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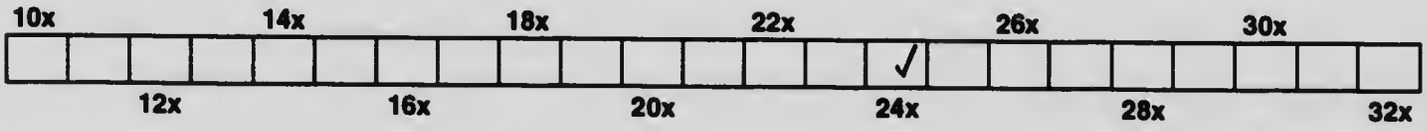

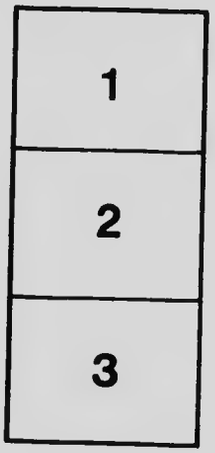

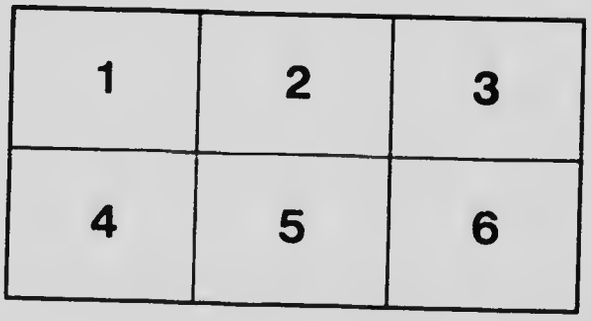

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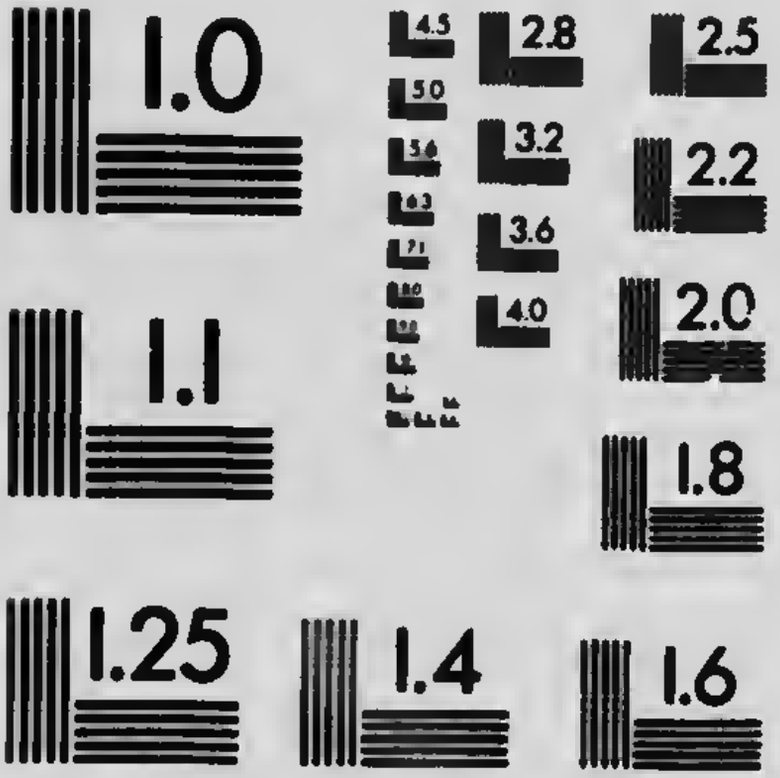

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PROVINCE OF NOVA SCOTIA.

COLLEGE OF AGRICULTURE.

TRURO, N. S., 1917.

M. CUMMING,
PRINCIPAL.

P. J. SHAW,
PROV. HORTICULTURIST.

STRAWBERRY CULTURE.

L. D. Robinson, Berwick, N. S.

Introduction.

Without doubt, the strawberry is the most popular fruit produced in Canada—the most popular because it is the best No other delicacy can compare with it, except strawberries and cream Henry Ward Beecher but voices public sentiment when he says: "Doubtless had God tried to do so, He could have made a better berry than the strawberry, but it is equally certain that He never did." The strawberry is the gardener's pride, the epicure's delight and a joy to all.

It is the first fruit to ripen and thus it is welcomed by us as a pledge of the good things to follow. Not only is the strawberry the best fruit of all but it is within the reach of all. Nothing planted in the garden gives surer return for labor. A small patch of strawberries well cared for will supply the wants of a family with a luxury unsurpassed.

History.

Of all the fruits, the strawberry has the widest range. In its wild state it is found widely scattered over the temperate zone. In Canada, its domain stretches from the 60th. degree in the north to the boundary on the south; and from the Atlantic on the east to the Pacific on the west and where the wild varieties abound, the cultivated are sure to flourish.

The evolution of the cultivated varieties is somewhat modern in comparison with most of our cultivated fruits. Though under cultivation in gardens for centuries, little improvement had taken place in the strawberry previous to the 19th century. It was still little better than the wild varieties.

In the early part of the 19th century, however, a marked advance was made by mating the Chilian, a wild species inhabitating the west coast of America, with another wild species inhabitating the east coast. The result was Keen's Seedling, exhibited in London in 1821, as the finest berry of the age. Keen's Seedling became the ancestor of most of the English varieties.

But the English varieties did not take kindly to American soil, and attempts were made, on this side, to originate a variety better suited to our soil and climate. In 1843 the Hovey appeared. This berry was a wonderful improvement on all varieties hitherto known in America, and it held first place until outclassed by the Wilson in 1857.

This wonderful berry held its place as the best commercial variety for more than a quarter of a century. Finally, however, it, too, was forced to give way to still more wonderful creations. Today there are hundreds of varieties that far excel the Wilson in size, quality and productiveness.

During the past one hundred years the strawberry has increased in size, from that of a cherry to the size of a plum; and improved greatly in quality and productiveness. We are still, however, looking for the ideal strawberry.

Soil.

The strawberry is not fastidious as regards soil, providing it is well drained, and not likely to bake. It usually succeeds well on any soil suitable for growing potatoes. Its natural place in a rotation is after a hoed crop.

No single factor in strawberry growing is so important as the maintenance of an abundant supply of moisture, especially during the fruiting season. It is important, that the soil for strawberries should be naturally moist; still more important that it should contain an abundant supply of humus, for it is upon that reservoir of moisture that the strawberry must depend in times of severe drought.

Fertilizers.

The soil for strawberries should be made much richer

than for most farm crops. Not that the strawberry removes larger quantities of plant food from the soil than these—quite the reverse. A ton of timothy hay, for example, removes fully five times as much plant food from the soil as a ton of strawberries. Yet the soil must be made very much richer for growing strawberries than for timothy hay. This is doubtless accounted for by differences in habits of their growth as well as by the very heavy demands made upon the strawberry plant, in the latter part of the fruiting season.

The value of humus in conserving soil moisture has already been pointed out; but humus does more; it warms, sweetens and mellows the soil. By its decomposition, nitrogen, phosphoric acid and potash are set free, and last, but not least, it is a liberator of the dormant plant food in the soil.

Stable manure owes its great superiority as a fertilizer, not so much to the plant food it contains, as to its rich supply of humus making material. No single fertilizer surpasses stable manure in strawberry growing. When used alone, 30 to even 40 tons to the acre may be used to advantage. When the soil already contains sufficient humus, 15 tons of stable manure supplemented by 500 lbs. of bone, 500 lbs. acid phosphate and 300 lbs. muriate of potash should give equally good results. When the ground contains very large supplies of humus from previous heavy applications of stable manure or plowing in cover crops, excellent crops can be had from the use of 1000 lbs. bone, 1000 lbs. [illegible]sphate and 400 lbs. muriate of potash to the acre.

Preparation of the Soil.

The strawberry crop is one of the most expensive that the farmer can raise. It requires heavy applications of fertilizer, costly plants and extensive cultivation. Thus the preparation of the seed bed, always important, becomes doubly so in strawberry culture. Deep plowing, late in the fall, is recommended partly because it improves the tilth of the soil and frees dormant plant food and partly because it exposes white grubs and wireworms to the frost.

The plot shall be plowed again in the spring, as soon as the soil is fit and thoroughly pulverized to a depth of several inches. It should now be levelled with a heavy plant drag, which is much better for this purpose than the roller; for the drag crushes lumps while the roller sinks them.

Plants.

It usually pays the grower to produce his own plants; for home grown plants as a rule are cheaper, fresher and truer to name than when bought. The best plants are those taken from the new bed nearest to the parent plant: the worst, those taken from the old bed. It is best, on the whole to dig up the entire row and then sort out the weaker plants. Cutting the roots back to about two-thirds their length will facilitate planting and lessen transpiration of moisture

When plants come from a distance, they should be immediately unpacked and moistened; and in case the ground is not ready to receive them, heeled in and the soil pressed firmly about their roots.

Pollination.

Occasionally, complaint is made that, "my bed produces nothing but nubbins." Sometimes this condition is brought about by late frosts or too much rain during the season of pollination. But lack of stamens to produce sufficient pollen is usually the explanation.

There is sex in the vegetable as well as the animal kingdom. The male organs of flowers are called stamens, and the female organs pistils. The pistil is adhesive and receives grains of pollen or flower from from the stamens through the agency of the wind or insects and thus the ovary is vitalized, and the fruit begins to develop.

When blossoms contain both stamens and pistils, they are termed bisexual, staminate or more commonly, perfect. When blossoms contain pistils, but lack good stamens, they are said to be pistillate or imperfect.

It is very important, when planting an imperfect variety of strawberries, that every third or fourth row should be of some perfect variety corresponding in season with the former. It is often better to use a mixture of fertilizing varieties rather than a single variety.

Planting.

The writer has found the following method of planting rapid and in every way satisfactory. Rows are carefully staked off, three feet apart, and a cod line stretched tightly between the end stakes close to the ground. A man with an ordinary round pointed shovel follows this line, making holes 15 to 24 inches apart, according to the tendency

of the variety to produce runners. In making the holes he drives his spade down to a depth of about five inches and in the act of withdrawing it pulls it towards himself so as to deposit a wedge of earth as near the hole as possible.

A boy with a basket of prepared plants follows, dropping a plant close to the vertical side of each hole. The setter deftly grasps the plant between the thumb and fingers of the left hand, places it against the vertical side of the hole with the terminal bud just above the surface of the ground; and then with his right hand forces the wedge of earth into its place. A quick motion in transferring the plant to the hole, will usually suffice so far as spreading the roots is concerned.

Cultivation.

If the object in the preparation of the seed bed is to render the soil congenial to plant life, then the aim of all subsequent cultivation should be to maintain those conditions. In strawberry growing, cultivation should begin as soon as planting has been finished. At first, the cultivator should be run somewhat deeply so as to re-mellow the soil trodden down by planting. Later, cultivations should be shallow; the main object being the destruction of germinating weeds, and the maintainance of a dust mulch. Experience has shown that this result is best obtained by running the cultivator lightly at intervals of ten days and after each rain.

When the rows are evenly spaced very little hand work will be necessary until the runners need attention. These should be trained into the rows and a little earth placed on them to hold them in place, until a row has been formed eighteen inches wide, with plants four inches apart All later runners should be destroyed. It is difficult to keep matted rows free from weeds, but it must be done. A bumper of berries was never taken from a weedy patch.

Spraying.

Leaf blight or rust is yearly becoming more troublesome, especially on light sandy soils. Much of the damage usually attributed to drought is caused by this disease. For, like drought, strawberry blight causes the leaves to wither and the berries either to ripen small or dry up. The first indications of this disease is the appearance of circular, reddish spots on the leaves early in the season. As the disease develops, the spots grow larger and finally a new crop of spores is produced that in turn attack the leaves.

Bordeaux mixture has proved very effective in controlling this disease. It must be borne in mind that this remedy is preventive, not curative. It should be applied thoroughly in the spring, just as the new leaves start and again when most of the blossoms have fallen. The strength recommended is 4-4-40. Young plants, too, are often greatly benefited by two or more applications of Bordeaux during the growing season.

Mulching.

Complete success in strawberry growing cannot be attained in Nova Scotia unless the patch is well mulched. Mulch is necessary both as a winter protection from freezing and thawing and also as a summer protection from drought.

The best materials for this purpose are rushes, straw and coarse hay in the order named. The mulch should be applied at the rate of not less than three tons to the acre, as soon as the ground is frozen sufficiently to bear a team. Great loss frequently results from neglect of this caution.

In the spring, when the plants show signs of growth, part of this covering should be raked between the rows. A slight covering that the plants can push their way through is of great benefit in times of drought.

Varieties.

In the choice of varieties, the soil, the climate and the market must be considered. Varieties that under certain conditions have proved profitable may under changed conditions prove worthless. The beginner should be guided in his choice more by the advice of growers in his vicinity than by catalogues. If his land is early, he may find it profitable to plant some of the early varieties, Warfield, Beder Wood, Senator Dunlap. On the other hand if his land is late, he may find it more profitable to plant some of the later varieties, Sample, William Belt, Commonwealth or Brandywine.

The writer has found the Senator Dunlap a very profitable berry. It is among the earliest and best. It is vigorous and a great yielder. It produces large berries and does not blight badly. It has perfect blossoms.

Profits.

In estimating the profits from growing an acre of strawberries, as given below, it has been assumed that at least

half of the value of the manure used will be available for future crops. No credit is given for the undoubted value of the mulch and vines as humus making materials for succeeding crops. Four thousand quarts to the acre is considered a fair average crop in the preceding article. Ten cents per quart is the average net returns received by the writer for the past two years.

	Dr.	Cr.
To Rent of land for two years	$ 14.00	
Value of fertilizer used	30.00	
Hauling and spreading 30 tons stable manure	15.00	
Plowing, harrowing and levelling	8.00	
Plants	30.00	
Planting	10.00	
Cultivating and weeding 12 times	30.00	
Mulching	20.00	
Crates	19.00	
Boxes	14.00	
Picking and hauling to station	60.00	
Balance, (profit)	150.00	
By 4000 boxes at 10c		$400.00
	$400.00	$400.00