

Early Gardening.

The essentials for a good early garden are, first, good seeds; second, a hotbed; next, a good rich, thoroughly pulverized earth. We have found it a good practice to plow in the fall, cultivate, and rib up. I have found that if the garden receives the attention it should the first two months, one is sure of success. A garden where the weeds are allowed to keep pace with the vegetables will never give the gardener much of a reward; but a small garden, well kept, is a pleasure to look at and to work in. Have a few flowers; they are restful to look upon, to say nothing of the bouquets they will afford. The more most varieties are picked, the more they will bloom. Sweet Peas, Phlox Drummondii, Nasturtiums, Mignonette and White Alyssum, if enough of the blossoms are picked so the plant does not exhaust itself growing seed, will blossom until frost comes. I sow all the flower seeds where they are to remain, except Asters, which are started in hotbed. Sweet Peas require support, such as some brush or wire netting. When my Sweet Peas commence to blossom I have a good mulch of barnyard manure put on both sides of row, and, if it does not rain soon after, I water, thoroughly soaking the earth. The mulch will keep the mixture, and you will be liberally rewarded by the profusion of blossoms. The Aster I like best is the Giant Branching. It is a little later than other varieties, but a perfect beauty. When I first started raising flowers, I bought all my seed of a reliable seedsman, buying the best varieties, but now I grow my own. I pick out the finest, earliest flowers, mark them, and when the seed ripens I gather it. I try to keep all other seed from ripening. The flowers not picked for ornamentation I pick when faded.

My first practice in gardening was to grow everything in long, straight rows, but two years ago I tried a new plan, and like it better for a small, early garden and flowers. A walk runs through it, dividing in four squares, with the flowers on either side of paths. It makes a very attractive garden. Peas and onions can be sown very early—as soon as the ground can be worked. I have had peas sown and several inches of snow come. When the snow went off, the peas were up, none the worse for the snow. It is best to buy three varieties of peas—early, medium, and later—and sow at three different times, a week apart, of each variety. After the earliest peas are picked, I clean the ground and set celery. One reason for this is that, if left idle, weeds are more apt to be neglected. The later peas I plant in double rows, leaving about six inches between. In this space I plant my cucumbers; the shade seems to be just what they need to grow in, and, after the peas are gone, the vines are there, and the weeds will be kept down. After the latest varieties I sow some winter radishes and turnips. I raise only a small amount of very early sweet corn in this garden, the bulk of it being grown where it can be cultivated with horse. As I said before, this is a small garden, for early vegetables, principally, and is by no means where all the vegetables are grown, but I can manage to get this plot worked and planted before the men have time to spare for the purpose. Although peas and onions can be planted earlier than other seed, the others can soon follow. I sow all seed far enough apart in the rows to allow a garden rake to go between. After the seed is up, after every rain, as soon as the earth is dry enough, I go over the garden with a rake. This loosens the surface soil and destroys weed seeds that are sprouted. With the exception of this, all the work can be done with a hoe. Sometimes one hand weeding is all that is necessary. I thin the rows at the same time as I weed. I have a small, three-cornered hoe which allows one to hoe very close to plants.

The earliest tomatoes I start in the house about the first of March, transplanting into hotbed about the last of the month, when I sow early. Cabbage, celery, eggplant, pepper, cauliflower, lettuce and asters are transplanted to garden as soon as weather will allow—first, cabbage, coulfloower, celery and lettuce. This leaves plenty of room in hotbed to transplant eggplant and pepper, and makes stronger plants. Set them in up to the first leaves. I do this with tomatoes, also, but do not transplant them until they go to the garden. I sow some of these last-named vegetables in the garden for transplanting later. No dates can be set for sowing or planting, as conditions differ somewhat every spring. I have always noticed that an early garden grows best. Early enough to escape frost is my plan, for some plants will stand quite a frost. Beans and tomatoes are about the tenderest, and should be left until the weather is safe. I never enjoyed

working in the garden so much as since having the flowers there. I find it a real pleasure. While vegetables are good for the health, and amply repay for the labor and money invested in seeds, the exercise in the open air is of great benefit to the woman who is strong enough to pursue the practice of doing her gardening, and, for those who are not strong, I would say a limited amount of this kind of exercise will help to build up your health and strength.

L. R. B.

Potatoes: Test of Resistance to Blight.

By W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa.

An experiment was conducted in 1905 to determine which varieties of potatoes were freest from blight, and which of those freest from blight would prove most productive. The potatoes were planted side by side on May 27th in sandy loam soil, 33 sets of each kind being used. The plants were sprayed with Paris green to protect them from the potato beetle, but no Bordeaux mixture was used. Level cultivation was adopted. The kinds planted were those which in previous years had shown themselves freest from blight, but a few less resistant varieties were used with the object of giving the disease a foothold. Thirty-two varieties were planted. The Holborn Abundance, which has been grown at the Central Experimental Farm for the past seventeen years, proved to be the most blight-resistant, as well as one of the most productive. It yielded at the rate of 816 bushels 48 lbs. per acre. About equally as resistant to blight, but much lower in yield, were: June, 189 bushels 12 lbs. per acre; Rust-proof, 118 bushels 48 lbs. per acre; Sutton's Discovery, 66 bushels per acre. Almost equally resistant were Clay Rose, 215 bushels 36 lbs. per acre; Rural Blush, 206 bushels 48 lbs. per acre, and Dr. Maerker, 158 bushels 24 lbs. per acre, and State of Maine, 149 bushels 36 lbs. per acre. The dates when the tops showed the first signs of disease, when the leaves were dead, and when the stems were dead, were all noted, and the yield per acre recorded of all the varieties tested.

The disease did eventually attack the foliage of these most resistant, and as these are all late varieties, some of them did not yield as much as other earlier kinds a little less resistant. The disease developed early this year, which accounts, no doubt, for the fact that the yields from some of the most blight-resistant but latest varieties were comparatively small. It is evident that a variety can be so late in season that it will not resist blight long enough for a crop to be developed which will equal a variety a little earlier in season, though apparently not so resistant. The potatoes from the best hills of the most blight resistant varieties were saved for the purpose of continuing this test, in the hope that by careful selection more productive and more blight-resistant strains will be developed.

Fruit and Vegetable Improvement.

During the coming season at the Central Experimental Farm, an increased attention will be given to the improvement of varieties of fruits and vegetables. In the past the attention of experts has been turned mainly to testing known varieties of plants and seeds. This work, it is understood, has been thoroughly and fairly exhaustively covered as regards vegetables and fruits which it is possible to grow at Ottawa. More attention is to be shown in the future to the production of new varieties and the improvement of the old, rather than to determining the capabilities of existing varieties. This will not be done in a haphazard way, but with a view to overcoming or eradicating weaknesses or derogatory tendencies that might make any variety become unprofitable. Selection will be the principal means used in these experiments. For instance, an important move will be to endeavor to produce a potato that will resist the destructive potato rot so prevalent last year. The first step in this direction is to choose from affected areas the best samples of the hills that resisted the disease. These are planted, and a selection made from the product until a typical variety is established. But this is, of course, but one, though perhaps the most important one, of the many factors that enter into the expert horticulturist's experiments. Mr. W. T. Macoun, Chief Horticulturist, is now laying in a store of material for the summer's work.

Some Varieties of Fruits Tried in Temiskaming District.

Editor "The Farmer's Advocate":

The best kinds of fruit I know to be adapted to this new district are: Apples—The Russian, Petofsky, Duchess of Oldenburg, Whitney Seedling; Crab Apples—Transcendent, Stodart, and World-beater. All kinds of small fruits do well. Grapes also do well; they need to be let down within six inches of the ground in fall. Berries do extra well. Gooseberries, strawberries, black currants and red do well, and all kinds of raspberries. The red plums do well; other kinds we haven't tried. Some have been planted, but are not bearing yet. Cherries and other fruits will do all right when the country gets more cleared and the soil worked up and warmed, where the sun and air can get at it.

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Spraying.

IS IT NECESSARY? DOES IT PAY?

Spraying to destroy insects and fungus pests has been done now for about twenty years, and each succeeding year sees more and better work, until the practice has become general throughout Canada and the United States, and other countries are fast falling into line.

The law is that the Experimental Schools and Farms shall aid the farmer by means of experiments, investigation of special difficulties, lectures, publications and teachings. This has been done; yet it is a fact that the majority of farmers have not been personally touched by the great enterprises. Much of the teaching is necessarily too advanced to appeal to the general farmer, yet he must be awakened and educated. How?

Farmers who do not spray are running the risk of a total failure in some crops, and a loss of profit, equal in many cases to a doubling of the crop.

For thirteen years past the Vermont Experimental Station, at Burlington, has sprayed potatoes for rot and bugs with Bordeaux and Paris green, with a result that should be conclusive. The improvement has been all the way from 60 bushels to 268 bushels per acre, and an average increase in the 13 years of 115 bushels per acre.

During this time similar work has been going on in other Experimental Stations throughout the world. At Geneva, N. Y., experimental spraying of potatoes has been carried on for 10 years, showing increase slightly less than Vermont. At the Central Experimental Farm, Ottawa, similar good work is being done each year.

Scientific knowledge is considerably in advance of the best farm practice, and the practice of the Experimental Farms throughout the country is thorough and careful, while the best farm practice is more or less careless. A want of knowledge and a lack of proper means to apply is the cause for much of the failure.

When viewing the operation of spraying from the standpoint of necessity, one is reminded of some kinds of fruit and vegetables that cannot be grown without spraying, and therefore the operation might fairly be termed a necessity. Plums, certain kinds of apples, pears, grapes, potatoes and beans—all of these in some years will prove a total failure from blight and rot unless sprayed. Other varieties of apples, peaches, beets, asparagus, quince, cucumber, melon, grapes, tomatoes, cherries, currants, gooseberries, raspberries, strawberries, and all kinds of truck, are sprayed, partly because of the necessity to save the crop and partly from the large profits that come to those who do the work of spraying well.

In no other operation is the word thorough so applicable.

There are some who will still spray with copperas, believing it to be sulphate of copper. All sulphate of copper is not of equal quality; yet how many stop to try the test?

It is very important in getting results that (a) the proper chemical to be used, (b) that it be applied at the right time, and (c) in the right manner.

There is little use in spraying scale, lice and all sucking insects with Bordeaux Mixture and Paris Green, or to spray fungi and insects that chew, with anything else. You might as well spray wild mustard in the rain on a cold day, and expect good results.

All the operations of spraying are of the same general character, and the most careful work is necessary to get proper results. Either poor or good chemicals, improperly prepared or applied, will defeat the operation.

The amount of money you will make in this operation will depend entirely on the thoroughness with which the work is done.

The cost of the operation of spraying an acre of fruit trees or potatoes varies with the size of the trees and the condition of the foliage. As a general thing, an acre of potatoes may be sprayed for 40 cents each spraying, not including labor. Apple trees will vary from 16 to 40 trees to the barrel. The cost of a barrel of Bordeaux and Paris green is: Five pounds bluestone, 30 cents; five pounds lime, 2½ cents; 6 ounces Paris green, at 20 cents per pound, 7½ cents; total, 40 cents.

The profit in fruit trees will be from 50 to 90 per cent. of the crop, depending on the prevalence of the fungi and insects. The fruit holds on better when sprayed, and will mature when free from disease, which would not otherwise be the case.

In potatoes, thirteen years shows that 115 bushels is the average improvement, which, at the average selling price of 43½ cents, would yield a profit per acre of \$50.02.

In reviewing the above facts, it will be observed that no opinion has been ventured. Only facts are stated, and only those facts that have been verified by years of competent test.

It is, therefore, fair to say that spraying is a necessity for some crops, and is a source of enormous profits when properly done.

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