

SEED GROWING

The Kind of Crop to Grow and How to Grow It—
An Opportunity for the Ontario Farmer

In 1913 the farmers of Ontario will require 1,000,000 lbs. of root seed, made up as follows: 304,000 lbs. mangels, 222,500 lbs. sugar beets, 286,000 lbs. turnips, 8,586 lbs. carrots. Formerly these seeds came from England, France and Germany. This year those imports will be almost entirely cut off. The German supply, of course, will be entirely checked, while France and England engaged, as they are, in a momentous world struggle, cannot supply us as they have in past years.

Hence, at this time, it appears to be not only the duty, but the opportunity of the Ontario farmer, as it has never been before, to supply root crop seed for our own consumption. It has been proven in the past that seed can be grown very successfully in Ontario. It has been shown by numerous experiments conducted at the McDonald College in Quebec, at the Ontario Agricultural College at Guelph, and in various places by the Dominion seed branch, that a finer quality of seed can be produced in Eastern Canada, than that which we have been importing from Europe. The supply of seed, it is said, will be ample for this year's crop. In 1916, the real effects of the shortage will be manifested. Whether it will be a desirable thing for very many farmers to go into seed production on a large scale or not, is a debatable question, but in view of existing circumstances, any farmer cannot go astray by producing enough seed for his own use.

Mr. Paul A. Boving, in charge of the root crop investigation of the Cereal Husbandry Department of the McDonald College, Quebec, has conducted very complete experiments in growing seed, and gives some very instructing reports as to his methods. It has been found that the quality of the root seed offered on the Canadian market, is not always the best, either in regard to truthfulness of type or to percentage and vitality of germination. Moreover, it is false economy

fully. They should be stored immediately after being raised, in a cool but not too dry place. Where a good root cellar is available it is advisable to store them there, if possible in a standing position, and surrounded in peat soil, or moist sand. Otherwise it is better to store them in an outside pit on well-drained ground. The pit is made about 6 feet wide, and the roots are piled up 3 feet high with slanting sides, so that the covering material will not slide down. After piling, the pit is immediately covered with a thin layer of straw, just enough to keep a 4-inch layer of soil from falling in among the roots. The top of the pit is left without any soil, so that the heat may escape more readily until the weather gets colder. When it comes to freeze, the pit is further covered with 6 inches of straw, followed by 6 to 8 inches of soil, and when zero weather sets in, it must finally be protected with a layer of straw manure.

Seed roots do not stand drought very well, and many growers, therefore, prefer to place the pit on or at least in the vicinity of the next year's seed field, in order to shorten the haul from pit to planting place. In this connection, it might be well to remember that the planting of the seed roots in spring time should be done on a cloudy



A False Forest Set Up to Conceal a German Position.

This illustration, from a German paper, has a special interest as affording an instance of the painstaking care the enemy take to conceal their positions of importance. The locality is stated to be in the Western war theatre. In order to create a background for the trenches at that point, and to serve as a screen for something else behind, in all likelihood a battery of big guns, a sparsely growing copse of straggling fir trees on the spot has been artificially thickened by transplanting fir poles and trunks brought from elsewhere in the neighborhood. The result of the process is to produce the appearance at a short distance of a dense, close set wood of growing fir interspersed with larches which are naturally bare in winter.

barn. After that they should be threshed as soon as possible. The seed is cleaned with the fanning mill, and with the aid of hand sieves, and is then spread out in thin layers. It should be stirred daily until quite dry to prevent heating. After that it may be stored away in bags.

In laying plans to grow his own root seed, a farmer will want to know how many roots he will require. Professor C. A. Zavitz, of the Ontario Agricultural College, Guelph, has found, by experiment, that plants yield on an average as follows: Mangels, 6.6 oz.; carrots, 2 oz.; swedes, 4.5 oz.

It would not be too much, perhaps, for a progressive farmer to plant two or three hundred mangels, turnips or other roots. From these he can obtain seed for himself and his neighbors. Three hundred mangels should produce about one hundred pounds of good seed, and, if care is taken in selecting shapely mother roots for transplanting, the quality of the seed will be much superior to that which is imported. From The Canadian Countryman.

THE SUNDAY SCHOOL LESSON

INTERNATIONAL LESSON.
APRIL 25.

Lesson IV. — David and Goliath.
1 Sam. 17. 1-54. Golden Text, Rom. 8. 31.

Verse 38. And Saul clad David with his apparel—A military dress to which a sword was attached. It would seem that David was almost as large as Saul. Otherwise Saul surely would not have put his armor on the boy. David undoubtedly rattled around in the unusual and unwieldy corselet and helmet. This was due rather to his inexperience than to his size.

39. I cannot go with these: for I have not proved them—David knew nothing about warriors' garments, particularly the equipment of a king. For the moment his boyish pride was quickened as the king put his weapons in his hand. But only for the moment. He knew that he could not fight thus weighted down and handicapped. So he put them off with the respectful excuse to Saul that he had not proved, or tried, such a coat and helmet and sword.

40. Took his staff in his hand—Not to fight with, but because he always carried it with him. Even if he did not lay it aside when he was ready to use his sling, it would be no impediment, but rather a help to him. The weight in one hand would balance the weight in the other.

Five smooth stones out of the brook—He was sure of himself, but he intended to take no chances. He would not risk the battle on one throw or two or three. The brook near the scene of battle was full of smooth and rounded pebbles, the very kind David had used many times, doubtless, in his sling.

His sling—The shepherds of Syria were all used to the sling. Even left-handed men were experts. In Judg. 20. 16 we read: "Among all this people there were seven hundred chosen men left-handed; every one could sling stones at a hair's-breadth, and not miss."

41. And the man that bare the shield went before him—Goliath was so heavily equipped that he could not carry all his implements of the battle.

42. He despised him—See Prov. 16. 18: "Pride goeth before destruction, and a haughty spirit before a fall."

43. Am I a dog?—The dog even in Palestine is ill esteemed. I will give thy flesh unto the birds of the heavens, and to the beasts of the field—The anger of Goliath seemed to drive him to the use of poetry. Professor Kirkpatrick calls attention to Hector's defiance of Ajax in Homer's "Iliad," 13. 821.

Thy flesh—Shall glut the dogs and carrion birds of Troy. I come to thee in the name of Jehovah of hosts—A childlike faith such as could be the inspiration of the Shepherd Psalm.

46. That there is a God in Israel—A God who is worthy of Israel (see 1 Kings 18. 36).

47. That Jehovah saveth not with sword and spear—This was a conviction of the Israelites (see 1 Sam. 2. 1-10; 14. 6; Ps. 44. 6, 7; Hos. 1. 7; Zech. 4. 6). It is the experience of all who trust God. (See especially 1 Cor. 1. 27, 28).

48. Ran toward the army—That is, toward the battle line of the Philistines. David did not wait for the giant to approach him. The suddenness, as well as the swiftness, of David's movements must have taken Goliath at a great disadvantage.

50. Smote the Philistine and slew him—David must have struck some exposed part of Goliath's head.

51. And when the Philistines saw that their champion was dead, they fled—In verses 4 and 23 the word used is "champion" in our sense; here "champion" means "mighty warrior." The strongest man of the Philistine's had. As soon as he was dead hope left the Philistines and they fled.

Yawn for Your Health.

Doctor Naegeli, professor of medicine at Liege University, commends the practice of yawning as a physical reviver. A good yawn, the professor maintains, is excellent for the lungs, and for all the breathing organs as well. But there is an art in yawning, he says, just as there is an art in breathing. Every yawn should be as deep as possible, so as to bring all the muscles of the throat and chest into action and also to fill the lungs with a current of fresh air.

Doctor Nageli has known of many cases in which a sore throat was alleviated by persistent yawning.

Murphy Flushed.

He was an ardent lover, and a practically penniless lover. It was St. Patrick's Day. In his hand he bore a pot of real Irish shamrock. "They were raised in the old sod," he said, as he presented the pot to Biddy, "raised in the old sod of Ireland." "Shure, now, Murphy," cried his lady in delight, "how really sweet of ye it is. How perfect they are and how fresh. Shure, I believe that there's a little dew on 'em yet." Murphy flushed slightly.

"Begorra, I know there is," he reluctantly confessed, "but praise heavens it'll be paid to-morrow."

Worry is a bad bed-fellow. Kick him out.

Teacher—Willie, what is your greatest ambition? Willie—To wash mother's ears.

Willie was called in from his play to see his twin sisters. Willie had never heard of twins. He turned to the nurse. "Who is the other one for?" he asked.

"Well," declared the man who had been looking over the law, "there seems to be a penalty for everything except stealing a man's daughter." "Oh," said his friend, "there's a penalty provided for that too." "What is it?" "Hard labor for life."

HOME

Nourishing School Lunches.

During the period of school life, there is great activity as well as constant development and growth of the body, all of which has to be provided for in considering the food. If care is not taken at this time, the foundation is laid for future weakness and disease. The food must be abundant and well cooked, and all the food principles should be supplied. Monotony should be avoided.

The school luncheon takes the place of the noon meal at home, and should be substantial and attractive. Many lunches that are now discarded would be eaten if they were attractively arranged. Of all the containers for carrying lunch the paper bag is probably the best. The pasteboard or paper mache boxes are hard to keep in a sanitary condition. A tin pail is one of the best carriers as it keeps the food clean, and prevents drying. If used, it should be scalded each day.

The thermos lunch box has compartments which are very convenient and a thermos bottle for carrying hot cocoa, milk or soup. The first cost is high, but with good care it will last indefinitely. This, of course, should be aired and scalded after using. Sandwiches form a part of every lunch and fortunately there are numberless kinds that may be made. Two kinds may be made each day; one of meat or eggs or fish, and the other of some sweet.

Meat is rather more acceptable if finely minced and mixed with salad dressing than if sliced. Fish may be flaked and mixed with milk, lemon juice, pimento, or salad dressing. Cheese may be mixed with nuts. Green peas, greens, or baked beans may be mashed and seasoned, and prunes, figs, raisins and dates, may be chopped and spread alone or with nuts. The bread for sandwiches can be varied by the use of nut bread, graham or oatmeal. The home-made bread is best; it should be cut thinly and spread with creamed butter. Custards, stewed fruit, junket, rice pudding, jelly, etc., may be carried in a small glass jar. Cookies are more easily carried than cakes, and there are many varieties that may be made so that the child will not tire of them.

A little surprise in the form of two or three pieces of candy or an unusual fruit adds to the interest. The child should have a fresh paper napkin each day, and every article should be wrapped in waxed paper so that there may be a little mixture of odors and flavors as possible. The children should be taught to eat slowly, and not allowed to exercise vigorously directly after eating.—Lillian Randall, Instructor in Home Economics.

How to Use Canned Goods.

There are a few things every housewife should know about the canned goods which she uses on her table.

Among these, according to Elizabeth B. Kelley of the agricultural extension service in home economics of the University of Wisconsin, are the sanitary conditions under which the goods are put up; whether or not she is saving herself labor at the cost of sweat-shop practices of other women; and how to buy and use canned goods in order to get the largest return for the money.

Following are a few rules which will be of help to the housewife in the purchasing, storing and use of canned articles.

"Don't buy a single can at a time; you can always save money by buying by the dozen cans or case.

"Don't store in a damp place, on account of rusting, or where the temperature is either extremely hot or cold. Freezing injures the consistency and flavor and may break the seal of the can. The average basement is all right.

"Don't let contents stand in the tin after it is opened. Should be emptied into glass or china dish if to be served without preparation, or into saucepan if to be heated.

"Don't pour the liquor off the peas or other vegetables; the best of the flavor is in the juice. Warm the juice for soups.

"Don't cook peas, string beans, etc., as they are already cooked. Simply heat and add butter and seasoning, if desired.

"Don't open can with a knife or a hatchet; get a good can-opener.

"Don't open or use the contents of any can that is 'bulged' or 'bloated,' so the ends 'swell out.' A few cans, on account of defective soldering or faulty tin plate, will spoil, but they are always guaranteed by the canner and the 'swells' are the spoiled ones. Take back to the grocer and exchange for a good one.

"Don't buy the most expensive canned peas if you want food value. Those that retail at the highest price, the tiny ones, are usually very small, tender, light peas, used principally for garnishing, and while extremely tender and considered very fine, are really not as good for family use, considered

from the standpoint of food value, as the medium-priced peas which are usually the "Sifted" or size three.

Potato Meal in Bread-Making.

Baking experiments to test the value of making bread of potato-meal mixed with wheat flour are now being undertaken by the United States Department of Agriculture's Bureau of Chemistry. This is to test the possibilities of the potato in the same manner as Germany and Austria are now advising their people to do. The increased cost of living throughout the world has emphasized the fact that flour made of other substances than wheat, or of these substances mixed with wheat, might provide people with healthful food quite as nutritious as the pure wheat flour, and at the same time cheaper.

Austrian bakers are now compelled by law to use at least 30 per cent. potato-meal in making their bread. The Bureau of Chemistry's potato-meal bread has been baked with from 25 to 30 per cent. potato-meal, and the remaining percentage wheat. The most satisfactory loaves in combining economy and appearance were those made with the minimum percentage allowed in Austria or less. The loaves made with more than 30 per cent. potato-meal were not so satisfactory, as they were heavier and less attractive in form. The bread has a rather coarse texture and dark appearance, but possesses a distinctive and agreeable flavor. It also retains moisture for a much longer period than ordinary wheat bread.

The Bureau of Chemistry used the imported "potato flake" in some experiments, and in others meal made by slicing, milling and drying potatoes on a small scale in its laboratories. It should be added that such ordinary "potato flour" as is on our American markets is not the same as the German "potato flake" or Walzmehl, which has given such satisfactory results in the experiments.

The question has been raised as to whether the ordinary cooked potato might not be satisfactorily substituted for the prepared potato-meal. The experimenters believe that it might serve the same purpose if used in just the same proportion, but this could be difficult for the average housewife to determine, as there is great danger of using too much and producing a very soggy loaf. However, the custom of adding a very little potato is already used by many housekeepers to keep their bread moist, and this practice can very well be recommended for more general use.

Some Timely Hints.

Have you ever tried (if your family is large and your kitchen sink small) using an oval tin foot tub instead of the orthodox round dish pan?

An ordinary tin can with a hole punched in the bottom as a soap saver, in place of the bought wire ones!

Scalding out tin syrup cans (the sort that have fitted tops) and using them to keep such things as rice, barley, hominy, beans, etc.

Drying stale scraps of bread in the oven, mashing them to a meal with a rolling pin, and using them in place of the prepared cracker dust for frying cutlets, oysters, and the like!

Using evaporated fruits—apples, peaches, apricots—in place of the fresh ones for duff, dumplings, pies, and brown Betty!

Washing the kitchen floor, the tub, and the frame work about the sink with lye, at the first appearing of those pests, water bugs or roaches? Be sure to apply the solution with a brush and don't let it touch the hands.

Saving the bits of sage, thyme, etc., in the penny soup, drying them, and using them later in the stuffing for chicken? Some economical housewives find that by careful selection of these pot herbs they can get enough parsley for garnishing of several dishes and usually the smallest bunches of parsley alone sold in the markets cost from three to five cents.

Putting a lump of washing soda over the sink drain and pouring hot water over it after each dish washing, in order to keep the pipes from clogging? This will save many a plumber's bill.

Flavoring deviled eggs with a dash of vinegar from sweet pickles and using olive oil instead of butter! A tiny pickled cucumber chopped fine and mixed with the yolk of the egg is an improvement. Some people like a thick gravy with sausage; and this is made by creaming the ordinary essence of the sausage and the flour just as you would butter and flour, seasoning to taste, and then thinning to the desired consistency with water.

There are others who like a cream gravy with ham, and here you moisten the flour with the ham essence and use milk instead of water. Varying fried or broiled halibut steak by adding a rich brown gravy! The flour must be very brown (not scorched) for this, and a goodly lump of butter is required.

And, by the way, when browning flour for gravy do it under the flame of the gas oven, using a fork to mix it. Fork-mixed thickening is apt to be smoother than spoon-mixed.

HEALTH

Child Training.

When any branch of human knowledge is gradually advancing from a mere groping working hypothesis to the dignity of more or less exact science, and especially when it is a matter of such interest and importance to the whole race as "child training," there must inevitably be a period of skepticism among those who are naturally slow to believe, and of mistaken experiment on the part of those who are always ready for new light. So many excellent people seem to have had no systematic training whatever in their youth; so many healthy people have survived the transgression of almost all the laws of health in childhood; the clever child of the family so often has no stamina, and the "picture of health" is often so stupid, that we sometimes ask whether it is necessary to bother so much about "child training" anyway.

But the men of science who are patiently working at the problem are the ones who can tell us how important all the bother is. They know that they are working for the race, which must benefit as a whole, in spite of plenty of individual deviations from the normal for better or worse.

To put a healthy mind in a healthy body is the aim of the new science, which is a combination of psychology, hygiene, and medicine. The child psychology of the past was very simple; good as far as it went, but altogether too ready to regard all children as made of the same material and amenable to the same processes. Because a rugged little boy could satisfy his hunger with a piece of dry bread, his delicate and fastidious small sister must do the same; because he was not afraid of the dark, she must not be; and any demonstrations that interfered with adult comfort were caused by naughtiness and were the direct effect of original sin.

Now we have learned that children are unlike one another from birth, and that different children require different treatment, physical, moral, and spiritual. When we have really learned that lesson, we shall no longer see slow and backward children pitted against quick and clever ones; we shall not find children who have no appreciation of music spending laborious years at the piano; astigmatic babies will not be scolded when they blunder over the alphabet blocks, and outbreaks of childish temper will be traced to their physical source. There will be no lack of intelligent discipline, but all discipline will begin to be tempered with knowledge as well as love.

How to be Thin.

It is not difficult for a woman to remain slender, or, if stout, to become slender. The chief trouble with those who complain of corpulence and its embarrassments is that they decline to sacrifice any of the "pleasures" of the table. Dieting to them means starvation—cutting out one meal a day or reducing all meals—and this is a drastic remedy to which few will submit for a protracted period.

As a matter of fact, however, the starvation cure is unnecessary and seldom to be recommended. The best and safest way to reduce flesh is to adopt a well-balanced diet that excludes all carbonaceous foods. Starch, sugar, oil, and alcohol should be put aside by a fat person.

To set an appetizing table, yet omit these, is not so difficult as may appear, for there remain all kinds of meat excepting pork, all game, all sea food, all fruit except bananas, a majority of salads, and green vegetables—in fact, all vegetables except potatoes, corn, dried beans, and lentils. From this list it is easy to compose a variety of tempting menus. Eggs also may be eaten in moderation and the amount of oil used in salad dressing is not enough to be fattening.

Soup, gravy, milk, bread, potatoes, cereals, sweets, and alcoholic beverages are to be avoided. Bar these rigorously from the table, and within a month you will begin to lose flesh.

It is simply a matter of eliminating from your diet all foods that are excessively fat-producing. It is a treatment that cannot fail to reduce your flesh if you adhere to it, and if you compose your menus with care and intelligence you will be surprised to note how little you will miss these forbidden foods after a brief time.

When you have attained the weight you desire, it is not necessary to follow the diet quite so closely. Nevertheless, you should be on your guard against fat-producing foods, for if it is your tendency to be corpulent all such food will be fatal to your figure.—Mary Lee in Star Weekly.

Who will win in this war? An English Bishop, after the Yankee fashion and with a marked touch of the Yankee wit, answered this question by asking: "Who won the San Francisco earthquake?"



Excellent Models of Seed Roots to Select of the Globe and Intermediate types.

at best to import practically all the seed needed for a crop valued at \$200,000,000 when this seed can be raised within the country.

The Kind of Crop to Grow.

The first problem for the future seed-grower will be the choice of kind. Shall he grow mangel, swede, or carrot seed? The answer to that depends largely upon locality and personal inclination. If a man prefers to grow mangels, he will very likely get better results from seed production from this crop. It must be remembered, however, in growing mangel seed, that the grower must be in a locality which does not suffer from early spring or fall frost. Young mangel shoots are more susceptible to frost injury in the spring than are those of swedes, and as the mangel seed ripen comparatively late, it is also more liable to become frost-bitten in the fall. Carrot seed ripen very unevenly, and must be picked by hand during period of several weeks. This tends to make the culture rather expensive under our conditions. In the majority of cases, the culture of swede seed will probably give most satisfaction.

All our cultivated roots are biennials—that is, the first year they develop a large root, stored full of food material. The second year this food is drawn upon to form a fruiting portion and seeds. If a farmer wishes to grow seeds this year he must select roots now in storage. These should be large, sound, well-developed, true to type, and must possess an uninjured crown. They should also have a smooth surface, full, rounded tip, and be free from prongs. If such roots cannot be secured in storage, the only thing to do will be to select such roots this fall, and store them in a cool place, or in a pit this winter, and plant the same next spring.

Storage That Gives Results.

Perhaps it would not be out of place just here to give a few directions for the proper storing of roots. Seed roots spoil very easily, and should be handled very care-

and calm day in preference to a day with bright sun and heavy wind, which tend to dry out the exposed roots, and consequently to lower the yield of seed.

When and How to Planting.

Roots are naturally cross fertilized, and different varieties belonging to the same kind should not be planted close to one another. Mangels should be separated by at least 10 feet. With long-shaped varieties, and on shallow soils, it may be advisable to tilt the root. Always remember to plant it as deep as the soil will permit with the crown reaching the surface. After planting, the root seed and should be kept cultivated as long as possible in order to preserve the moisture.

Harvesting and Threshing.

Very often the field does not ripen quite uniformly, and all the seed on one and the same plant will not mature simultaneously. It is very important, therefore, that the seed be harvested at the right time. The first formed seed on the lower part of the seed stock usually ripens earlier than the rest. This seed is stronger and more valuable than the later formed seed, and the grower should endeavor to secure it before it falls off. When the true seed inside the brownish cluster on the mangel seed stock shows a mealy surface when cut with a knife, the harvest time has arrived. The swede seed should be harvested when the bottom pods get brown on the outside, and the upper ones become yellowish in color.

When seed is grown in small quantities, it is, of course, possible to dry the seed stocks by hanging them up in a well-aired place in the house or barn. In this case a sheet should be spread out on the floor so that no seed will be lost. If a larger area is planted, the stocks may be cured in the field. For this purpose the seed stocks are tied in loose sheaves and left in open stocks until such time as they may be dry enough for hauling to the