

Preparation and Care of Hotbed.

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To have vegetables earlier than you can under natural conditions, it is necessary to provide some artificial means for starting certain plants earlier than can be done in the open air. For this purpose, nothing is better than a good hotbed. It is simple to make, and the expense is small. Everyone who is interested in a good early garden should have a hotbed. A hotbed not only protects the plants from cold, but supplies heat from the bottom. By this means the soil is kept several degrees warmer than the air above. This condition is secured by making a compact pile of fermenting material, and covering it with the earth in which the plants are to be grown.

The best heating material which is easily available is fresh horse manure. If thrown into a loose pile it will heat violently and unevenly, and soon become cold. What is wanted in the hotbed is a steady and moderate, but lasting, heat. To secure this, the manure should be forked over, shaken apart, watered if very dry, and allowed to stand a few days, then forked over again to allow a second fermentation, the object being to get as uniform a degree of fermentation as possible. Place the manure in even layers about two feet longer and wider than the bed, and tramp down to a uniform solidity, until a depth of about two feet is secured. Late in the season much less is required. Place the frame on the manure, and bank up around the sides with manure. Put on the sash and allow the manure to ferment. Then put on the soil, which should be light, rich, and free from clods and stones, level carefully, covering the whole bed to a depth of five inches. The heat at first will be violent, sometimes rising as high as 120°, but it will soon cool down, and when the regular temperature of the soil reaches 90° the seed may be planted. It is important to have the rank heat pass off before the seed is sown.

In managing a hotbed, it must be borne in mind that the essentials for success are a steady, uniform degree of heat and moisture, keeping the soil at all times a few degrees warmer than the air. Simple as it may seem, it will require some care to obtain the desired results. It is astonishing how quickly the temperature of the bed will rise to 90 or 100 degrees on a sunny day, even if the outside temperature be below freezing; also, how quickly it will fall to that outside on a cloudy day if the sash is left open ever so little. A rush of cold air driven over the plants is far more injurious than the same temperature when the air is still. The important things in the care of hotbeds are: uniform heat, plenty of air, no cold drafts, and a proper amount of moisture. By following these simple directions in building and managing a hotbed, coupled with a little personal experience, anyone can grow, then, early plants with success.

Growing Early Tomatoes—Gooseberry Mildew.

I intend planting a lot of tomatoes for early shipping, the ground is poor: (1) How can I use fertilizer in the hill to advantage, and how much, so as not to injure the plants? What kind is best? After the plants are set, would a forkful of manure, barn-yard, around each plant be beneficial, or would covering the ground exclude sunlight and make the ground too cold? (2) Will spraying gooseberries with lime and sulphur prevent mildew, and how often must it be applied?

Lincoln and Niagara.

Ans.—1. To secure a good crop of early tomatoes, one of the first things is to be sure of selecting a good early variety. We have found that the Earliana is one of the most productive extra early varieties, and that upon what is commonly called poor soil the best results with tomatoes may often be obtained. Land which is very rich tends to stimulate the excessive growth of vine without a full crop of fruit. To secure a crop on your ground I would recommend the application of about three hundred pounds of superphosphate and one hundred and fifty pounds of muriate of potash per acre. This should be applied two or three weeks previous to planting and well worked into the surface soil by means of the harrow. By the time of planting, the plant food in this should be in good condition for growth of plants. After planting, it would be well to make one or two light applications of nitrate of soda around the plants to give them an early start. This should be applied in small quantities, say, one hundred or one hundred and fifty pounds per acre, and sprinkled around the plants a few inches from the stem, as far out as the roots are likely to extend. It may be well to make a second application in two or three weeks, although this would tend to make more growth and vine, and probably retard the ripening of the fruit. I would not recommend applying barn-yard manure around the plants, as this tends to keep the ground cool, and although it would stimulate good growth of plants, it would tend to retard fruiting. As soon

as the plants begin to make good growth and branches are large enough, they should be spread out flat on the ground, so as to get all of the soil heat possible.

2. Lime-and-sulphur mixture has been used to some extent to prevent mildew, but it is not nearly as good a preventive as Bordeaux mixture. The best plan is to spray with Bordeaux mixture early in the season, before growth starts, and repeat three or four times, as may be necessary. On the whole, I think it is more satisfactory to grow the American varieties of gooseberries, such as Pearl, Downing, and Red Jacket, which are not subject to mildew, than attempt growing the large-fruited European kinds upon soils where they are very hard to keep free of mildew.

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Fruit Shows as Advertisements.

The Nova Scotia Government has maintained an exhibit of fruit, principally commercial varieties of apples, at the several exhibitions held in the Crystal Palace, London, England, during this winter. The fruit was sent to Mr. J. Howard, Agent-General for the Province, in London, who has reserved space for it at the several exhibitions, and has seen that the fruit was put upon the tables in the most attractive manner. So far as one may judge from reports in the English papers, the result has been highly satisfactory, and an exceedingly good advertisement for Nova Scotia apples. The Fruit-grower, Fruiterer and Florist, commenting on the exhibit, says: "At first sight, these dishes of fruit seem to be a small lot for this notable fruit colony to display, but they are thoroughly representative of the fruit which this queen of apple-growing colonies sends to us in such large and growing quantities year by year. The fruit of Nova Scotia is known in every household in England for its fine quality and a general likeness to the best English samples."

The Daily Telegraph, of London, says: "So brilliant in color and so various in form are these Nova Scotia apples that the visitor is tempted to give them the place of honor as the best possible of their kind."

Now, I am giving these quotations about Nova Scotia fruit in order to make Ontario fruit-growers feel badly, and envy Nova Scotia growers, for I dare say people might have been found (and that, too, without looking for) who would have said just as nice things about Ontario fruit. But, what I want to call attention to is the value of such exhibits to the fruit interests. I believe that wherever we are sending our fruit to market a fruit exhibit would be a paying advertisement, whether it were in London, or Boston, or Winnipeg, or Dawson City. And it needn't be a large exhibit, either. I remember hearing a friend of mine tell of the interest excited in Boston by a dozen plates of Nova Scotia apples placed in a store window. Everybody wanted to know where they were grown, and everybody who found out had a better opinion of Nova Scotia's fruit-growing possibilities as a result.

Since the great bulk of our fruit goes to England, it is right and proper that the greatest efforts in the way of advertising exhibitions should be put forth there. But I am satisfied that a great deal more might be done in other markets, in our own Northwest, or even in local markets. If nothing more were done than to send a few plates of apples to the commission firm with which a fruit-grower were dealing, I believe the result would be excellent from the advertising standpoint. And the expense of such an exhibit would be practically nothing. Of course, all commission firms are not fitted up to carry a large exhibit, but there are few who would not be glad to give space for a collection of a dozen or so plates of apples as an advertisement of what they themselves are ready to supply to their customers.

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Uniform Apple Boxes.

The bill introduced by Hon. Mr. Fisher to provide for uniform boxes for packing apples for export has been endorsed in committee by the House at Ottawa. The box will be equal in capacity to one third of a barrel, or ten inches deep, eleven inches wide, and twenty inches long. Mr. Fisher said it was just what was wanted in England, and had been endorsed by the Fruit-growers' Associations. Mr. Fisher should also introduce legislation providing for a Canadian apple barrel of uniform size.

The "Ben Davis Flavor."

This story will be appreciated by apple-men and fruit-growers generally. In a smaller degree it appeals to householders who take an interest in the varieties of fruit they purchase. The Ben Davis is a very good-looking red apple; it keeps well, and the tree comes into bearing early, and is very prolific. It is, therefore, a favorite with growers, but as to its quality, opinions are, to say the least, not so unanimous in its favor. In a large Ottawa restaurant recently, a diner

picked up a fine-looking apple and asked a fellow-diner, a large and experienced apple shipper, if it was not a Ben Davis. Looking it over critically, and without the slightest sensation of humor in his tone, he replied, "It's verra like it; try it, and if it tastes like a turnip, then it's a Ben Davis."—[Correspondence, Toronto News.

Pruning Tomatoes.

An experiment with a certain method of pruning tomatoes was tried at the Ottawa Experimental Farm with gratifying results. When the plants in the hotbeds had six strong leaves developed, which was on May 23rd, the tops were nipped off and the plants given more room, being placed 5½ inches apart in the frame. The object of pinching off the top of the plant was to cause new shoots to develop at the axils of the leaves, in order to have six branches bearing early tomatoes instead of the one cluster usually found on the top of the plant. These were planted out on June 6th, alongside other plants unpruned. On June 22nd, half of the pruned plants were again pruned, all laterals being taken out and the six main branches only being left; the other plants were left to grow at will, and it was found that they produced the most ripe fruit, though not the largest early crop. This system of pruning is very promising. The further advanced the axillary shoots are when the plants are set out the larger the early crop is likely to be. In the experiment this year the plants were not started nearly early enough to get the best results. While the first fruit was ripe on the unpruned, Sparks' Earliana, on July 29th, there was very little ripe on that date. The experiment was suggested by Mr. J. S. Littooy, Everett, Washington Territory, who has been pruning tomatoes in this way for some time in Washington with gratifying results, where they have difficulty in ripening tomatoes.

Two varieties were under test, the Sparks' Earliana—one of the best, if not the best—an early variety, and the Matchless, a main crop sort. We would advise all market gardeners to give this system a trial this year.

Name of variety.	Date of first ripe fruit.	Ripe fruit,	Total yield of	
		first three pickings.	ripe fruit.	
		Lbs.	Lbs.	Ozs.
Sparks' Earliana :				
Unpruned	July 29	9	84	
Pruned once.....	Aug. 13	6	127	10
Pruned twice.....	Aug. 12	18	132	12
Matchless :				
Unpruned	Aug. 4		29	
Pruned once.....	Aug. 29		73	8
Pruned twice.....	Aug. 29		62	
W. T. MACOUN, Horticulturist.				

Honest Apple Packing.

Speaking of the common habit of "topping," or overfacing, and dishonest packing generally, and making comparisons favorable to Canada, the extract from the Markets Growers' Gazette, London, England, goes on to say:

"This (honest packing) is undoubtedly the keynote of the success obtained by the Canadian, Nova Scotian and French products. We salesmen have many classes of buyers to deal with, and if growers wish to reach the best buyers they must pack a best quality, for no buyers of first-class stuff will be deluded (at any rate, twice) into buying a top layer of the finest fruit with nothing but inferior stuff below, to him worthless. If, however, this secondary fruit had been carefully and fairly packed, and sent separately, another class of buyer, the largest one, would have purchased it. This would mean much quicker sales, and, for the whole consignment, a better price. It does not follow that because a buyer should pack as though he had a conscience, he should pack without using his intelligence. When a grower grades his produce, he will pack his best fruit more carefully, and nothing we could write would illustrate the best way so well as a visit to the markets where his produce is in competition."

APIARY

Spring Dwindling.

Spring is the time in which beekeepers sustain the greatest loss by "spring dwindling." Many of the bees leaving the hive in search of honey never return, as they are often caught in bad weather. Many small beekeepers sustain quite a loss by not knowing how to extract the wax from the comb they have in those lost hives. All smooth and nice cards can be used for new swarms, but drone and uneven cards should not be used. The best plan I have ever found to make sure of getting the wax all out of the comb, is to take a coarse linen sack, and break up the comb and put it in the sack, and take a boiler or large kettle and fill it partly with water, and when the water is hot enough to melt the wax, put the sack in the kettle and squeeze out the wax with a good strong stick. Skim off the wax from the top of the water into a dish, with a little hot water in the bottom, and the sediment in the wax will settle to the bottom, and you will have a clean cake of wax to sell.

J. B. STONE.