

lettuce, cabbage, cauliflower, cucumbers, watermelons, muskmelons, citrons, squash and tomatoes. We also have two kinds of nearly every variety, that is, a late and an early kind. Our garden is longer one way than the other, so we plant it in rows and use a horse cultivator, for a person can do as much in half an hour with the cultivator as could be done in a whole day by hand, and do it better. But if a person be pinched for room, he could grow more on the same ground by planting closer together and working it by hand.

We use a hot-bed to start our cabbages, cauliflower, tomatoes and celery, and sometimes we put in a few other things that we want to get an early start. I dig a hole in the ground about a foot deep and put in six or eight inches of horse manure and cover over with three or four inches of good earth and let it stand for a few days, then I plant the seed and cover with a window. Any old window will do. Plants will come up and grow very quickly if they are watered a little every day. We set them out in the garden when they are about three inches high, as soon as danger of frost is past and the ground is in good condition.

When the plants in the garden are high enough to see easily, I go through with the hoe and loosen up the earth about them, and once a week I go through with the horse cultivator. The first few years I had a garden I had trouble with some of the varieties getting mixed up. I would plant melons and perhaps grow citrons. Now I plant them some distance apart and the bees do not have the same chance to mix them. Different varieties of vines should be planted quite a distance apart, and it is just as easy if the garden is laid out right. We only use the same plot of ground for a garden for a few years at a time; then seeding it down for a few years.

I have no idea what our garden is worth every year in money, as we never sell very much, but I know it is worth considerable for our own use and we have some to give away. Then, every fall we have the honor of getting a few red tickets at both our county and township fairs. I don't see how any farmer, especially if he has a family, can get along without a vegetable garden.

Carleton Co., Ont.

AN AMATEUR.

### Sulphur Dust versus Lime Sulphur in Nova Scotia.

EDITOR "THE FARMER'S ADVOCATE":

The work reported at the recent meeting of the Nova Scotia Fruit Growers' Association regarding the use of sulphur dust as a protection against scab and insect attacks is rather interesting and significant. In this method sulphur and arsenate of lead in the dry state and in an exceedingly fine condition are blown on to the trees without the use of water as a carrier. A special machine is employed for the purpose, consisting of a small fan operated by a gasoline engine which blows out the powder in a dense cloud. The principal experiment was carried out on an orchard of Starks, the property of Fred Parker of King's County, N. S. Two strengths of dust were tested against lime-sulphur, both being put on at the same time and under the same conditions. The applications were made four times at the standard periods for summer sprays. For the first three applications the lime-sulphur had a strength of 1.008, but 1.007 was used in the last, because the stronger mixture caused considerable foliage burning. Arsenate of lead was used in the spray at the rate of 5 lbs. of paste to 100 gallons. The composition of the dust is seen in the tables.

Table No. 1.

Treatment	Materials.	Blemished fruit.		Apple scab		Insect attacks		Per cent. No. 1's and 2's.
		No.	Per cent.	No.	Per cent.	No.	Per cent.	
Dusted	Sulphur 85%, lead 15%	49	5.2	19	2.0	29	3.1	93.8
Dusted	Sulphur 50%, lead 15%	34	4.9	17	2.45	17	2.45	90.6
Sprayed	Lime sulphur, lead arsenate	87	6.9	2	0.2	84	6.6	88.6
Check		303	28.3	149	13.9	153	14.3	66.4

From this table it may be seen that the smallest amount of blemished fruit and the best pack were obtained on the dusted plots, although lime-sulphur gave results almost as good. Attention should be paid to the fact that the dust did not control apple scab as well as lime-sulphur, but on the other hand it gave much better protection against biting insects. The same conclusion is reached from a consideration of table II. The experiment here recorded was begun too late to put on the first summer spray, but the others were applied at the usual times in an orchard of Ribston.

Table No. 2.

Treatment	Materials used.	Blemished fruit.		Apple Scab.		Insect attacks.	
		No.	Per cent.	No.	Per cent.	No.	Per cent.
Dusted	Sulphur 85%, lead 15%	97	2.1	23	0.5	53	1.2
Dusted	Sulphur 50%, lead 15%	236	5.5	42	1.1	158	4.2
Sprayed	Lime sulphur and lead	188	16.0	28	2.4	157	13.4
Check		840	19.1	180	4.1	651	14.8

We may safely conclude from these experiments that in a season like 1916 sulphur dust will control the fungus and insect diseases of apples as well as lime-sulphur. Further experiments will be needed before making a more general statement. The dusting method has many advantages in its favor, among which may be mentioned its speed and care of application, the lower cost of the outfit, and the fact that it allows even the largest growers to cover their orchards at the critical times. It is essentially a method which will appeal first to the largest growers. Against this must be set a higher cost of materials, a difference which is, however, about counterbalanced by the saving in time. The main point which fruit growers of the Annapolis Valley would do well to remember is that sulphur dusting with all its prospective advantages has yet some time to wait until it can be proved that it will control scab under all conditions in Nova Scotia. These experiments are being repeated on a much enlarged scale in the coming season by the Provincial Laboratory of Plant Pathology, and fruit growers will be looking forward with interest to the results.

PAUL A. MURPHY.

Plant Pathologist for P. E. I. and N. S.

### Gardening For Home and Market.

EDITOR "THE FARMER'S ADVOCATE":

Our vegetable garden, which comprises about 8 acres, is located near the centre of a 100-acre farm and is divided midway by a running stream. The soil is mainly sandy loam, varying in color from yellow to a very dark and in depth from 18 inches to 3 feet. In places there is a strata of gravel with underlying quicksand. The subsoil is clay. The situation is ideal, one-half sloping to the south and the other to the north and northeast, thus permitting the production of a variety of crops. Our main crops are potatoes, strawberries, tomatoes, cabbage, cauliflowers, cucumbers, melons, onions and sweet corn. A limited area is devoted to carrots, celery, beets, peppers and other standard vegetables in about equal proportions. After the crops are harvested a liberal dressing of well-rotted manure is applied and the ground plowed with the twofold object of exposing the pupæ of the white grub, and incorporating the manure with the soil. The disc has been the main implement used in preparing the ground for planting, but we intend spring ploughing this year as an experiment.

A limited quantity of commercial fertilizer (chiefly nitrate of soda) and all the wood ashes available are used to supplement the barnyard manure. These with the exception of the nitrate are broadcasted and harrowed in just previous to planting time.

All crops are planted so as to permit of horse cultivation. We find it more profitable even with such crops as onions, carrots, etc., to space wider than is customary and use a horse in doing the work ordinarily done with a wheel hoe. With a good cultivator, a careful man and a steady horse can cultivate the smallest plants without injury. Regarding rotation and grouping of crops we have no set rule but are governed largely by soil and weather conditions. With the exception of onions we do not consider it advisable to grow any crop two years in succession on the same plot and even with onions frequent changes are likely to lessen insect injury. We aim to follow potatoes with strawberries whenever possible. Occasionally a crop of cabbage or cauliflower will come between with good results.

The proportions of the various crops vary from year to year according to the season and the probable

Gem in the open ground a month later. We plant seeds of early tomatoes and peppers in window boxes about the middle of March and a week or so later prepare the hot-beds which are ready for the seedlings as soon as they are ready to prick out. Late tomato plants are started in the hot beds early in April. The time of planting in the field varies with the seasons, but is usually from the middle of May to June 1, according to the variety. Early cabbage plants are started in cold frames as soon as the soil can be worked. We use glass or cotton covering for the frames as conditions demand. Except in very extreme weather we find cotton covers very satisfactory. Late cabbage and cauliflower plants are started in the ground in the latter part of May and set in the field about July 1.

In our experience with strawberries we have found the Senator Dunlop the best all-round variety and have discarded all others. We have secured the largest yield where quicksand is present. Occasionally we have taken two crops from a plantation, but we find it more profitable to set a new patch every year. The strawberry patch is cultivated as a rule once a week throughout the growing season, and the vegetable plots as often as possible, while the size of the plants will permit.

Returns vary according to the seasons, and the supply and demand. Both 1915 and 1916 were unsatisfactory for truck crops. Our cultural methods not being as intensive as those of the average market grower we do not expect such large returns. Under our system we would consider a net average of \$100 per acre a fair showing in a normal season. The shortage of labor will be keenly felt this year in all branches of agricultural production and particularly in vegetable growing, but present indications are that in the latter case the game will be worth the candle.

Norfolk Co., Ont.

R. E. MILLER.

### A Farmer's Garden.

EDITOR "THE FARMER'S ADVOCATE":

Our garden spot is slightly rolling. A small part is clay. About half is sandy loam and the remainder is sand and clayey sand. There are a few small limestone rocks in it, the remains of an old charcoal kiln. A small spur of the Bay of Quinte that formerly was used as a ballast track from an old gravel pit separates the garden from the house. For convenience in getting to it we built a small foot-bridge across the ravine. It is quite well fenced. There is about an acre in the plot.

We plant about half of it to mangels, sweet corn and cabbages. Then there is a small spot for potatoes, near which is a place for onions, tomatoes, carrots, kohlrabi, and rutabagas. We have about one-fourth of an acre in another place planted to Williams and Island King strawberries, Cuthbert raspberries and asparagus. We like them all quite well, with the exception of the way the Cuthberts spread. Coming up in all directions it is hard to keep a path open from which to pick them. We put in a few wild raspberries to see if they would raise anything. The first year they bore well but have been no good since. We have tried to keep a small cherry tree going in the garden, but the black-knot has managed to almost exterminate it.

We do not start our plants in a hot-bed because we haven't any yet, but we generally manage to start the seeds in a box in the house until it is time to transplant them. Last year the cabbage maggots spoiled all of our cabbages. We spend all the time we can on the garden, and yet the clumps of foxtail and everything else would surprise you. Weeds seem to grow a great deal better than good plants anyway. In the summer while the team is busy mowing I go through the garden with a one-horse cultivator. We plant beans, mangels, potatoes, sweet corn and turnips so we can cultivate them in this way. We generally have a separate plot for tomatoes. We get them planted as early as possible for the summers' "eats" and winter tomato soup; then a small spot of late ones for green tomato pickles.

Lennox and Addington Co.

CECIL LUTHER.

### The Vegetable Garden.

EDITOR "THE FARMER'S ADVOCATE":

The soil in our garden is a light clay loam. I have the garden within 30 rods of the house and sometimes closer. My reasons for having it near are twofold. First, when the women want any garden product they can get it without going far for it; and second, it is handy to work at, for when I have a few minutes to spare I can go out and hoe or do anything in the garden when it would not be worth while to go any distance to work. We do not go into gardening as extensively as we might. We merely grow enough for our own use, as we are quite a distance from a good market town. Our garden contains about a quarter of an acre, roughly speaking, including a strawberry patch, which is plowed up every year or so and set out afresh where the vegetable part of the garden was. I grow onions, beets, cucumbers, tomatoes, carrots, radishes, beans and a few early potatoes. Also some years I grow squash, citron and watermelon. I plant my vegetables in rows about ten to twelve inches apart and use a hand cultivator; I find that this works fine. I use a narrow hoe to take the weeds from between the vegetables. I plant my strawberries so that I can use a horse cultivator to clean them. I do not use a hot-bed but have often thought of doing so, but as I do not exactly know how to prepare one I have deferred using one. I should be glad if the readers of this would give me some information in regard to making hot-beds through your columns. I use the hoe and cultivator freely in the summer, and in a dry time I water the garden with hose attached to a pump.