

Tomato Seed Selection.

Will you, through your valuable paper, give me your advice as to which you consider the best method of saving tomato seed. I used to buy my seed, and sometimes was disappointed. Instead of getting what I asked for, I got a different kind altogether. I usually raise two or three kinds. Some kinds come up fine; another kind in the same hotbed, only half the seed would come up, so I decided to select my own seed. I tried this, with good success; my own seed came up in shorter time, and thicker than any seed I ever bought. When there are about twenty bushels of ripe tomatoes to the acre I generally take half a day and go over a three or four-acre field and select ten bushels tomatoes from the stronger and healthier plants, and take my seed from these tomatoes. I would like to know whether I am on the right track, or not, if I can keep on selecting my seed from the same tomatoes, with good success? My ideas is this: When I select my own seed, I take the best fruit I got; when I buy the seed, I think they take the fruit just as it comes, good and poor, because I never bought seed without having false plants in it. This is my twelve years' experience, with about 15 acres a year.

I. F.

Ans.—The matter of selecting tomato seed is dealt with in Bulletin 196 of the Ontario Department of Agriculture, entitled, "Tomatoes," by A. G. Turney. Most of the commercial seed used in Canada is imported from the United States. With regard to individuals selecting their own seed, Mr. Turney says:

The advisability of the grower selecting his own seed is perhaps questionable. A. W. Livingstone and W. J. Green are decidedly against this practice, their chief reason being that, while the grower may be able to select as good seed as the professional seed-grower, yet the amount of seed which he uses is so small that the expense he would incur in producing it himself would be much greater than if he were to buy the very best selected seed from reputed seed firms. Notwithstanding this opinion, I believe that more of the seed used in this country should be grown here, and that a standard and well-carried-out system of straight seed selection among farmers is highly desirable, and would materially increase the average yield and profit. The seed selection which is at present carried on to some extent is, with very few exceptions, far from what it should be. Some few growers will drive up to the canning factory and select for seed purposes individual tomatoes from the crates standing on the platform, without ever seeing the plants they were grown on. Others will select the smoothest, most uniform, and best ripened fruits in their fields, without regard to the plants they grow on. Some go a step further and take the plant, its vitality, amount and uniformity of yield into consideration. But not one grower have I met who has reserved a piece of ground exclusively for seed breeding and attempted to conduct rigid, straight seed selection. The best seed selected one year is lost track of the next year. While considerable improvement in the yield, uniformity of size and smoothness of the fruits may be confidently looked forward to from proper selection, yet the greatest return which we may look for is a decided gain in early maturity, a very important factor, in view of the shortness of the season. Some growers have already hastened the maturity of their crop some ten days in four or five years by a system of seed selection still open to improvement. Below will be found an outline of a system of seed selection aiming at improving the qualities spoken of, and which should be applicable in the case of the ordinary grower.

From the standpoints of soil, climate and market, ascertain the type of plant and fruit best suited to your requirements, and keep the type clearly and constantly before you. Presuming that you have a field of tomatoes the seed of which is true to variety and reliable, go through the field and select one or more plants which in every respect approach nearest to the ideal in your mind. Mark these by staking them. Select healthy, productive vines of which the fruit is most uniform of the desired type, for it must be remembered that the character of the seed is determined by the plant, and not by the individual fruit. Thus, the selection of an almost perfect tomato from a plant varying considerably in size and perfection is not advisable. The fruits selected should be large, but not abnormally so, the earliest to mature, smooth and well shaped. When the fruit is thoroughly ripe, but not till then, it should be picked, and the seed extracted as follows:

Cut the tomatoes in two, crosswise; slip out the seed pulp into a pail or tub; let the pulp stand twenty-four hours, then put in plenty of clean water; stir and break up the sour pulp until all the good seed will settle to the bottom when left to stand a minute; pour off the top, then out in more water, going through the same operation again and again until the seeds settle in nearly clean water. Now drain off all the wa-

ter you can; place the seed in a towel and press out the surplus water; they are then ready to spread out in the sun or some warm place to dry. Stir them up occasionally until they are thoroughly dried. In putting them away, see that they are in a safe place from mice. Label the seed plainly, recording the day of the month and the year when it was saved, and, moreover, keep the seed from each plant entirely separate.

Supposing that five plants were selected. The following spring, the young plants raised from the seed thus saved should be set out on a well-prepared piece of ground, kept entirely separate from the main crop, taking care to keep the progeny of each plant separate and to set it in separate blocks. Label these blocks plainly, and as the plants grow compare them with the original plant from which they come, and with the type in view. Select that block in which all the plants come nearest to the desired type, and which show the least variation. From that block the best plants are selected, discarding for further selection purposes all the other plants in the whole breeding patch. Such a course of selection should not be hard to carry out, and, if judiciously and carefully done, should in from three to five years result in strains of seed greatly superior and better adapted to one's own conditions than any which it is possible to purchase. The seed from the discarded plants may be used for the main crop, as it will be of a superior nature to that purchased.

How to Grow Good Strawberries.

Editor "The Farmer's Advocate":

In "The Farmer's Advocate" of April 4th, L. M. inquired about strawberry culture. The editor gave some good advice on the subject, but perhaps a little more from one who has had considerable experience in growing this crop would not come amiss.

In preparing for a strawberry patch, try to arrange to have them on nice, loamy ground, as free from weeds as possible. A plot on which potatoes have been cultivated is an ideal spot, for the frequent cultivating required to raise a good crop of potatoes will have worked the ground into a fine tilth—one of the main factors in growing a good crop of strawberries. It should have been top-dressed heavily with good stable manure in the fall for best results, but if this has not already been done, do it now, and disk it well into the ground, then harrow well. You cannot cultivate nor fertilize a strawberry patch too much, and no crop gives better returns for the amount of labor spent on it.

Get good strong plants for the first setting, and get them as near hand as possible. Plants sent by express from a long distance seldom do well. I tried getting them from a distance twice, planted them under ideal conditions, and lost the most of them. I finally got them from a nearby nursery, and did not lose a plant, and now have more than I need. After I had thoroughly pulverized the soil, I took stakes and placed them about three and a half feet apart, leaving enough room between the rows for the cultivator to run. From each stake I ran a line to the one at the opposite end of the row, and at intervals of every two feet along the rows I formed with my hands little mounds, having the top of the mound, which should be about four inches in diameter at the base, just below the level of the surrounding ground. I then took the plants and carefully placed the roots all around down the sides of the mounds, having the crowns of the plants on the middle of the top. I then sifted the soil in carefully, without too much pressure, and taking care that no soil lodged on the crown of the plant. This method of planting is somewhat tedious at first, but it pays in the end. Growth will commence almost immediately if the weather is favorable.

No matter how the planting is done, the ground should be kept loose and finely pulverized near the plants and all the way between the rows, too, if they are expected to flourish. Capillarity works horizontally, as well as perpendicularly, and soil that is hard and dry will draw moisture from that which is loose. Therefore, if the spaces between the rows of plants are allowed to become hard, they will detract greatly from the benefits of good tillage near the plants. The whole surface of the soil must be kept as fine as possible, that the moisture may be retained below. The best tools for tilling the surface soil of a berry patch are those that scratch and pulverize most thoroughly. A fork hoe or hand cultivator is excellent to use on a small plot, unless the ground has become ridged by prolonged rains, or other circumstances. In cases of this kind, a disk plow is almost indispensable; or, if you have a cotton or good start, tillage should be done with a disk and soil and big weeds, rather than a disk plow. It is almost impossible to do a better job of tilling a berry patch. The time to begin cultivation is as soon as the plants are rooted enough for them to stand a light frost, and around their roots. It is a good

take often made to wait until the ground is hard and the weeds well started. How often to hoe or cultivate the ground will have to be determined by the conditions, as there can be no fixed rule. I cultivate part of mine with the hoe at least once a week, and every time the potatoes are cultivated the horse cultivator is run through the berry patch, as well. The application of the principle of keeping the soil loose on top and moist below, is the best guide. The same applies largely to the time to stop in late summer or fall.

The success of the whole effort to grow berries depends on prompt and faithful work during the growing season. Next year's berry crop will be largely in proportion to the work done this year. It may seem to be a simple thing to cultivate a berry patch, and so it is if one has the right idea of what is good tillage and is willing to do the work thoroughly; but, unfortunately, there are many who lack in these two principles.

I think, on the whole, the matted-row system is the best, and the first year's plants should have the runners and blossoms all clipped off until late in the summer, when runners may be allowed to grow to form plants for next year's setting. I set plants every spring, and have three plots. In the first are the young plants, then the year-old ones, and finally the two-year-old ones. At the end of the second year's fruiting for each patch, I have that patch plowed up and prepared for the next lot of young plants. By following this method, I have a continuous crop of berries.

Immediately after the fruiting season I have the mower run over the patch, and all the old leaves and any stray weeds cut off. These I rake off and burn. Why this cutting off of the old leaves should be done is more than I know, but I do know that, since adopting the practice, which I learned from a friend who is an adept at strawberry culture, I have had my strawberry crop nearly doubled on the same amount of land.

After the cultivator has run over the patch for the last time, I have a small quantity of straw strewn between rows. This conserves the moisture, and helps in a degree to check weed growth. In the second year's fruiting patch I very often let this straw remain and take the place of cultivation; but, for the young plants and first-year fruit-bearers nothing is equivalent to cultivation. In the fall, after the first snow, I have straw scattered lightly over the plants to prevent exposure to heavy frost. This is removed as early as possible in the spring, and usually burned.

With regard to the kind to plant, the editor mentioned several excellent varieties. I myself have Bederwood and Family Favorite, both of which are first-class fruiters, the last named ripening in advance, and having the advantage over those plants which do not bear perfect flowers. Splendid and Williams, both mentioned by the editor, are both perfect, and can be planted by themselves. Quite a large number of others sent out by nurseries are not perfect, and require to be planted along with another variety. I would advise L. M. to write or go to his nearest nursery, describe location, kind of soil, and the use for which he wants berries—that is, home or market gardening—and let the nurseryman decide for him, as to which kind of plants would be most suitable for his location and ground.

C. C. S.

Cutworms.

Tomatoes, cabbage, sweet potatoes and other vegetables and garden plants, and especially those which are started under glass and transplanted, are subject to serious injury by cutworms. They appear sometimes in great numbers in spring and early summer, and frequently do severe injury before their ravages are noticed. The method of attack is to cut off the young plants at about the surface of the ground, and as these insects are of large size and voracious feeders, they are capable of destroying many plants in a single night, frequently more than they can devour. During the past two years, these insects, working generally throughout the United States, destroyed hundreds of thousands of dollars' worth of crops. By the timely application of remedies, however, it was demonstrated by the Department of Agriculture, through field agents and others of the Bureau of Entomology engaged in the investigation of insects injurious to truck crops and sugar beets in some of the principal trucking regions, notably in Tidewater Virginia, in Southern Texas, in the vicinity of Rocky Ford, Colo.; in Southern California; in the vicinity of Sacramento, Cal.; in Stark County, Ind., and in some other regions that these insects can be readily controlled, large areas being successfully treated. The usual method of control is by the use of poisoned baits.

Take a bushel of dry bran, add 1 pound of arsenic or Paris green, and mix it thoroughly into a mash with 8 gallons of water, in which has been stirred half a gallon of sorghum or other cheap molasses. After the mash has stood several hours, scatter it in lumps of about the size of