

place to prevent sprouting. When the potatoes sprout, as they usually do when stored in the cellar, the shoots take from the tubers both plant-food and moisture and leave the sets for planting in a weakened condition which cannot possibly give the same result as sets which have been properly stored. Even potatoes which have been stored to prevent sprouting and yet have been handled over during the winter do not give as strong plants as when they are not handled. Potatoes are frequently stored in a pit or a cool, dark cellar and left there until two or three weeks previous to planting. They are then taken to the barn and spread out where they will have free circulation of air over them without being in the direct rays of the sun. A strong, green growth starts from the eyes instead of the slender white growth produced in a warm cellar. These sprouts seldom attain growth enough to be injured in handling and the tuber has not been robbed of any plant food or moisture by excessive growth previous to planting, consequently a stronger and quicker growth is secured.

Potato Scab.

This disease is universally known and causes considerable loss in some districts every year. If scab is noticed at all on the potatoes they should be treated before cutting for planting in order to prevent the propagation of the disease. An effective method of soil treatment is rotation of crops which avoids planting a susceptible crop on the soil for a period of six or seven years. It must be remembered that the disease may be produced on beets, carrots and mangels as well as on potatoes. Alkali in the soil is favorable to the growth of the fungus, while acidity is not. Turning under a green crop and good drainage assist in decreasing the amount of scabby tubers. The use of lime, ashes or manure from stock which have been fed on potatoes affected with scab should be avoided. Treatment for potato scab consists in immersing the tubers for two hours in a solution of one pint of formalin in thirty gallons of water, after which they should be put in clean sacks or bins that have not contained scabby tubers. This treatment should be given before potatoes are cut as it is claimed that formalin applied to the cut surface will weaken the germination. Corrosive sublimate may also be used for destroying the scab. Four ounces are dissolved in four gallons of hot water and allowed to stand for a time then the solution is made up to thirty gallons. The tubers should be soaked for one and one-half hours. If corrosive sublimate is used it must be remembered that it is a rank poison and any potatoes left after treatment should be destroyed as they would be fatal to humans or stock. Thirty gallons of either solution is sufficient to treat about forty bushels of potatoes. These treatments will also control the Rhizoctonia disease which is becoming quite prevalent in some sections.

Powdery scab might be confused with the common scab, but as yet this disease is not known to any extent in this country and every effort should be made to prevent it gaining an entrance to our potato fields. Only seed that is known to be free from disease should be planted and if there is even a slight suspicion the seed should be treated as for the common scab. There are other diseases which winter over in the potato and may be seen at time of cutting the seed. Potatoes with dark rings or discoloration should not be planted as some fungous disease may be wintering over in the tuber that would infect the field if planted in the spring. Potato growers cannot be too careful regarding the seed they plant.

Cutting Seed for Planting.

Some growers take particular pains in cutting the potatoes for seed. The work must be done just so, and is never entrusted to the boys or hired man. The seed end was considered useless for seed, consequently it was thrown away and the remainder of the potato cut at a certain angle in order to ensure growth. This custom is fast disappearing. Where a large acreage is planted a machine is used which is regulated to cut the sets a certain way, regardless of size, shape, or number of eyes of the potato. For most satisfactory work with the machine, the tubers should be uniform in size and shape. It is a time saver, as one man with a machine can cut six or seven bushels of seed per hour which is sufficient to keep a planter going steadily. The stand of crop from sets cut with the machine is about equal to that secured from seed carefully cut by hand.

While the size of sets for planting varies from a thin portion, not much more than a peeling, with one eye on it, to whole potatoes, the aim should be to leave the set as thick as possible opposite the eye. At least one eye must be left to a set but it is safer to leave two. Sufficient plant food must be stored in the set to give the young plant a start. Too many eyes to a set has a tendency to increase the number of tubers that form, and unless the soil is very fertile, and weather conditions favorable, the crop may consist of many small potatoes. There appears to be little advantage in planting whole potatoes and the cost of seed is considerably increased. The amount required to plant an acre varies from ten to as high as twenty-six bushels, depending on the size of sets and distance of planting. Having the rows three feet apart and the sets fourteen inches in the row, thirteen bushels of one-ounce sets would be needed. If the sets weigh one-and-half ounces, from eighteen to nineteen bushels would be required. Fourteen bushels is about the average amount planted.

Freshly-cut tubers should be kept out of the hot sun as much as possible and when planted should be covered quickly, in order to prevent moisture evaporating from

the tuber, if the strongest plant is to be obtained. If conditions are favorable a callous soon forms over the cut surface which prevents loss of moisture. Freshly-cut seed will soon heat if left in a bag or pile. If planting cannot be done the same day as the cutting, the seed should be spread out thinly in a cool place and out of the direct rays of the sun. If the seed heats there is danger of weakening the germination. It is a good plan to plant the seed as soon after cutting as possible. Some growers sprinkle land plaster on the freshly-cut seed as they claim it aids in keeping the seed in good condition and increases the yield.

The time of planting for the late crop depends on the condition of the soil and the locality. Potatoes are better not planted until danger of late frosts is past. The young vines are tender and freeze easily. If there should be danger from frost, after growth has started, the plow can be used to cover the plants with earth to protect them. The ground should be warm before the potatoes are planted so as to start growth quickly. If the sets remain in the ground too long before sprouting, there is danger of them rotting or else sending up only a spindly stem. The proper time for planting will have to be decided by the individual on his own farm. From May 20 to 24 is potato planting time in many districts. Late plantings escape the severe attacks of the bug, but this shortens the growing season, as early fall frosts frequently cut the season short at that end. For late varieties the longer the growing season the larger the crop.

Potato Planting.

The distance apart to have the rows, or thickness to plant in the rows is difficult to state, as there are several influencing factors. Potatoes may be planted closer on a rich soil than on a poor soil. If the rows are about thirty-three inches apart, either a one or two-horse cultivator may be used well on in the season, and there will be plenty of room for spraying. Most varieties will completely cover the ground at that distance. In the rows, the sets are dropped all the way from eight to twenty inches apart, but with most varieties on the average soil about fourteen inches is considered the most economic distance.

The proper depth to plant will be regulated somewhat by soil conditions. The surface soil is warmer than that lower down, consequently shallow planting gives more rapid growth than deep planting. For the early crop, two or three inches would be deep enough but the average depth for the late crop on a loam soil is about four inches; on heavy clay it might be advisable to plant a little shallower. Surface cultivation may then be given until growth commences. At three or four inches deep, well-prepared soil is usually moist which aids in forcing a continuous growth. On a soil that dries out rapidly potatoes should be planted deeper than that mentioned.

The usual custom is to plant in drills, although growers frequently plant in hills about thirty inches apart each way. This method permits of more thorough cultivation with implements, thus lessening the work with the hoe. Where only a small acreage is planted, the potatoes are usually either plowed in or planted in drills made by the ordinary plow, or double-mold-board plow. On a heavy clay soil the drill method is preferred, but on a good loam or sandy soil the potatoes may be dropped in every third furrow when plowing at planting time, after which the soil is given surface cultivation and a good crop usually results. If potatoes are plowed in, it is a good plan to attach a jointer or skimmer to the handle of the plow, just behind the shoe in such a way that a little soil from the land side is scraped into the bottom of the furrow, which gives loose soil for the sets to rest on.

The use of the planter is gaining in favor, as it does the work in a satisfactory manner and is a labor-and-time saver. There are two types of machines. One is known as the picker type, the other as a two-man type. With the former the sets are picked from the seed box by steel points attached to a revolving wheel and are dropped in the furrow made by a shoe attached to the machine, and then covered by two disks. If the sets are uniform in size and blocky in shape, there will be very few blank places in the field. The other type of machine is fitted with cups which carry the sets down and drop them in the furrow, where they are covered by disks. In order to operate it successfully one man is required to drive and another to see that there is a set in every cup. Some growers prefer one type, some the other. It is claimed that it costs about two dollars less to plant an acre with a machine than it does by hand.

After planting, the harrow or disk may be used to prevent weeds or grass from getting a start and at the same time a dust-mulch is formed which aids in preventing loss of moisture. As soon as the growth is sufficiently high to follow the rows, the horse cultivator or scutler may be used. It is a good plan to cultivate deeply and close to the row the first time, as it is the last opportunity of a deep loosening of the soil. Subsequent cultivations should be shallow to avoid root injury. It pays to give the crop frequent cultivation during the growing season.

A few potatoes of an early variety should be planted on every farm besides the regular acreage of the main crop. An endeavor should be made to prepare the soil and select the seed so that the crop will have every opportunity to produce a large yield of good quality potatoes, even if it is only for home use. Seed selection and careful soil preparation are the first steps toward insuring a profitable crop. There are enemies of this important crop which must be guarded against. If some of the known potato diseases of other countries secure a footing in Canada it may result in serious loss. If every potato grower would carefully select the seed

used for planting, pay special attention to soil preparation, and guard against the crop becoming infected with disease, the average yield and quality of potatoes for this country would soon be largely increased.

THE DAIRY.

Eastern Dairy School Exam. Results

The following is a list of students ranked in order of merit who successfully passed their examinations at the Eastern Dairy School and will be granted diplomas after proving their ability by operating a creamery or cheese factory satisfactorily this season:

HONORS—Fred Hudson, Kingston; Wm. Wright, South Mountain; Fred Murray, Kemptville; D. McDougall, South Indian; J. W. Bolton, Ormond.

SECOND CLASS—A. W. Morrison, Rockspring; J. W. Tordiff, Brooklin; J. B. Mercier, Jasper; E. G. Wilson, Wilton; James King, Almonte; C. Ogle, Kingston; W. C. McEwen, West Brook; F. W. Standish, Clarence.

PASS LIST—F. Pattemore, Frankville; A. J. Sullivan, Plantagenet; W. R. Tordiff, Brooklin; H. Stinson, Burridge; C. H. Lee, Lindsay; W. G. Davidson, Glasgow Station.

Give Her a Second Chance.

It is not always well to condemn a cow on one year's performance. A few years ago Prof. G. E. Day, of the O. A. C., Guelph, imported a number of milking Shorthorns from England. Among them was a white cow, Golden Rose. She looked like a producer, was built on the proper lines of a dual-purpose cow, and was admired by followers of the breed who saw her; but during her first year in Canada she produced only a little better than 6,000 lbs. of milk, which was not up to expectations. But 6,000 lbs. is a fair quantity for a cow of the real dual-purpose type and carrying considerable flesh. However, she was kept in the herd, judiciously fed and cared for, and she has recently completed a test which has broken the Canadian record for a Shorthorn cow by giving 12,410 lbs. of milk in 365 days, testing an average of nearly 4.6 per cent. fat, yielding over 565 lbs. of butter fat. Before discarding any of the cows from the herd, it is well to be sure that they have done their best under favorable conditions. Occasionally a cow aborts, and rarely, following an abortion, will she do herself justice in milk production. Selling the cows from the herd is not the way to get rid of the disease, nor is it fair to the cows from the standpoint of milk production unless they fall down very badly. Seasons of poor pasture and short feed sometimes work against production, but these should be brought down to the minimum by the use of soiling crops, annual pasture, and summer silage. If the cow looks right and is fed right, she should produce; but it is sometimes better to give the fair cow a second chance to prove her worth.

POULTRY.

The Table - Egg Duck.

EDITOR "THE FARMER'S ADVOCATE":

We all know the story about the hen that believed in advertising. She could never lay enough eggs to supply the demand, while the more modest duck laid her eggs at night and in strange places. She uttered no proud quack to mark the spot, and therefore, saw her wares but seldom upon the shelves of commerce. While many a flower is born to blush unseen, it was inevitable that the Indian Runner would find champions to sing its praises. This slim, graceful, little fowl possesses a wealth of merits, the least of which is its modesty, and it is time that it should be given a rightful place in the honored list of producers.

Comparisons are not usually in good taste, but in no other way does the Indian Runner show to such splendid advantage as when compared point by point with the hen. You can do this mentally as you read. To start at the very beginning, she can spare no time to sit, so she goes ahead and lays, paying the hen's board while she raises her young. After the usual ninety per cent. hatch comes off, the ducklings waste very few hours in their race for full-fledged duckhood. They are willing to get up several times in the night to eat, so that in ten weeks they are full grown, having had no set backs due to lice which have no terrors for them. The drakes are now ready for market, and average about four or five pounds—flesh very tender and sweet, a feast for an epicure. From now on, if given the same care as chickens, the ducks will lay at five months of age, and keep it up until the flock has produced over 150 eggs for each duck. They will thrive and remain in the best of health if given only shelter from drafts, a trough of sand and water, and a handful of mixed grains night and morning. This will see them through the most severe winter. In February feed a mash once a day of bran, shorts, cornmeal, some chopped green stuff and meat scraps in the proportion of 3, 2, 2, 1, 1, and you will very soon be rewarded by a quantity of pure white eggs, larger than the biggest hen egg. Fry them, poach them, try them your favorite way, and you will have a delightful surprise awaiting you—not a trace of "duckish" flavor, but mild and amply satisfying. Containing less water than does a hen's egg and a much richer albumen and yolk, you will find that you need