover's Colossal. This variety, however, has been propagated so extensively and with so little care that it is now almost impossible to obtain seed, or plants, that will produce the splendid shoots of the original stock. Of the new varieties Barr's Mammoth seems to be the most promising, and as grown in some fields in the vicinity of Philadelphia produces shoots which will average nearly an inch in diameter.

A writer in *The Fruit Grower*, III, says:—

About 4,000 acres of asparagus are required to supply Boston. One grower had the same bed forty-five years. Sandy soil, with plenty of manure annually, is preferred. Four feet by two is the preferred distance from root to root. Sprouts become crooked from bruises or wounds. Salt is not essential, but useful to kill weeds. Captain Moore, the prizetaker, used none. Mr.

Tapley raised asparagus where the tides ran over the beds at times, showing that salt does no harm to it. Mr. Wyman had some on ground trenched three feet deep, and some on land merely ploughed; the latter did the best through twenty years. Deep setting, say six to eight inches, is best, because the stools gradually rise in the soil, and because when set deep cultivation is easier, and the sprouts are less numerous, and therefore larger. But the covering should be sandy.

Vinegar from Rhubarb.

16. CAN vinegar be made out of rhubarb juice? If so, how is it done?

I have tried it, but I have not got vinegar yet. Should water be mixed with juice, etc? —J. A. CAMERAND, Sherbrooke, P.Q.

Reply by C. H. Godfrey, Benton Harbor, Mich.

I can only give a receipt which I have. I never have used it. It is as follows:—Take twelve stalks of Pie Plant, bruise them and pour on five gallons water. After standing twenty-four hours, strain and add nine pounds brown sugar and a small cup of yeast; keep warm a month, strain it and keep in cask until sour enough.

Vinegar should be kept in a warm place to make fast, unless a generator is used.

Frontignan Grapes.

17. Let me know through your paper or otherwise if the Auvergne Frontignon Grape can be grown out doors. I see it is a very early grape and I should presume a Frenchman by the name. By so doing you will bestow a favor upon—F. W. PORTER.

There are several varieties of foreign grapes called Frontignan's, as the Black, White, Grizzly Frontignan, etc., all so called from the town of that name in France, where they are largely cultivated for making the

Muscadine or Frontignan wine. In Canada these varieties are tender, subject to mildew, and otherwise unsuited for out of door cultivation, but with more or less artificial heat these fine foreign grapes may be successfully grown.

Fruit Evaporators.

18. Can you inform me of any person in Ontario who manufactures apple evaporators, such as could be sold to individual farmers for preparing their surplus apples for the market. I see by the *Rural New Yorker* that they are made in different parts of the States, and retail from three dollars up to ten. Any information you can give will oblige.—L. H. HAMILTON, Thornbury, Ont.

Victoria vs. Raby Castle Currant.

19. ARE the Raby Castle and the Victoria currant the same, if not, what is the difference? The Victoria is said to be the largest variety grown. How much later is it than the old Red Dutch; as I have it from Lovett, of New Jersey, and Green, of Rochester, it ripens at the same time as our old Red Dutch.—H. McCREE, Norwich.

We believe that these are but two names for one and the same currant; and Downing in his "Fruits and Fruit Trees of America" gives the preference to the name Victoria. At our meeting held last month in Hamilton, Mr. E. Morden claimed that there is a difference between the two, but we think his position unproven. We would suggest that samples of each be submitted to the fruit committee at our Summer Meeting.

The Victoria ripens about with the Red Dutch, but will hang on the bushes longer, and hence has the reputation of being the latest currant.

Pruning the Gooseberry.

20. How should a Downing gooseberry bush be pruned to ensure finest fruit and largest possible quantity of it?

How much fertilizer, and of what kind, should be applied to a bearing plantation to give the best results?—G. C. MILLER, Middleton, N. S.

The gooseberry should be pruned differently from the currant. The latter needs constant cutting back to encourage as much new wood as possible; the former should not be cut back, but it should be freely thinned. Indeed, without a thorough annual thinning out of the branches, it is impossible to produce fine gooseberries; and probably it is not too much to advise a cutting out of one-half of the head every fall, whether of old or new growth; but retaining the latter in preference to the former, as upon it the fruit is grown. In England the tree form is preferred, but with us the bush form is more popular, as it will live longer and produce more fruit under that method.

Regarding fertilizers for the gooseberry, much will depend upon the needs of the soil as to the kind, but with regard to quantity it can scarcely be made too rich. Barn manure is no doubt the most useful, containing almost every essential element. Potash, either simple, or as supplied in wood ashes, is never out of place in the fruit garden.

The Ailanthus.

21. PLEASE say in your next number if you think the Ailanthus will do well in this latitude?—W. W. R., Toronto.

This useful tree, which was introduced from China about one hundred years ago, is well adapted for street planting, for it grows rapidly, adapts itself to the dust and smoke of the city, and will thrive in the poorest soil. It grows well and is perfectly hardy at Grimsby, and would probably succeed in the latitude of Toronto.

It has one serious fault, viz., that the pollen dust, which is abundant at the blooming season, is very injurious to human beings, producing catarrh, or

other affections of the mucous membrane. This difficulty may be obviated, however, for the tree is diœcious, that is, the pistils are borne on one tree and the stamens upon another. Now, by planting pistillate trees only, this evil cannot result; and these may be got

by making root cuttings from pistillate trees only.

ERRATA.—On page 26, *Apples for Alberta*, the Longfield should be classed among the fall apples instead of among the winter apples.

OPEN LETTERS

Surplus Fruits.

SIR,—The flood of fruit that inundated Montreal last season from Ontario, would lead an observer to the belief that the Upper Province either does not consume much fruit itself, or that the land is chiefly devoted to producing all the fruits that succeed in a northern latitude. Over-supply causes waste, and there should be some means devised for canning or evaporating the surplus.

It is a mystery to me how growers can afford to harvest and ship fruit for the poor returns they receive, and often it seems that real and serious loss must be the only return for the labor.

When people begin to realize the value of fruit as diet, instead of as a luxury, it will be more encouraging to grow it, for during the summer heated term, it should largely take the place of meat and all food of heating quality.

At present it is a problem not easy to solve, how best to dispose of the surplus, and there is great need of a better and steadier knowledge of the markets in our principal cities to save losses when overstocked.—A. L. J., Chateaugay Basin, P. Q.

Healing Girdled Trees.

SIR,—If any of the readers of THE HORTICULTURIST happen to find some of their apple trees girdled by mice or rabbits in the spring when the snow goes away, they may, perhaps, like well enough to know how I once saved one of mine that was badly girdled by mice. Many years ago when the snow melted in the spring, I found one of my apple trees badly girdled by the mice. The wound was six or seven inches in length, and completely round the tree, and not a particle of bark or rind left in all that space. As soon as I noticed it I piled up a cone of earth around the tree, high enough to cover up all the injured part and more, and let it remain till sometime in the summer. The result was that the tree flourished as well as if it had never been injured at all, and when the

earth was removed, I found the girdled part of the tree covered over with a nice, smooth, new bark.

Lest you should think that I lay claim to superior knowledge of botany or fruit growing, I may tell you how I thought of trying that experiment with the girdled tree, as I never heard of the same plan being tried before by anyone.

I had sometimes noticed that when earth was piled up around a tree, new roots would shoot out from the tree into the pile of earth considerably higher than the surface of the ground, so I imagined that if I piled up earth around the girdled apple-tree, some roots might possibly strike out from above the wounded part into the pile of earth and save the tree. But instead of new roots, I found a new bark covering all the injured part, and now I cannot tell which tree is the one that was girdled.

I never had a chance to try the same plan again, as I never had a tree girdled since.—GORDON BURGESS, Durham, Co. of Gray.

We have also had similar experience with Mr. Burgess, in case of trees freshly girdled, especially where the inner bark was not closely eaten off. In such cases, if the wound is at once protected from the drying effects of the atmosphere, either by a mound of earth, or by painting over with linseed oil, a complete restoration of the bark may be expected; but if the inner bark is closely eaten off, or the wound is neglected until the part is dry, the plan will prove futile.—EDITOR.

Results of Advertising.

SIR,—We take pleasure in giving the HORTICULTURIST credit for bringing the first application for our catalogue and prices. We are already in receipt of quite a number from all quarters. One this day from Fredericton, New Brunswick, making special mention of our "ad." in the HORTICULTURIST.—W. E. CHISHOLM, Oakville.