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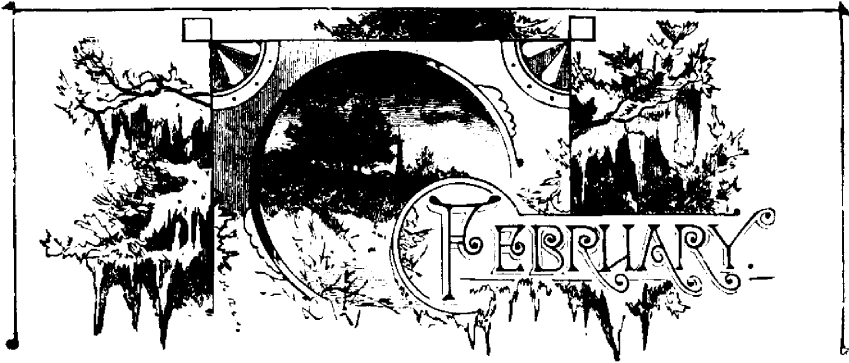


THE
Canadian Horticulturist.

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No. 2.



THE ANJOU PEAR.



HE late M. P. Wilder, who was for so many years at the head of the American Pomological Society as its revered President, has the honor of introducing to American fruit growers this excellent early winter pear, the *Beurre d'Anjou*. He considered it the best of all pears, and said it would be his choice, if he were limited to one variety.

Its name would seem to imply that it is of French origin, but it is said to have first originated in Belgium, whence it was brought into France, and it soon became one of the most popular varieties in that country.

This pear was also the favorite of the late Patrick Barry, former President of the Western New York Horticultural Society. In January, 1888, he exhibited the most magnificent specimens of Anjou pears that we ever saw, at a meeting of that society held in Rochester on the 26th of January. They were quite as large as the ones represented in our colored plate, and quite as yellow. He had kept them in a cool room, and they were in prime condition for eating, though a month after their usual season. "As an early winter pear the Anjou is unequalled," were the words of this veteran pomologist at that time. Had the Anjou a red cheek like that of the *Clairgeau*, it would be generally accepted as a perfect market pear, but its dull color, at least until it yellows up, is somewhat against it in the market.

The late E. Moody, of Lockport, N. Y., remarked, at the same meeting, that with him the Anjou had suffered considerably from the blight, but that otherwise he considered it a magnificent variety, and worthy of being planted much more extensively than it is at present. Others stated that they had not found it to be any more subject to blight than other varieties, and with this the experience of the writer agrees.

"The Anjou is one of the most profitable pears for the orchard," was the testimony of the late A. J. Downing, "bearing abundantly and evenly, whether grafted upon the pear or upon the quince stock." With regard to the profits of growing this or any other kind of pears, however, times have wonderfully changed during the last twenty years. In the year 1869, Mr. P. T. Quinn published a book on pear culture, the reading of which filled the writer with dreams never to be realized. He stated in that book that pears would bring an average of some \$20 or \$30 per barrel, and that they were, by all odds, the most profitable of all fruits.

Certainly at such prices they would be, but the cold reality is a little different nowadays, when we find the average is only about \$4 per barrel, for our finest varieties.

In this connection, it will be of interest to include Charles Downing's description of the Anjou pear: Fruit, large, obtuse pyriform; stem, short, thick and fleshy, inserted in a cavity, surrounded by russet; calyx, very small, open, stiff, in an exceedingly small basin, surrounded by russet; skin, greenish, sprinkled with russet, sometimes shaded with dull crimson, and sprinkled thickly with brown and crimson dots; flesh, whitish, not very fine, melting, juicy, with a brisk, vinous flavor, pleasantly perfumed; very good to best; October, November.

THINNING FRUIT.—A Missouri farmer says that he thinned the fruit on his trees at the rate of twelve trees in ten hours. They were large enough to yield an average of six bushels to a tree. He figures in this way: If he had a thousand trees it would cost him \$85 to have them thinned, with labor at \$1 per day, or \$170 at \$2 per day. He has but few culls among his apples, and the selected crop will easily bring him ten cents per bushel more than the fruit from trees which was not thinned out, which, at six bushels to the tree, would increase his sales by \$600.

Again, he claims still another great advantage. It is not the growth of the fruit that exhausts the tree so much as the formation of the seed, and reducing the number of seeds grown by picking off one-half or two-thirds of the fruit that sets, he relieves the tree so that it can form fruit buds in the fall for the next year's crop. In ten years he has not had a failure of the trees to bear every year, excepting when they were overloaded and he neglected the thinning. Then all the strength was used up in growing fruit, or rather seed, and there were no blossom buds formed.—*Massachusetts Ploughman.*

THE WORLD'S FAIR.



OUR readers will have noticed, in our January number, some reference to the important exhibit of Canadian fruits which is proposed to be made at the great World's Fair of 1893, in the City of Chicago. That both the Provincial and Dominion Governments will heartily endorse the accomplishment of so worthy an object and make liberal grants, such as will be necessary, is quite evident; and it is to the Ontario Fruit Growers' Association that the authorities will look for a collection of Ontario fruit for this exhibition.

The great point of importance before us in Ontario is, to see to it that every fruit grower in the province is prepared to do his part. Nor is it too early to consider this matter, for we must begin with the opening of the present spring to give the most careful cultivation and fertilizing to those trees and plants from which we expect to gather the fruits for such an important exhibit. Then, the fruits on these must be most carefully thinned so as to produce the large size and high color, which should characterize the perfect specimens selected.

There is another reason why it is necessary to consider at once the careful preparations for this great exhibit. The Fair opens in the month of May, before any of our northern fruits have ripened. What can we do at that season with three thousand square feet of space which we have asked for to accommodate the exhibit of fruits from Ontario, unless we have a large collection of our finest fruits, both large and small, put up in glass to help fill it up and attract the attention of visitors until the arrival of the fresh fruit. A collection of this kind was made at the Colonial and Indian Exhibition, under the superintendance of the worthy Director of the experimental farms of Canada; and the effect is very marked in the attention which has ever since been given us in the Old World. Mr. Saunders, who will do everything he can to forward the work before us, under the approval of the Minister of Agriculture of the Dominion, has already been making extended experiments with regard to the most approved liquids for

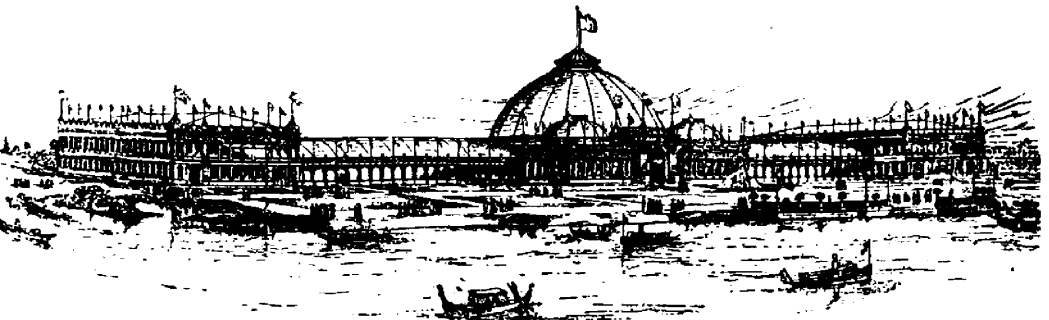


FIG. 5.—HORTICULTURAL BUILDING AT CHICAGO EXPOSITION.

preserving our fruits, and at the proper time he will, under the sanction of the Dominion Government, send out the proper appliances, for preserving our best fruits, to all those in each of the provinces who are willing to aid in this great work.

It is evident from what we have said that this work, of collecting and preserving fresh fruits in glass, must be done during the present year of 1892, and begin with strawberries in the month of June.

Now, while this exhibit is one which should appeal to the patriotism of every Canadian fruit grower, still it is not the intention to ask our growers to furnish their finest fruits without some remuneration, in such cases where payment is desired. No doubt, a great many would esteem it a privilege to make contributions free of charge, for so laudable an object, but this matter rests with the donors themselves. Whether by sales or donations, the fruit must be had and the work carried out to a successful issue.

We believe no country in the world excels Ontario in the production of some varieties of fruit, particularly the apple. Ontario apples are already sought for in the markets of Great Britain and the continent, and, since the nations of the world will be so largely represented—both in the visitors and the exhibits—at Chicago, it is evident how important it is, for the best interests of our country, that our exhibit should be one that does us credit.

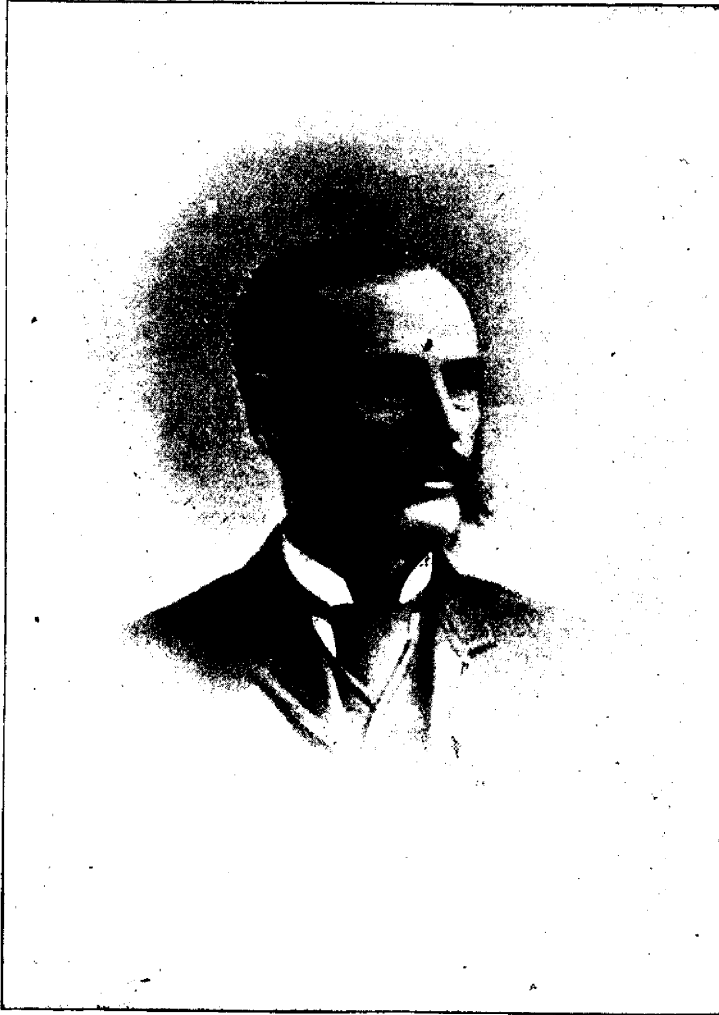
THE FARMERS FOURTH ACRE FRUIT GARDEN.

Our garden being 66 feet wide and 165 feet long, and wishing to do all labor possible with a horse and cultivator, we stake off the ground in rows 150 feet long and seven feet apart.

Strawberry rows to be one half this distance, leave a head land $7\frac{1}{2}$ feet wide at each end for turning. Make the first row three feet from the outside and set as follows :

	Production.
1st Row—13 Plums and Crab-apples—5 Desoto, 2 Cheney, 3 Transcendent, 3 Hyslop.....	5 bushels.
2nd Row—50 Blackberries—40 Ancient Briton, 10 Snyder.....	3 bushels.
3rd Row—50 Black Raspberries—40 Ohio, 10 Gregg.....	2 bushels.
4th Row—50 Red Raspberries—25 Marlboro, 25 Cuthbert.....	2 bushels.
5th Row—50 Currants—25 Victoria, 25 Red Dutch.....	4 bushels.
6th Row—50 Currants and Gooseberries—25 White Grape Currants, 15 Downing, 10 Houghton.....	5 bushels.
7th, 8th and 9th Rows—300 Strawberries—Warfield No. 2, Jessie, Crescent, Wilson.....	5 bushels.
10th Row—17 Grapes—3 Moore's Early, 6 Wonder, 5 Delaware, 3 Concord....	4 bushels.
Total	30 bushels.

These suggestions are based on practical experience in growing forty acres of small fruit, twenty-five acres of same in blackberries and raspberries.—M. A. THAYER, *before Wis. Hort. Soc.*



MR. A. H. PETTIE.

SOME PROMINENT CANADIAN HORTICULTURISTS.—XIV.

MR. A. H. PETTIT.



R. A. H. Pettit, of Grimsby, the new President of our Association, comes of one of those old families of U. E. Loyalists who settled in Western Ontario during the close of the eighteenth century, choosing to leave the country rather than live under a flag hostile to their own.

It was a wise choice when the family settled at Grimsby, in that favored fruit belt protected, on the one side, by the beautiful Niagara escarpment, and on the other by the picturesque waters of Lake Ontario.

Born in 1836 on such soil and with such favorable surroundings, is it any wonder that Hamilton A. Pettit soon found that his farm was better adapted to fruit culture than to ordinary farming?

Leaving one side his experience in mixed and dairy farming, we notice that his first large venture in fruit growing was in planting a ten-acre peach orchard, some years ago, and at a time when few, as yet, had planted any large orchards of that fruit. The large crops of fine yellow Crawfords, harvested as a result of that venture, gave him a lift in financial matters and encouraged him to plant more of his farm with fruit trees and vines.

Some acres of grapes, mostly Concords, also made a good record, yielding, one favorable season, at the rate of six tons per acre, at a time, too, when grapes brought a much higher price in the markets than they do now. Since that time he has engaged in the cultivation of pears, plums and small fruits, in addition to a large orchard of apples and pears, of standard varieties.

Mr. Pettit has also been active in advancing the interests of his fellow-growers, as is evidenced by the positions to which they have appointed him.

In 1878, Mr. Pettit was instrumental in organizing the Grimsby Fruit Growers' Association, and he was elected the first president. For a long time this Association was very active, and consisted of a large number of prominent fruit growers in the Niagara district. Among the first things which Mr. Pettit did, as President of this Association, was the calling of a meeting to discuss the question of the yellows in the peach trees, and, as a result of this agitation, we have the present Act for the destruction of this disease.

In 1880 he formulated the basis upon which the Niagara District Fruit Growers' Stock Company has since been operating, and he, therefore, might be called the originator of that scheme. The first circular of this Company was issued on the 6th of May, 1881, the Company having been organized in April, 1880.

When Farmers' Institutes were being organized throughout the country, the Lincoln County Farmers' Institute was organized on January 25th, 1886, with Mr. Pettit as its President, and this office he holds at the present time.

It is scarcely necessary to speak of his position as Secretary of the Central Farmers' Institute, as that is so recent and well-known to our readers all through the country. The first secretary of the Central Farmers' Institute was Mr. Thos. Shaw, who relinquished it on accepting a professorship at the Ontario Agricultural College, Guelph. Mr. Pettit was then unanimously elected to the position. He was a man fitted for this appointment, being a prominent member of the committee which drew up the report, laying out its plan of operations.

For some time Mr. Pettit has been the Director of the Fruit Growers' Association of Ontario for agricultural district No. 8. In December, 1890, he was elected Vice-President of that old and respectable body, and at the annual meeting, held December 15th, 1891, he was elected President.

We have been very fortunate in securing a first-class photogravure of the subject of our sketch, which, we believe, will interest a large number of our readers.

OSAGE HEDGES.—In the best farm districts of Pennsylvania the progressive farmer still sticks to the osage orange fence. They are by all odds the cheapest, but the leading objection is the robbing of the earth by the roots. The roots of trees grow no further away than the top is allowed to grow. A well-managed hedge only throws out the roots to about ten feet on each side. But even this is begrudged by a good farmer, who can plow to within two or three feet of a post and rail fence. The Chester county farmer uses a corn-knife or hook to trim the hedges. They are cut twice a year—hay time and harvest. A man can cut a mile a day.—*Meehans' Monthly.*

IVY ON WALLS.—A friend recently called attention to a case which he thought subverted our view, that the ivy growing on walls tended to make them dry rather than damp. On looking at the case, we find that the wall was covered with the *Ampelopsis Veitchii*, or as it is called, Japan Ivy, and that the vines had been suffered to grow over the shingle roof of the house some four or five feet from the gable end, and that the spouts and other water conduits were completely choked by this growth of vine and filling up with leaves. It is no wonder that a house should be damp under such circumstances. It should not be forgotten that the vines on walls must never be allowed to reach the roof or clamber in the gutters, but must be confined entirely to the vertical surface of the walls on which they grow. The innumerable number of small rootlets absorbing moisture continually, generally make walls so dry and hard that it has been found at times in the old world, when necessary to take down a building, almost impossible to do so, on account of the extreme hardness of the mortar, which has been kept dry for so many years through the agency of these roots. The case we have referred to, shows how often a good idea may be spoiled by reason of the thoughtless manner in which the idea is carried out.—*Meehans' Monthly.*

WIRE WORMS.



THE experiments at Cornell with the various methods, supposed to help in exterminating the wire worm, have proved the utter futility of most of them, and shows that much useless expense is incurred by farmers in their vain efforts to destroy them.

The true wire worms are larvæ of the Click beetle, a class known to entomologists as Elaters ; both the larval and perfect form of one species of which are shown in the accompanying illustration.

The larval form is only too well known to our readers, but some may not be aware that the Click beetle is the same insect, under another form. It is now proven that almost the only effectual way of destroying them is by fall ploughing or by spading of the ground, thus disturbing the insects at the most critical period of their existence—just when in a state of transformation into the adult form. It appears that a long time is required before the body of the mature insect becomes sufficiently hardened to bear exposure, which, therefore,



FIG. 6.

A CLICK-BEETLE.
Drasterius elegans,
natural size and
enlarged.



FIG. 7.—WIREWORM.

Dorsal view, enlarged two diameters.

at this season means certain death. Since, however, the wire worm remains three years in its larval state, it is evident that this treatment must be continued during that length of time, before the soil can be at all cleared of this troublesome pest.

There are a great many supposed remedies which have been recommended in the public press, upon which farmers and others have spent much money, but it would appear that all these are comparatively useless and are a simple waste of means. They are such as the application of kerosene, salt, kainit, lime, gaslime, etc., but the experiments at Cornell have proved that, while some of these are useless to destroy the wire worms, others—to be effective—would need to be applied in such quantities to the soil as to render it barren, and, therefore, so to speak, the remedy is worse than the disease.

BLENHEIM PIPPIN APPLE.



NOW that our Association is considering the relative values of the standard varieties of apples for the various districts of Ontario, it will be interesting to note the reputation which that excellent late fall or early winter apple, the Blenheim, sustains in Great Britain. The following extract is from *The Garden*, one of the leading English magazines :—

“ This is of all British apples the best known, and it is well, for the sake of future apple consumers, that its merits should be kept before the public, or it may happen that the present generation will refrain from planting it largely, and thus, when our present fine old trees have died out, the best all-round apple in cultivation will have ceased to exist. It is a fact even now that, as compared with the Baldwin, Wealthy, King of Tompkins County, and other showy transatlantic apples in the market, we have few varieties which will, in the eyes of purchasers, find more favor than the Blenheim Pippin. As a high-class dessert variety, none, on the whole, excel Cox’s Orange Pippin or Ribston Pippin. These are, however, attractive only under superior culture and when carefully selected and packed. America can send us nothing equal to these in flavor, but in external appearance they beat us. Hence it is that whilst the sale of British apples is limited to the fruiterers, we see the richly-colored American sorts in every grocer’s window, where, sold at per pound, just as Spanish onions or dried fruits are, they find favor which our own varieties never can apparently possess. The hot American summers produce in the apples a drier flesh and brighter skins than our poor summers can give. It is a great pity some efforts were not made to plant the Blenheim Pippin on warm sites and slopes, where, in addition to being forced into fruiting rather earlier than happens when the trees are planted on cold soils, or indeed anywhere, we should always get the richest color the variety will produce. In some positions the Blenheim is almost rosy tinted ; when so colored it is one of our very handsomest apples. But generally its matured hue is of a russety gold, and being of good size also and of the most perfect form, it is not possible to furnish in the bulk a more taking market apple.

RASPBERRY PLANTING.—Five or six years is the average term of duration of raspberry plantations ; if retained longer, the fruit is small and but little of it. As it takes a year or two for the plants to reach their best bearing condition, it is well to make a new plantation every third year, and thus have two plants, one coming into full bearing as the other is going out. Plants can be set in fall or spring.—*Vick’s Magazine*.

PEARS, VARIETIES AND CULTIVATION.

SIR,—Kindly give me the names of a few varieties of pears likely to do well in this part, for fall and winter. Pears, as a rule, do not succeed very well here. Mine usually take the blight as soon as they begin to bear, and, with some, the Flemish Beauty cracks badly. Still, I think I shall try that variety. Clapp's Favorite seems to do pretty well about here. The worst difficulty we have to contend with is the blight. The ground is a well drained, rich, clay loam. I shall also be glad of a little information upon the general cultivation of the pear.

A. J. COLLINS, *Listowel, Ont.*



THE questions asked by our correspondent are somewhat vague. Most of the varieties which grow in the Niagara district should succeed in the County of Perth, but which of them would fail in that section, we are scarcely prepared to say. This will be more fully taken up by our Association in a future report in which we hope to give a list of the pears adapted to the various sections of Ontario, similar to the one already prepared on apples.

Of course, it is generally known that the Flemish Beauty is one of our hardiest pears, and there are some of the Russian varieties which succeed well in very cold districts; but, as our correspondent says, the Flemish Beauty is badly subject to the blight and the scab, which almost rules it out of any collection in places where other varieties will succeed.

South of Lake Ontario the following list embraces most of the best varieties for home use and market: Doyenne d'Ete, Beurre Giffard, Osband's Summer, Tyson, Clapp's Favorite, Bartlett, Buffum, Beurre d'Anjou (*d*), Louise (*d*), Duchess (*d*), Howell, Sheldon, Doyenne Boussock, Lawrence, Winter Nelis and Josephine de Malines.

With regard to the cultivation of the pear, it differs very little from that of the apple. A good loamy soil, with a dry sub-soil, not too rich, is found to favor the health and longevity of the pear tree. It adapts itself to a variety of soils, and will succeed even upon sand, but the trees are not so healthy, nor so fruitful, as upon a soil of a heavier texture, neither is the fruit of as good a quality. We usually plant our standard pear trees a little closer in the rows than the rows are themselves apart from each other; for instance, the rows might be twenty feet apart and the trees ten or fifteen feet apart in the rows. If one desires them to be in more regular form, they would succeed very well at a distance of fifteen feet each way. Some of the larger growing varieties, however, would be better planted twenty feet apart; while the dwarfs may be planted ten or twelve feet apart.

Seeding the pear orchard down to grass is often advised, but we should not consider this advisable for any length of time, at least, not unless the ground is well mulched with ashes, or some other manure, to keep the ground moist and

Those marked "*d*" are better grown as dwarfs.

loose. The best plan is to cultivate them freely in the early part of the season, and then cease stirring the ground at midsummer, in order that the young wood may become well matured before the cold weather. A light dressing of ashes and superphosphates, applied every year is most desirable. Barnyard manure may be used, but, if applied too freely, it produces too succulent a growth of wood and a consequent liability to blight.

Less pruning is required for the pear than for the apple. A simple thinning-out of crossing branches, and heading back of a too rampant growth of the young wood, is about all that is required on the standard varieties. In the case, however, of the dwarf varieties, a half or two-thirds of the young wood should be removed every fall or spring. By this means the dwarf trees are kept in a bushy form, which is more symmetrical in appearance, besides being a better form to resist high winds. Neglected dwarf pear trees, which have not been cut back as we have described, grow up too high; and, being top heavy, are easily overturned.

The blight is the terror and despair of pear growers, in every section of the country, but we hope to overcome this difficulty in the near future, by the use of copper solutions, which seem to have a most beneficial effect upon the general health of the pear. These sprayed on the foliage early in the season gives it a bright, green color and renders the fruit bright and clean.

THE HYDRANGEA.—Thomas Hogg is an old favorite with us, with its many clusters of pure white flowers. *Hydrangea rosea*, beautiful rose color, with the freeness of its flowers will always be a market variety. By mixing iron filings with the soil during the summer, and watering with alum water when potted, you can change the color of the flowers of *Otaksa* to a blue. The *Hydrangea* is easily grown from cuttings. One struck in March, planted out before the first of May in rich soil and mulched and watered regularly, will by October make a plant fit to go into a seven or eight inch pot. Do not pinch or top the *Hydrangeas* after the middle of June that are wanted for Easter forcing. Secure the *Hydrangea* against frost, as it is liable to injure the flower bud. I lift mine by the 10th of October, pot them in good rich soil and place them until New Year's in a cold frame, giving air during the day and protecting them at night from the frost. They are brought into the greenhouse at New Year's and given a temperature of 60 degrees at night with air during the day, then increase the temperature to 65 degrees at night with little air during the day, until the flowers begin to color. Then gradually give them more air during the day and reduce the temperature at night, this will give a bright color to your flowers and hardy plants. The *Hydrangea* and *Plantier Rose* if grown in a warm temperature and exposed without being hardened will wilt. The *Hydrangea* when in growth requires plenty of watering and an occasional watering of liquid manure.

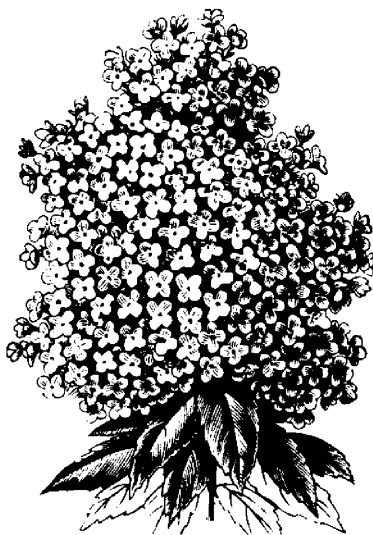


FIG. 5.—HYDRANGEA PANICULATA
GRANDIFLORA.

NOTES AND CRITICISMS ON THE STRAWBERRY.



HERE is so much that can be said about the strawberry and its culture, and the place it fills in the field of fruit growing, that one may be pardoned for throwing out a few thoughts respecting it, although there is much that is valuable on record already. It is what we can put into practice to insure success in its culture, that is most desired, and if one's experience can encourage others in their efforts there is some excuse for setting it forth. Though we may not be doing great things in our endeavors, yet principles can have their action and results, on a small scale as well as on a large one, and here lies the encouragement for strawberry culture in preference to any other fruit, that a greater return in value from a given space can be realized, and a more varied range of interesting experience can be enjoyed. The possessor of an acre of ground can indulge in experimental effort, and have as good encouragement to note his results as the cultivator of ten or more, so that each can contribute his mite with the same confidence as though he were leading the van in fruit culture.

As to modes of cultivation, there are varied objects to be attained which must, in a measure, determine the way we seek to attain them. If profit be the aim, the matted row system yields the greatest return from a given area, and affords an easier protection, as the foliage, if of rank growth, will be a sufficient protection in the spring against heavy frosts, and the sun's scorching rays. The addition of a very light coating of straw, tomato tops, evergreen brush, or any light laying litter, will more than insure sufficient protection. I do not like long manure, as it lays down too close on the plants and has a tendency to smother and make them too tender, in case of late frosts after uncovering. A neighbor of mine covered his patch last winter with coarse manure, and after he uncovered it in the spring the late frosts so injured his plants that he plowed up his patch this fall. I believe the freezing and thawing weather in March, after the snow goes, is the worst time for the strawberry, and those who have not covered their vines in the fall, will do well to attend to it as soon as the snow melts low enough to leave the vines exposed. A hint thrown out lately (by a gentleman who carried on a garden for several years at Torquay, England), for lengthening the picking season, I will repeat for any who may wish to test it the coming season. Plow up ridges two or three rods wide, running east and west, raising them as high as three or four plowings will, and set out early varieties on the south side of the ridge and late ones on the north side. It is claimed that this plan will lengthen the season two weeks or more. Early varieties, as the Crescent and Covil, and later ones as James Vick, will serve as a test for this plan. As a criticism on varieties, with my limited experience, I would speak favorably of the Crescent, Manchester, Bubach, Maggie, Johnson's Wilson, Covil, Woodruff and

Sharpless. I expected much of the Jessie, but did not realize to my expectations. I never have seen the Maggie spoken of in any accounts of varieties, but I like to grow it. It is good size, fine flavor, and holds on well in the picking season, and stands the winter well. It is a rough, ill-shapen berry, however, and this may account for its background estimation among fruit growers. I expect something above the ordinary from the Williams. Nine plants which lived through last winter, out of the dozen that Mr. Craig sent me, produced a fine lot of good healthy plants last summer, and generally when we see fine foliage we hope for fruit to correspond. Last season was proverbial for fine growth in this section, of all kinds of vegetation, after the rains commenced in June. But the late frosts and spring drouth shortened the strawberry crop fully one-half with us.

Nepean, Ont.

L. FOOTE.

MAKE A HOT-BED AND USE IT.

In preparing a hot-bed for starting early plants or for raising lettuce, it is best to calculate upon having the dirt within at least two inches of the glass when the heat is first put in. It will settle a little, and ought not to be at any time more than three or four inches below the level of the plank. Plants will not grow to perfection in a pit. They must be up near the glass where they can have plenty of light and air, and where they can be made to grow stout and strong. The best frame for a hot-bed is made by setting two planks on level ground (the right distance apart to accommodate the glass), one being eleven inches wide, the other nine. This gives a pitch of two inches to the glass, which is sufficient. The usual size of hot-bed sash is 6x3 ft., and this size is the most convenient.

Through February and March good bottom heat is needed. Strawy horse manure is the best and should be used when about one week old. In putting in the heat, begin at one end of the frame and throw out a square of dirt 6x6 feet and eight inches deep. A good cart load of manure will fill this space up. It should be well trodden. Then shovel the next square of dirt directly upon the manure and fill the space thus made as before. Continue the work until the last square is reached, when the first dirt thrown out can be carted to cover the last load of heat. When seeds are sown it is a good plan to sift sand over the loam and press it down with a shovel, level and smooth. Lettuce sown early in February ought to be ready for market by May 1, which is about the time that people get hungry for it. Through May it invariably sells well. Tomato plants are sown about March 1, and should be twice transplanted. If sown a month later they will do very well. The glass can be used upon cucumbers to good advantage after getting through with the lettuce and tomato plants.—*Farm and Home.*

GROWING WATERMELONS.



HAVE tried many methods of culture, many kinds of manure, and many kinds of soils to grow the best melon, and I find the following the best. I have found some soils, even light soils, that will not produce fine melons. They would have a rusty look. As a rule the best soil is a light, sandy loam, and if newly cleared, or not having been cultivated for three years previous in melons, so much the better.

Whatever tends to compact the soil, whether rainy weather or a deficiency of vegetable matter, is detrimental to the crop. I find the richer the soil, provided it be warm and light, the finer the melons. The ground should be broken quite deep, the deeper the better; broadcast manure over it quite liberally, and then thoroughly mix it with the soil. The finer the soil and the better the manure is mixed with it the better the crop. I prefer marking both ways, as the plants can be cultivated better. Two shovelfuls of good manure should be put in each cross. The best manure used is well-rotted leaf mold and stable manure, put in alternate layers of equal proportion. This should be well rotted and turned over until thoroughly mixed. It may not rush the plant while young, so much as all stable manure, but it will bring more and finer melons. I make good-sized hills, not too high, and drop at least a dozen seeds in each. This is important, for two reasons: so many plants aid each other in raising the soil, and come up better; some seed give stronger plants than others, and will bear better fruit. Planting so many in the hill, we are more apt to get strong plants. These can be selected after the plants are up, leaving two of the best in the hill. As soon as the plants are up well, go over the patch with the hoe, and loosen the soil around the plants. Be careful not to disturb them. I cultivate deep the three first plowings, then shallow until done cultivating. I plow the ground thoroughly between the rows each plowing. The less the vines are moved the better. I ruined a crop by moving the vines after they began to set fruit. As to pinching the vines, I doubt if it pays. There may be a small per cent. more melons, but on the average they are smaller.

After the melons are grown there is much gained in picking at the right time. Some varieties are more difficult to tell when ripe than others, and such are likely to be inferior in quality. The Icing Kind (Ice Cream called by some), is by far the best flavored melon I know, and the most profitable to grow. It is also the easiest to pick or tell when ripe.

In picking, observe the following rules: The rind of melons generally becomes hard, and the pulp brittle when ripe. The part in contact with the ground will be changed from a white to a yellow, and upon close examination numerous small pimples, somewhat like the measles, will be noticed on the surface, particularly on the outer edge. With these signs, if the melon be gently pressed, and it cracks inside, it may be regarded as ripe. The top side of a melon when ripe is of a dull, lifeless brown color. In "pulling" the melon, cut the stem with a knife, leaving at least an inch of the stem to the melon, and they keep better.—*Farm and Fireside.*

FRUIT GROWING IN ALGOMA.



R. A. McID. ALLAN has been inquiring into the adaptability of Algoma for the cultivation of fruits, and it would appear, from letters which he places in our hands, that many of the best varieties of apples and pears will succeed in that section, a place generally supposed to be entirely unfit for fruit growing. Mr. W. Harris, of Bay Mills, writes, "Ten years ago, I commenced to plant apple trees in Algoma, having moved from the county of Huron, where I had an orchard of the ordinary varieties that succeed in Central Ontario. I first planted fifty trees of those kinds. The next winter being very severe, they were all cut down to the ground. I then planted Duchess, Wealthy, Tetofsky, Haas and Mann; all of these varieties are doing well and have begun to bear fruit. I have now 150 trees in my orchard, composed chiefly of the varieties last mentioned, with the addition of the Yellow Transparent and other hardy trees, such as St. Lawrence, Scott's Winter, McIntosh Red and Ben Davis. I find that almost all the new Russian kinds will grow and do well in Algoma. I have also the Lombard and some other varieties of plums in bearing. Some hardy cherries are beginning to bear fruit. So far as I can see I shall soon have a valuable orchard.

What is needed in Algoma are hardy trees that will stand the long, hard freezing weather. Our summers are very favorable for apples, pears, plums, cherries, and some kinds of grapes might succeed. Small fruits do remarkably well. We have plenty of good, cheap land for thousands of settlers who are willing to do the clearing up, and, thereby, soon secure for themselves good homes. I have been living here twelve years and have cleared up a large farm and have proved that we can grow all kinds of fruit, as well as all kinds of grains, grass and vegetables."

Mr. D. Dunn, of Jocelyn, writes, "I have had very little experience in fruit growing, but my father has had a great deal. Twelve years ago my father brought over a hundred fruit trees from North Oxford to this island. All the tender sorts succumbed year by year to the cold climate, but the hardier kind have survived. Five or six years ago father was induced to begin experimenting with Russian grafts, and so pleased was he with the results, that he began to go quite heavily into the business. At the time of his death, he had over one thousand trees in the nursery, besides having over five hundred planted out in the orchard. The fruit of these varieties is remarkably fine and free from blemishes.

Among the hardy apples growing in our orchard we may mention the Charlamoff, Duchess of Oldenburg, Alexander, Haas, McMahan, Pewaukee, Montreal Peach, Yellow Transparent, Canada Baldwin, Walbridge, Bordsorf, Winter and Switzer. Of crabs, Shield's, Whitney, Montreal Waxen, Hys-

lop, Transcendent and Martha. Of pears, Boussock and Flemish Beauty. These varieties are twelve years planted. Of plums, Duane's Purple, Imperial Gage and Lombard; all twelve years planted. Of cherries, the common Canadian and some Russian kinds. Of red currants, Victoria, Versailles and Fay's."

Mr. A. Eddy, of Marksville, St. Joseph's Island, writes, "I think we ought to encourage fruit growing here. I came here from the county of Oxford, when the country was new. I do not think Algoma will be able to compete with Oxford for fruit growing, but I do think that Algoma will be able to supply its own apples within the next ten years. My best experience has been with the Duchess and a few varieties of crabs. I have now over one hundred trees which have been bearing for four years past. If I were planting again, I would plant more Wealthys. They are very hardy and are better than the Duchess."

TRANSPLANTING ONIONS.

In order to test the claims made for this method of growing onions, seeds of seven varieties were sown in a hot-bed April 10, and on the 16th of May they were transplanted to the field, and seeds of the same sort were on the same day sown in a parallel plat for comparison.

The transplanted onions were placed in rows fifteen inches apart and at intervals of four inches in the rows. The soil was a rich sandy loam and received the same care as was given the adjoining tract containing a field crop of onions.

The result in every case was in favor of the transplanted onions; the results from the three best kinds being as follows:

VARIETY.	Bushels per acre.	
	Transplanted.	Not transplanted.
Prizetaker.....	548	216
Southport.....	296	172
Rocca.....	556	110

The four weeks following the sowing of the seed in the open ground were quite dry, and the plants made a slow start. The transplanted ones received a copious watering when set out and did not suffer. The results were certainly in favor of transplanting but although it will probably pay for home and for truckers, it is doubtful if it would for large crops.—*Bulletin 79, Mich. Agr'l. Coll.*

The Garden and Lawn.

WEEPING TREES.



PLANTING these with a niggardly hand is, after all, not what is wanted, that is, if we are to derive pleasure from their presence in combination with the general run of our park and woodland trees. Single specimens dotted about here and there, and planted ever so wisely, are by no means to be compared with those clumped or massed in threes or fives, and at irregular distances apart, a fact the truth of which dawned forcibly upon me when visiting a well-managed and well-planted estate in the south of England.

Generally, as seen, weeping trees, like those of upright habit are planted singly, perhaps in appropriate enough situations, but in such a way as to give one the idea that the planter had this rigidly before him, that such a class of trees spoils the landscape, and requires to be very carefully dealt with and in unusually small numbers. Such ideas may have done well enough for the old school of planters, but now-a-days hard and fast lines are not tolerated, and the departures from the strict routine of century-old ideas are nowhere more prevalent than in matters connected with trees and shrubs, their planting and after management.

A group of the Weeping Willow, some eight or nine in number, planted in no cramped or confined spaces, by the side of a fair sized lake has a most pleasing and effective appearance, but they are planted far from any other trees and shrubs, and on the gently sloping grassy banks thus, I fancy, adding much to their charm and beauty. No single specimen of the same tree could have produced such an effect as this clump, which covered nearly a quarter of an acre, but yet did not look out of place, the size and outline of the grounds being boldly laid out and quite in keeping with the broad sheet of water. Within sight of these, but several hundred yards away, a mass of the red-stemmed Dogwood quite enlivened the end of the lake; while in a recess, where the margin of a plantation came nearly down to the water-side, were three fine old trees of the Hemlock Spruce, or rather what to me appeared to be a weeping form of this Canadian Conifer. These with their rich background of Scotch Firs had a truly imposing appearance, the long, cord-like twigs hanging gracefully down for more than a couple of feet. Even at their advanced size and age the trees were by no means cramped for room, although when viewed from the opposite side of the lake the trio seemed as if but one gigantic specimen. For small places such a method of planting would never do; although, even then, it is wise policy to have only a few well laid out clumps in preference to single specimens dotted about here and there, and which latter are hard to place so that they may look well and be in keeping with their surroundings.

To those with plenty of ground space I would say plant no, or very few, single specimens, but instead, clumps or masses, particularly of weeping, fastigate, or brightly-tinted trees and shrubs, and these, if well arranged, will afford an infinitely greater amount of pleasure than single subjects, be they dotted about ever so thickly, and planted with more than a usual amount of care and attention.

To sum up concisely, I may say that, generally speaking, weeping, upright, or other peculiar-habited trees and shrubs look better in clumps of irregular size if the grounds are boldly laid out, while at the same time a few species, such as the Weeping Ash, which ramify extensively, can with all appropriateness be used as single specimens.—A. D. W., in *The Garden*.

GRASS UNDER TREES.—It is often very difficult to get grass to grow under the shade of trees, and yet in places where something green to cover the ground is very desirable, a number of plants have been named as being adapted for furnishing these green surfaces. The common Periwinkle is one of the best known; another excellent thing is some of the species of *Hypericum*; two European species, *H. calycinum* and *H. androsaefolium*, thrive particularly in these comparatively dry and shady places. Another very fine thing is the Japanese Honeysuckle. It keeps very low, and perhaps is a better substitute for grass than many of the others named. There are two forms which can be employed for this purpose; one, frequently known in catalogues as *Halliana*, and the other form as the *L. brachybotria*; this is more generally known as the Japanese evergreen honeysuckle, although the varieties are all more or less evergreen. This particular one is more fond of trailing than the others.
—*Meehans' Monthly*.

THE FIRST PRIZE STRAWBERRIES.—If you want the finest and nicest strawberries next year do not allow your plants to set runners. Keep them cut off, and where every runner is cut off there will come up a fruit spur next spring that will bear many berries. The quickest and easiest way to keep back the runners is to go through the patch every week with a good sharp hoe. Do not cut off merely the runners, but take all the weeds as well. It is necessary to keep the ground cleared of weeds so that the plants may receive all the strength of the soil. Running the cultivator through the patch every ten days or two weeks will help in time of drought and make the hoeing much less work. If you want fine berries and are willing to give the plants a little extra care, the hill system is by far the best. Where the matted row system is followed the weeds are a little easier kept down, but the berries will not be as large or handsome. In starting the matted rows the runners are allowed to take root between the hills.—*Farm and Home*.

VINES FOR PORCHES.



It is a question with many what vines to choose for climbers about porches. It does not seem desirable to cover a porch entirely with any vine, but at certain portions, when one wishes to exclude an unsightly view, or is desirous of shade, a free-growing climbing plant proves effectual.

The climbing bitter-sweet (*Celastrus scandens*) with its glossy leaves and scarlet berries, false buckwheat (*Polygonum scandens*), clematis (*C. Virginiana*) with its copious clusters of white blossoms, trumpet flower (*Bignonia*—named after Abbe Bignon, librarian to Louis XIV), the scarlet blossoms of which are familiar to every one, are among the numerous wild plants that have been adapted to our use in this direction. They are decorative and all of them rapid growers, but they lose their foliage earlier than our less hardy vines.

The moon flower (*Ipomœa grandiflora*) in our northern climate does not mature early enough to give us the wealth of blossoms we are led to expect from it, but it retains its large, glossy leaves until late in October, is clean, and free from insects, and makes a good screen from the sun. *Cobœa scandens*, with its curious twining leaves, is a beautiful climber and keeps its foliage until frost comes, which, for porches, is a strong recommendation.

Madeira vine, Allegheny vine (*Adlumia*), Canary Bird Flower (*Tropæolum peregrinum*), are pretty growers, but to be effective for shade must be planted thickly. Our Virginia creeper is good and will grow everywhere; it must be kept free from aphids by infusions of tobacco. The honeysuckles are desirable, and fragrant climbers. The foliage is a beautiful green and by combining the varieties one can have constant bloom from June until November. They grow rapidly and are easily trained upon wire trellises. They possess every requisite of a climbing plant.



FIG. 9. COBŒA SCANDENS.

WM. SAUNDERS, Washington, in *California Fruit Grower*.

RAVAGES OF RABBITS.—A writer in the *Revue Horticole* gives the following remedy for preventing the depredations of rabbits in his garden: He mixes three pounds of blue vitriol with four pounds of fresh slaked lime and adds the mixture to 18 gallons of water. The blue vitriol is first dissolved in two or three gallons of water, and then both are thrown into a barrel and the water added to make 18 gallons. The mixture is applied with a whitewash brush, in dry weather only to the trunks of the trees from the ground to a height of a foot or two.

A HUGE LILY.



SEND you photograph of a most striking exhibit in flowers made at our annual county exhibition. It is a single spike of *Lilium Auratum*, with 120 fully developed blooms, and expanded as far as possible. The photo was taken as the lily grew in the garden. The stem on the left hand is a normal stem, with, perhaps, eight or ten blooms. The stem of the thickly flowered lily is concealed by the leaves. It started in the spring, flat, two or three inches broad, as one often

FIG. 10.—*LILIUM AURATUM.*

sees in an asparagus plot. There were two or three flat stems and four or five normal in the same clump of *L. Auratum*. One of the flat stems began to wilt in August, I think, and was cut off and given to me. I sent it to Prof. Saunders, of Ottawa. The other grew to perfection and expanded into full bloom just in time for our exhibition, October 8th-10th. At the close, it was shipped to the Massachusetts Horticultural Society, and arrived in good order. The Secretary reported to me that they had a similar spike of *L. Auratum* in 1878, grown at Salem, in Massachusetts, with 170 blooms, of which photos were taken. On each side of the flat stem, for about eighteen inches from the top, buds broke and developed to perfection.

You will notice that we took the liberty of copying the rating given on varieties by the Ontario Fruit Growers' Association. This is a most useful table. A column, showing the season of use, would be valuable as a guide to customers, say Red Astrachan, July to September; Northern Spy, January to June, or whatever the month for each may be.

Mr. P. D. Kinney advises me this morning that he has a carload of Canadian apples, shipped by A. M. Smith, of St. Catharines, just arrived *via* Boston in eleven days. The assortment is excellent and a large part sold to arrive, and there will be no trouble in selling the balance at a good profit.

Yarmouth, N.S. November 11th, 1891.

CHAS. E. BROWN.

FINE EVERGREENS.—The writer was asking himself a few days ago, as he sat under the Yellow-wood of the Rural Grounds, and admired first one, then another of the many different kinds of evergreens in view, which he would choose in case he was confined to one or two. We thought it over very carefully, and chose, first, the common Hemlock Spruce, and, second, the White Pine, and this, too, after cultivating for 13 years the rarest conifers known. Few know of the surpassing beauty of the White Pine when, during youth, it has been disbudded, or cut back in a way to induce an ample furniture of foliage from the ground to the top.

FIELD MICE.—Here are two suggestions regarding field mice, from *Farm and Home*:—

Field mice will work very badly in orchards when there is a great depth of snow. The snow should be trodden down about the trees the first time it is damp enough to do so, especially in runs where it drifts, as trees six or eight inches in diameter at the collar are often completely girdled in such situations.

To protect trees against mice, rabbits or sheep, paint the trunk above their reach with a cold wash made by mixing one peck of unslacked lime with 4 lbs. of sulphur slacked in 8 qts. of boiling water, and while still hot add half a gallon of crude carbolic acid and the same of gas tar, stirring well and mixing thoroughly. A flat brush is the best thing to put it on with.

MAKING GRAVEL WALKS.



HERE new walks are to be made, it is important that they should be made with due regard to their surroundings. If they are to be intended for vehicles as well as walking on, as is generally the case in the main walks in large gardens and pleasaunces, a greater depth of soil than would be necessary in the case of walks for pedestrians, should be dug out, to admit of a greater thickness of hard material being laid in the bottom for drainage, and to sustain the harder traffic. The first point to determine when making a walk, after the line of direction has been decided upon, is the width that it shall be made. Main walks should be from ten to eighteen feet in width, according to the extent of the grounds, the others being from five to seven feet wide. This done, due regard should be paid to the level of the ground on either side of the walk, as well as the direction in which it is proposed to take the surface-water. A depth of from nine to eighteen inches, will, in a general way, be ample for walks of the dimensions mentioned above, but in cases where the top-soil is shallow, and resting on a substratum of chalk, gravel or stone, all that is necessary is to remove the top-soil, and with which the ground on either side the walk can be made level, together with the filling up of any depressions that may happen to be close by. Whatever edging be used, turf, box, flints, heather, etc., it should be laid before the bottoming of the walk is proceeded with. The bottom of the walks should be deeper at the sides than in the middle, that is, it should be slightly arched or convex, so as to convey the surface-water to the sides. If the substratum be chalk, it should be well pounded all over, allowing sufficient fall (longitudinally) to the points towards which it is decided to drain the walks, providing means at each outlet to convey thither any water that might lodge on the opposite side of the walk—that is, when it is not convenient to have outlets connected with drains or “catch-pits” on both sides of the walk. In the case of walks being made on soils resting on a bed of chalk, gravel or stone, as mentioned above, a smaller quantity of hard materials becomes necessary. A broad walk, having an excavated depth of eighteen inches, should have at least one foot of coarse materials in the bottom, over this three inches of coarse gravel, followed by a like depth of fine red gravel, if obtainable. This should be raked level and smooth, and rolled as soon as dry enough—first, with a light roller, and then with a heavy one, repeating the operation four or five days in succession, or until a level, firm surface is produced. Walks of from nine to twelve inches deep should be given a layer of proportionate thickness of the several materials recommended for the walk described above. Bold, yet graceful curves should be observed in making winding walks. Where box is used as an edging, taste and judgment, only to be acquired by practice, are necessary to do the work with precision and neatness. H. W. WARD, *Longford Castle, Salisbury.*

✦ The Kitchen Garden. ✦

MANURE HOT BEDS.



HE construction and management of hot-beds is an exceedingly simple matter, and yet it requires careful attention to keep plants growing in a healthy condition. Manure beds are most commonly used, horse manure being preferable to any other ready available substance. Fresh manure recently removed from the stable is the best, but if collected in too small quantities, it should be frequently spread through the winter in order to keep it from heating and spoiling before spring. If a good proportion of fine straw or forest leaves are used in the bedding it improves the manure greatly for hot-bed purposes.

When ready to begin operations the manure should be forked over, shaken out finely and *thrown into a high conical heap to heat*; if anyways dry it should be watered until well dampened throughout the heap. Leave it standing in this heap about a week and it will surely heat and begin smoking like a small volcano.

There are two methods of forming the bed, some digging a pit and sinking the manure in it, and others simply building the manure up into a square bed and setting the frame on it; the first named method requires the most labor, the second the most manure, so we will let labor *vs.* manure decide which you shall adopt.

FIG. 11, shows a perspective view of a bed constructed on the manure without a pit. If the manure is fine, and contains little or no long straw, it will be found necessary to put a plank frame around it to keep it in position. After levelling the manure there should be three or four narrow boards laid across it on which to rest the hot-bed frame, so that after the manure heats all will settle together, otherwise the weight of the frame and sash will force it down into the manure, and the centre of the bed will appear to raise and perhaps displace the plants.

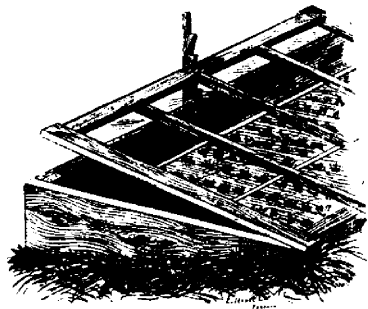


FIG. 11.—COLD FRAME.

Of course you should select a spot for the bed which is sheltered as much as possible on the north and west by some building or high board fence. The sash should slope gently towards the south or east, both in order to carry off the rain water readily and to catch the sun's rays and gain light and warmth.

The most common sashes are 3x6 feet. The frame should therefore be

made six feet wide and as long as necessary to accommodate the number of sashes to be used.

A vital point always to be observed in making a hot-bed is *to spread the manure down while hot*, it then continues to heat, but if spread down cold it will heat very slowly and unevenly or perhaps not at all. Early in spring, when considerable cold weather may yet be expected, it will be necessary to use about a common wagon box full of manure to each sash, but later in the season, when forming beds in which to transplant seedlings, one-half that quantity will suffice.

The soil to be used should be prepared in advance. It must be light, loose and rich. Good sods placed in a heap with alternate layers of cow manure and allowed to stand and decay for about one year, makes a fine compost for starting a hot-bed. In removing the soil from an old hot-bed, shovel out some of the fermented manure with it each year, this will keep it loose and in good mechanical condition. The poorest article I ever saw used in a hot-bed was

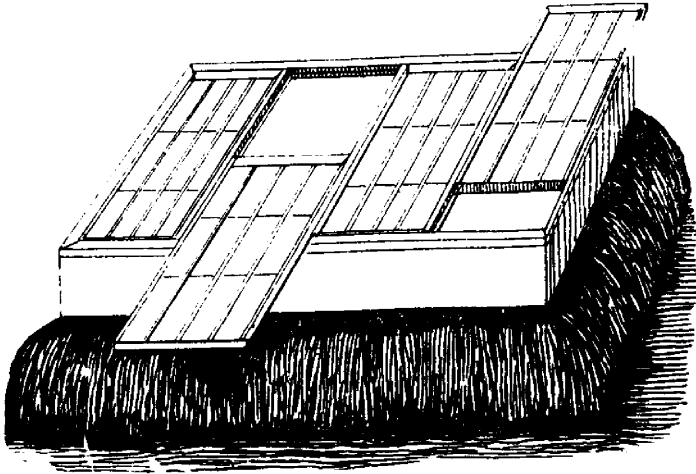


FIG. 12.—HOT-BED.

sand washed from the road, which it was thought would be rich and nice, but it packed down so hard that the whole bed was a failure.

Soil should be placed on the manure to the depth of from four to six inches, and the glasses adjusted properly. After the soil becomes warm, sow the seed in rows about four inches apart and scatter them quite thickly in the rows. Never sow broadcast, as the labor of keeping free from weeds is much greater. When the seedlings are about three inches high, they should be transplanted into rows, 3x6 inches, and as soon as these need more room, or are in danger of running up spindling, transplant again.

In transplanting tomato plants, the stem should be set down well into the soil, and will take root wherever covered. The object sought is plenty of

fibrous roots on a short stocky stem. The temperature of the beds must be closely watched, though it may vary considerable. The mercury may run from 50° to 80° , though the mean, 65° , should be as closely kept as possible. This for tomatoes, peppers, etc. Cabbage and cauliflower plants require much less heat and should never be placed in the same bed with tomatoes. In fact very little or no bottom heat is required to produce good early cabbage plants. Fit a frame as for a hot-bed except to omit the manure for the bottom heat, cover it with sash and sow the seed in February, or early in March, and better plants will usually result than if bottom heat is used (see Fig. 12).—*Tillinghast's Manual.*

MARKET GARDENING AS A BUSINESS.



SOIL is of first importance. Choose land, when it can be done, that is level and well drained by having a gravelly or sandy subsoil, not less than ten inches in depth of good soil. Again, get as near to your market as possible, and see that the roads leading thereto are good. This is particularly important if your market is a large city like New York, Boston or Philadelphia, but less important for a local market.

The business of market gardening, though healthful and fairly profitable, is exceedingly laborious, from which any one not accustomed to manual labor would quickly shrink. The labor is not what might be called heavy, but the hours are long—not less than an average of ten hours a day for both summer and winter. No one should engage in it after passing middle life, nor men of feeble constitution, for it is emphatically a business in which one has to rough it; and if it is to be prosecuted successfully the owner must put his own shoulder to the wheel at least as strongly as his roughest employee.

The capital required for beginning market gardening in the vicinity of any large city should not be less than \$300 per acre for anything less than ten acres. The first year rarely pays more than current expenses and the capital of \$300 per acre is all absorbed in horses, wagons, implements, sashes, manure, seeds, etc. If the capital be insufficient to secure these properly the chances of success are correspondingly diminished. Above all, be careful not to attempt the cultivation of more land than your capital and experience can properly manage. More men are stranded both on the farm and garden, in attempting to cultivate too much, perhaps, than from any other cause.

It has been the practice in the past to use hot-bed ashes almost exclusively for the purpose of forcing vegetables, or forwarding plants for use in the open ground. But of late years greenhouses are being largely used, both for the purpose of *forcing* lettuce, radishes, beets and cucumbers, as also for *growing* plants

of early cabbage, cauliflower, lettuce, celery and tomatoes, and in either case, we believe, that in well-constructed greenhouses not only is work better done, but that the saving in labor in three years will more than offset the greater cost of the greenhouses.

Lands, in some gardening localities, have become actually surfeited with manure, and for this reason vegetables, such as cabbage, lettuce, and celery, do not now average as good as those grown where land is cheap enough to allow one-third to be put down annually with some grass and clover crop. I believe that, in a garden of fifteen acres, if one-third is laid down to grass each year, and the balance kept under the plow, the gross receipts will be greater, and the profits more than if the whole fifteen acres were under tillage; for less labor will be required, and manure tells better on sod land than on land under tillage.

I can tell you nothing new on the subject of manure, except that the use of dried peat moss, now being used in the cities for bedding, is likely to be of great value to the market gardener, if it can only be had in sufficient quantities. We have had it in use in our own stables for about a year and find it not only more economical than straw for bedding, but its absorbing qualities make it of great value for fertilizing purposes. We can buy ordinary straw manure in our vicinity for \$1 per team load; but we are buying all we can get from stables where the moss is used at \$2 per ton, but is yet quite scarce.—PETER HENDERSON, at *Farmers' Institute, Jamaica, N. Y.*

MANURE FOR ONIONS.—For twenty years an onion specialist in Fairview, Pa., has raised his onions upon an acre of ground adjoining his home; he placed but little faith in commercial fertilizers, for the one year previous to this one, that he used proved disastrous to his crop, and seemed to fairly burn the onions to death; but that year was an excessively wet season and the substance was literally washed out of the ground. But last spring, when he plowed his land again for onions, he made up his mind to give the fertilizers one more trial, as the soil was becoming impoverished by continual cropping. He accordingly procured four hundred pounds of phosphate and spread it over the ground before sowing his seed, and the result was an enormous crop of onions, equal in quantity and quality to twenty years ago. Another man in an adjoining town, plowed up a clover field and sowed it to onion sets, for his grain and clover always lodged there and he would lose a good share of them, being near a building and under a high state of cultivation. The crop was harvested lately, and yielded at the rate of 450 bushels of sets to the acre. This shows beginners that old ground requires phosphate, and new ground clover sod.



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.

NOXIOUS WEEDS.—Among the subjects discussed at the wide-awake farmers' meeting of Wisconsin, is that of noxious weeds, and considering the rapidity with which they are gaining ground on our farms and orchards and gardens of Ontario, it appears to us that we ought to make that a more common subject for discussion at farmers' meetings throughout Ontario; not, perhaps, in mere general terms, but one by one they should each come under discussion, until every farmer is up in arms against the large army of noxious weeds which threaten to drive him from his farm.

The common burdock, *Lappa Officinalis*, is one of our worst weeds, and one which pathmasters, as well as farmers, too often allow to grow unmolested in waste corners. No weed is more troublesome in the orchard, and none harder to eradicate, especially where the ground is left any time in grass. We are inclined to commend the practice of Mr. Cole, of Wisconsin, who says that in his experience the best method of eradicating them is by cutting them off about two or three inches below the surface of the ground during the first year of their growth. We believe that this is better than the practice that we have been following, namely, of cutting them the second year, as late in the season as possible, just before the seeds were mature. We hoped that, in this



FIG. 13.—COMMON COCKLEBUR.

way, the plant would be unable to throw out branches from beneath, in time to mature their seeds, but our experience is, that unless we watch sharply the second growth of branches from below will succeed in maturing their seeds very late in the fall, especially if the weather is favorable.

Another vile weed is the Cocklebur, which is gaining ground upon us of late, and which, like most others, secures a strong foothold before we are aware of its bad habits (Fig. 13) In Illinois, according to Prof. Goff, of Wisconsin, the farmers consider this one of their worst weeds. We have two varieties in Ontario, one, the Common Cocklebur, with rough stem, not spiny, and the other, the Spiny Cocklebur, of which the stem is armed with slender spines at the bases of the leaves. The latter is a native of South America. We give a drawing of the burs of this weed, so that our readers may the more easily identify it and be more guarded against it. Among the other evil weeds may be mentioned the Sow Thistle, the Wild Mustard, the Quack Grass, the Canada Thistle, the Corn Cockle, Beggar Ticks, and Toad Flax, and even the pretty Oxeye daisy (Fig. 14). Fields of this latter



FIG. 14.—OXEYE DAISY.

may be seen west of Toronto, along the line of the Grand Trunk, covered with this pretty, but troublesome, weed, and anyone who has noticed how completely the pastures there are overrun with it, will at once decide that, though pretty enough to be transplanted to the flower garden, it is entirely out of place in our fields, and must, therefore, be treated as a dangerous enemy to farmers and horticulturists who aspire to have their orchards and gardens present a creditable appearance, when left for a time seeded down to grass.

THE ANNUAL REPORT for 1881 will be the most valuable one ever issued. In it are found the reports of the meetings of 1890 and 1891, making it double the usual size. Formerly the winter meeting was held in February, just after the issue of our report, but now that this meeting is held in December, the report of it may be at once made public without waiting until the matter is a year old. This report will contain catalogues of apples, pears and grapes, as prepared by committees on these fruits appointed by our Association. There are several illustrations given, beginning with a fine frontispiece of Mr. A. H. Pettit, the new President. The report will be sent out as soon as it is possible to get it through the hands of the printer.

· THE BRITISH APPLE MARKET.—It is a remarkable thing that the prime Canadian apples exported to British market should not return the grower more money than they do, especially in a season like the one just passed. The average returns of those who have shipped to the old country has been from \$1.50 to \$1.75 per barrel. Some, it is true, have done a little better, but these are about the average returns for fruit of the most excellent quality, the writer judging not only from his own experience, but from the experience of others who have exported. At the same time that his apples sold in the old country markets so as to return the net prices quoted above, his apples of the same quality and put up in the same style were sold retail to private parties in the old country at \$4 per barrel, f. o. b. at Grimsby. It seems strange that there should be so large a difference between the wholesale and retail prices of apples in Britain.

The same thing is treated of in an article in the January number of the *Garden and Forest*, by a writer in London, Eng., who says that he priced Canadian apples in Covent Garden and found Gravensteins, Baldwins and Ribstons quoted at 20 and 30 per barrel. Surely if some means could be devised by which we could get into a nearer relationship with the consumers in the old country, our business in exporting Canadian apples would be a greater success.

PEACH YELLOWS INSPECTOR.—At a recent meeting of the Lincoln County Farmers' Institute, this subject was introduced by Capt. Shepherd of Niagara, who showed the futility of the present Act for destroying diseased peach trees. The inspector, it appears, is allowed but a limited time in which to do his work, and cannot act unless a complaint is made, and, even then, he fears making enemies by cutting down his neighbors' trees. Further, he is subjected to the necessity of proving each case of yellows. If a man is qualified to act at all, his judgment ought to be final, and he should be at liberty to inspect orchards at any time during the summer, and receive due compensation for the work.

A resolution was passed at the meeting above referred to, approving of the plan formulated by the Canadian Institute, Toronto, which looked for an appointment, by the Legislature, of a general inspector for the whole province, to whom local inspectors might report cases of refusal to destroy the trees affected with black knot or the yellows, and on whom will rest the duty of inflicting the penalty of the law upon such offenders.

SULPHURING FRUIT.—Dr. J. W. Smith, of Charles City, Iowa, writes in the transactions of the American Public Health Association, very decidedly opposing the use of sulphur for bleaching dried or evaporated fruit. The use of sulphur, it is true, gives the evaporated fruit a light color; this, at first, attracted the attention of consumers and commercial men, and, consequently, raised the

price of the article so treated. But the fact is now becoming generally known that sulphured fruit loses much of its flavor, and is, therefore, inferior in quality.

The doctor shows that while sulphuric acid is a preservative and disinfectant, still, its use with food is objectionable. It has further been noticed by retail grocers that the public does not use dried fruit as freely of late years as it did before the days of bleaching with sulphur. In the near future the probability is that fruit, which has been evaporated without the use of sulphur, will be more appreciated and more in demand than that which is bleached.

BEE MEN AND FRUIT GROWERS.—We are informed that our friends, the aparists, are alarmed at the wide-spread practice of spraying fruit trees and are seeking legislation to prevent it, on the ground that it is the means of destroying many bees. Such extreme measures would bring fruit growers into contact with them, and we would be inclined to ask for legislation against the keeping of bees, on the ground that these insects injure our grapes and carry the yellows from tree to tree. It is stated in *Mechans' Monthly*, that in a small garden in the suburbs of Philadelphia, where the owner has a dozen or so of grape vines, the whole crop is annually destroyed by neighboring bees.

Bee men tell us that a hole must be first made by birds or wasps, or else by cracking, before the bees will harm the fruit; but even granting this, the small holes and cracks referred to would not interfere with the ripening of the grape, and would only injure its value to a limited extent, were it not for the work of the bees. The only basis of agreement between us will be that we do not spray our trees when in blossom, and to this, no doubt, all fruit growers will consent.

TREE WASH.—The recipe for tree wash given on page 369 for destroying bark lice, keeping out borers, etc., probably contains a printer's error. The usual amount of carbolic acid to two gallons of water is one pint; and an excellent wash may be made as follows: One pint crude carbolic acid, one quart soft soap, and two gallons hot water. Mix thoroughly. Apply with old broom.

THE WINDOW GARDEN.—Be *sure* that every plant is free from scale aphids, or other insects, before placing in window, and if any plant becomes infected afterwards, remove it from the window until once more clean, as one lousy plant will infect a windowful. Shower the plants often to keep down the red spider, and also to keep the pores of the leaves open. The leaves of a plant are its lungs, and should be kept clean. See that every pot has an inch of charcoal or broken crocks in the bottom for drainage. Water only when the soil is really dry, and then water thoroughly. Add a fifth or sixth part of *sifted* manure, or a small quantity of the fertilizer florists keep, to the potting soil, or else water growing and blooming plants once a fortnight with liquid manure diluted to the color of weak tea. A pot plant must have food to blossom long and well. Turn plants frequently, pick-off all dead leaves, and you will be rewarded by an abundance of flowers.—*Good Housekeeping*.

✧ Question Drawer. ✧

A TEN-ACRE FRUIT GARDEN.

SIR,—We are preparing to plant a fruit garden of ten acres, and want the result of the latest experience as a guide as to what kinds of raspberries, blackberries and strawberries to plant. Could you give me a summary in the next number of the journal?

D. REESOR, *Toronto, Ont.*

So much depends upon circumstances that it is impossible from ones experience at Grimsby, to give advice that will serve as a perfect guide to one living near Toronto.

In the first place we approve of the proposed size. "Ten acres enough" is ten times more applicable to the fruit garden than to the farm. We say this after spending twenty years in trying to cultivate one hundred acres in fruit; and after finding out some of the difficulties of such a large undertaking, we would plant very few apple trees in such a lot, but pears, plums and grapes should have due attention, and might have one-half the space. The rest should be saved for small fruits.

These should be planted freely at first over the whole, and then removed when necessary, that is, as soon as they are in danger of interfering with the growth of the larger fruits.

Of small fruits, we would plant such varieties as would give a constant succession throughout the season. Strawberries, currants, gooseberries, raspberries and blackberries would fill up the time until grapes begin to ripen. Everything should be planted in long rows, for convenience of cultivation by horse power, and it would be all the better if it could be arranged for cultivation in two ways.

Of strawberries, we are pleased with the Wilson, Bubach, Williams and Haverland; of currants, Fay's Cherry, Victoria and Black Naples; of gooseberries, Triumph and Downing; of raspberries, Turner, Cuthbert and Shaffer; of blackberries, Agawam, Snyder and Taylor. Where the Kittatinny will succeed we prefer it to either, but it would be too tender near Toronto.

REPORTS WANTED FROM PLANTS DISTRIBUTED.

SIR,—We do not exactly understand the position that members are expected to take with respect to their premium plants. Do you wish an account of the success or failure of plants and trees which have been distributed?

A. J. COLLINS, *Listowel, Ont.*

It is certainly very important that all members of our Association receiving plants for testing, should report to the Secretary concerning their success or failure. It will be understood, however, that no really reliable result can be

obtained until after a lapse of series of years, and, therefore, it is not necessary for our readers to report to us concerning plants or trees that have been sent out within the last year or two. But we would be very glad to hear, at any time, reports of those plants which have been tested long enough to give some reliable results. Previous to the year 1881, the following varieties were sent out for testing: In 1875, Swazie Pomme Grise apple; 1876, Glass Seedling plum; 1877, Goodale pear; 1878, Burnet grape; 1879, Ontario apple; 1880, Saunder's New Hybrid raspberry. These have been tested in various parts of the country for nearly ten years, and reports concerning them will be of considerable value. We, therefore, ask from the readers of the journal, who have received these varieties, or have otherwise tested them, to send a report as early as possible, to the editor of this journal, in order that the results may be tabulated and made public at any early date.

* Open Letters. *

SIR,—We have a copy of your journal for October, and note the comment you have made on the Early Ohio grape. We notice that in copying our letter you have made an error which makes quite a different meaning to it. You say, "It is *nearly* as hardy as the Concord," while our letter read, "It is *fully* as hardy as the Concord." The facts of the case are, that during a hard winter, in which nearly all of the buds on a Concord vineyard were severely injured, the buds on an Early Ohio vineyard by its side were not injured in the least.

Yours truly,

C. S. CURTICE Co., *Portland, N. Y.*

A CORRECTION.

SIR,—In your article of last month, by mistake, the style of the Fonthill Nursery firm was made to read Wellington & Stone's Nursery. The style of the firm should be Morris, Stone & Wellington. The nursery is owned by Mr. Edward Morris, of Fonthill, and Mr. W. E. Wellington, of Toronto, Mr. Wellington attending to sale of stock and Mr. Morris giving his personal supervision to the growing of stock. Much of the success of the firm has been the result of the able and careful management of Mr. Morris, who is a thorough practical horticulturist and propagator of nursery stock.

W. E. WELLINGTON, *Toronto.*

THE CAROLINE RASPBERRY IN QUEBEC.

SIR.—I observed in "Notes and Comments" in your January number a reference to this from the Geneva Station, as being a raspberry of "superb flavor," while the opinion you gave was that it was of "exceedingly poor quality." Being the first to test it for adaptability for the Province of Quebec, I may say that it occupies the place amongst raspberries that the Wilson does amongst strawberries, except that it is too soft for a market berry. The Caroline originated at New Rochelle, N. Y., the home of the once famous Lawton Blackberry, and it was introduced by the Carpenters, a nursery firm of that place in 1878; they also originated the New Rochelle black raspberry, which was not successful up here. They claimed the Caroline to be a hybrid of Brinckle's Orange, but if so,

the offspring has not the fine properties of the parent. I have cultivated it for thirteen years and have in that time given it to friends interested in improved fruit for our province and it has everywhere proved exceedingly productive and hardy. In a number of seasons of early summer drouth it has been my sole dependence when some two other varieties have failed. Four years since, the late S. O. Caywood, of Marlboro, N. Y., sent me for testing, a variety he named the "Crystal," which has thus far proved very promising. In color it has a beautiful canary shade, a remarkable contrast to the dingy yellow of Caroline, being transparent, fairly large and firm, with much less tartness. All who have seen it here admire it. The death of its eminent originator has likely delayed its introduction.

January 16, 1892.

WM. MEAD PATTISON, *Clarencerville, Que.*

* Our Book Table. *

CATALOGUES.

GENERAL ANNUAL CATALOGUE OF GARDEN, FIELD AND FLOWER SEEDS, 1892, J. A. Simmers, Toronto.

GARDEN, FIELD AND FLOWER SEEDS, 1892, Faust, 64 and 66 North Front St., Philadelphia, Pa.

SEEDS AND BULBS, 1892, Wm. Elliot & Sons, Importers and Growers, 54 and 56 Dey St., New York, N. Y.

ILLUSTRATED AND DESCRIPTIVE CATALOGUE OF FRUIT AND ORNAMENTAL TREES, SHRUBS AND PLANTS, 1892, Morris, Stone & Wellington, Toronto, Ont.

FORTY-FIRST ANNUAL DESCRIPTIVE CATALOGUE, 1892, John A. Bruce, Hamilton, Ont.

FLORISTS' STOCK, Spring 1892, Webster Bros., Hamilton, Ont.

EVERYTHING IN SEEDS AND BULBS, 1892, Steel Bros., cor. Front and Jarvis Sts Toronto, Ont.

CIRCULAR OF THE VANDEMAN STRAWBERRY, L. J. Farmer, Pulaski, N. Y.