Soils and Crops

Address communications to Agronomist, 73 Adelaide St. West, Toronto

Potato Culture.

Potatoes are easily grown. They are a very valuable cheap food. In one form or another they are wanted on everybody's table, every day, everywhere throughout the civilized world. Potatoes have been cultivated by Europeans for a little over three hundred years. They now require over thirty-five million acres of land and produce over five billion bushels of food annually. The average yield of this crop is about 144½ bushels per acre. The average yield in Canada is about 161½ bushels per acre. The following suggestions are given from experience and experiments on "Spud Island."

Soil—Potatoes do best in a warm, rich, deep, sandy loam soil. They require a lot of moisture and should have good well drained soil.

Seed—Like begets like. The seed potato trade asks for Irish Cobbler and Green Mountain. They are recommended as among the best. Grow the potatoes that people want. Get seed free from disease. It is obtainable. Select it rigorously. Treat it with fungicides before cutting. Use large fresh sets.

Seed bed—Potatoes require a lot of work and attention and like other worth-while things, pay back most when they receive it. Plow and work the soil, make it friable, work it thoroughly until the necessary tilth is obtained. A clover sod, top-dressed with 10 tons of barnyard manure, plowed in early autumn and thoroughly spring worked makes a good seed bed for potatoes. Should your land need more fertility feed it with potato fertilizers.

Planting—Plant as soon as the land is warm enough. Do not allow the seed to get chilled before covering. Planting machines are satisfactory. Make the rows straight and from 30 to 36 inches apart. This will cheapen your cost of production. Plant the seed about 4 inches deep and from 12 to 14 inches apart.

Cultivation—Harrow the potato field with smoothing harrow before the young plants appear and once after they are up. Cover the plants with three inches of soil when three inches above ground. The rear discs on the potato planter do this best. Use horse cultivator after every rain and at least every ten days until the plants crowd you out. Throw soil towards plants with each cultivation, hilling them so that the tubers are all well covered.

Spraying—Spraying is safe insurance that pays its own premiums. Start spraying in July and keep all the foliage covered with Bordeaux and poison or dust fungicides throughout the season until the first frost kills the disease spores.

Harvesting — Harvest immature plants for seed. Dig potatoes in dry weather. When disease is present leave them in the ground until a frost occurs if possible. When the soil is very dry have the digger move a lot of clay so that the potatoes may not be injured by the machine. Handle all potatoes as carefully as eggs. Every bruise lowers their value and renders them more susceptible to disease. Allow them to sweat in the open and give them good ventilation and cool quarters for storage. Potato tubers must have air to live.

Scaly Legs—How to Treat Them.

There is nothing more unsightly in the appearance of a fowl than scales on the leg. No matter how attractive a fowl may be otherwise, these scales condemn it.

This condition is due to a mite which burrows under the scales, causing the scales to lift up gradually. There is a theory that this is due to a deficiency of oil in the skin parts affected, but I am rather inclined to believe that "poor housekeeping"—unclean quarters—has more to do with it than anything else.

It is generally considered that the condition is contagious and that a scaly-legged fowl will soon transmit the disease to the rest of the flock; but this is not always so. I have had several badly afflicted hens in a flock and not one of the others caught the disease. But where there are such exceptions I have noticed that the immune hens were exceptionally vigorous. And there may, too, be something in the theory that they had an abundance of oil in skin and feathers.

The scales become raised and lossened due to the accumulation of a crusty substance that works beneath them, after the mite has done its burrowing.

A scaly-legged hen should never be set, if one wishes to avoid the trouble with the chicks. I believe that the disease is transmitted more rapidly in this manner than in any other.

The sovereign remedy seems to be grease or oil. A very satisfactory treatment is to wash the legs and feet with hot water and castile soap-suds. When dry anoint the affected parts with a mixture of equal parts of melted lard and kerosene. Rub this in well. Repeat daily until cured. While being treated the fowl should be kept in a clean cage bedded with cut straw, to keep out all dirt. Other recommended cures are: Fill a tin quart measure nearly full of water, with one tablespoonful of kerosene oil floating on the surface. Tie or fasten the measure to a box to hold it firm. Dip the legs, both at the same time, into the liquid, holding them there one minute. Repeat this after three days.

Another remedy is to dip the feet and legs up to the hocks in a mixture of coal-oil and linseed-oil, the proportions of which may be varied according to the number of treatments to be given. The larger the proportion of coal-oil the more effective is the mixture. Except in hurry cases, not more than half coal-oil should be used, while for cases so little developed that the treatment is as much preventive as active, one part coal-oil to two parts linseed-oil is preferred.

Picking the Good Heifers.

Recently the writer had a dispute with a young breeder who seemed to be possessed of more enthusiasm than experience or good judgment. We were looking over a bunch of his heifers—yearlings and two-year-olds. On the whole, they were a good lot and we commended them. There were, however, at least two, and perhaps three, that did not look to us as if they had "any milk in them," and we mentioned the fact. Their owner entirely disagreed with us. He told us that the dams of the heifers in question were really good milkers and that their sire was of record breeding.

Our friend, like many breeders, has yet to learn that the breeder has not yet been born who can make every one of his heifer calves into a good milker. Why is this? Apparently every heifer is born either a good or a poor milker and subsequent conditions have very little to do with her performance.

Professor Eckles carried out a series of expensive experiments covering several years, to determine the influence of feed on the milking qualities of cows. Some heifers were fed extra well; others were reared on short rations. As a result of these experiments, Professor Eckles decided that while good feeding would increase the size of dairy cattle, and, therefore, increase their capacity to handle feed, their ability as milkers was not affected materially by their feeding from birth to milking age. Some of the best and poorest milkers were found in all three lots. It is possible to cull the heifers when they are only a few months old, taking out those that give little indications of milking ability.

The promising heifer wll early show mammary development and will carry that somewhat indefinite character known as dairy quality; this will be particularly in evidence in the head. When animals are older it will be easier to pick out the probable profitable milkers but the only real test is the pail test. By the first milking period, if records are kept of individual production, the dairy farmer will be able to select fairly accurately.

Marketing of Live Stock in Ontario.

A statement issued by the Live Stock branch at Ottawa covering the last four months respectively of 1921 and 1920 shows that while the number of cattle shipped to stock yards last year from four of the five live stock shipping provinces, namely, Quebec, Alberta, Saskatchewan, and Manitoba, was fewer than in the preceding year, the number shipped from points in Ontario was greater, the figures showing 130,861 in 1921 compared with 94,455 in 1920. The same was true of the number shipped direct to packers, but to a far less extent. The store cattle shipped in last year numbered 20,193 compared with 31,885 in the same period of the preceding year. There were also more calves shipped to the Ontario stockyards but fewer to the packers. More hogs were shipped last year to both stockyards and packers but fewer sheep to both. The statement also gives the number of live stock shipped from the different counties of each province. This shows that of the 51 counties or districts of Ontario enumerated, the largest shippers in the last four months of 1921 of cattle were Middlesex, Bruce and Renfrew; of calves, York, Hastings and Frontenac; of hogs, Kent, Simcoe, Essex and York, and of sheep, Grey, Simcoe, Renfrew, and Wellington. Ontario shows an increase in the handling of cattle, calves, and hogs, but a decrease in sheep; Quebec a decrease in cattle, but an increase in calves, hogs and sheep; Manitoba an increase in hogs alone, and Saskatchewan and Alberta an increase in both hogs and sheep.

Broodiness in Hens.

Three days is the time we usually take to change our hens from broody into laying hens. Our jail has a slatted bottom and the hen cannot warm it. She is right close to the scratching floor and sees other hens busy. She is provided with plenty of corn and water and eats and drinks, having nothing else to do. Result, she soon lays. —Agnes Hilco.

Poultry

The hen stood on the garden lot,
Whence all but she had fled;
And didn't leave a planted spot
In the early onion bed.
With vim she worked both feet and legs,
And the gardener said he "bets
She was trying to find the kind of eggs,
On which the onion sets."

Cremation is the best way to dispose of dead, diseased fowls. If buried, dogs may dig them up, no matter how deeply they may be covered.

My remedy for a fowl that is gasping for breath is to dip its head in kerosene oil. Do it quickly. If after a reasonable time the fowl repeats the gasping, give it a second dip. I have never known this cure to fail.

Litter which is damp or filled full of droppings is a menace to poultry. It is a warning, too, that somebody's pocketbook is going to grow thin for want of eggs to sell. Put the two hints together and they point the way to a good house-cleaning.

Some of the grit that we get for our birds has not much grit to it, and so it does not help digestion as it should. The sharper the grit the better. Sharp grit aids in crushing and wearing the food into fine particles and really helps things, for digestion does not take place until the feed is soft and fine in the hen's gizzard.

Feather-plucking is a disgusting vice, and generally caused from lack of exercise. To prevent trouble from feather-plucking put a teaspoonful of Epsom salts in the drinking water for every twelve hens in the flock, and anoint the bare spots of the victims with a mixture of sulphur and vaseline, or bathe with quassia-bark solution.

Fleas in the hen-house were my annual summer trouble. I found that the box nests were the breeding places for them. The heat from the bodies of the laying hens evidently was a contributing factor. Frequent changing of the nesting material would reduce the number of these pests, and the use of tobacco dust would keep them under control. But I discovered a better way: I removed the bottom boards of the box nests, and in their place tacked on rustless or galvanized mosquito wire netting. In this way the breeding and hiding places of the fleas were eliminated, the nests were made cooler, and the dust that usually collects sifted through the bottom of the nest instead of accumulating as formerly. Besides, fewer eggs were broken at laying time, by being dropped upon a board that had been temporarily bared.

Iron Sulphate for Dandelions.

Many people are not impressed with the beauty of the dandelion in their lawns and seek its eradication. Iron sulphate spray is recommended to rid lawns of dandelions.

The spray solution is prepared by dissolving in one gallon of water one and one-half pounds of the iron sulphate, also known as green vitriol or copperas, and is obtainable at most hardware or drug stores. This amount of spray will cover about one and one-half square rods of lawn. While fairly good results are obtained when the spray is applied with the ordinary sprinkling can, much better results will follow when put on with a fine mist nozzle that carries the liquid well down into the foliage of the plants.

The solution should be made in wooden or earthenware vessels, as it corrodes metals. Care should also be taken to keep the solution from wetting cement or stone walks, the foundations of buildings, clothing, etc., as it leaves a stain which is extremely difficult to remove.

The spray should be applied in May just before the dandelions start blooming, and should be repeated once or twice at intervals of three or four weeks. One or two additional applications can be made late in the summer and fall if necessary. Where properly done, spraying every third year will keep the lawn practically free from dandelions.

The blackening of the grass immediately following each application should occasion no alarm, as this will soon disappear where the grass is growing rapidly. Bare spots, which are due to the killing of the dandelions, should be reseeded to grass.

To prevent crows from pulling up corn, put a tablespoonful of turpentine into the planter box, and stir each time the planter box is filled. This will not harm the seed.

Writing for the Local Paper

BY HILDA RICHMOND.

One of the pleasantest and most instructive things a country family can do is to write for the local or county newspaper. This work does not always pay in actual cash, but usually the newspaper will furnish stamps and paper for the work, and often gives a subscription to the paper in addition. The profit in the undertaking lies in the fact that writing is in itself an education, and that it is almost impossible to undertake this little weekly task without branching later into wider and more enjoyable fields of journalism. Add to all this the habit of news gathering, the ability to put news into pleasing form and the regularity with which the job must be done, and you have many reasons why it is a pleasant and profitable task.

First of all, the country correspondent must not be satisfied with the deadly dull monotony of some news gatherers, but must seek to improve week by week and cause people to look for his items the minute the paper is received. If you will take up any country newspaper, you will see the work of those correspondents who never improve: "John Smith has purchased a new wagon," "The rain interfered with the oats harvest last week," "Mrs. Abner Penrose is very ill at this writing," "Miss Jessie Blake called at the home of Julia Tompkins last week," and so on through the uninteresting list. Now it isn't that there are no local happenings, nor that people are not interested in reading news, but that the correspondent has never sat down to consider the real value of improving his work.

Suppose instead of putting in that John Smith has a new wagon, which certainly is not interesting to any one but John Smith, the writer had given some item about the fine cattle or sheep or hogs owned by Mr. Smith. A wagon is a useful and necessary thing about a farm, but does not interest any one so much as an account of fine stock would. If any one has had an unusual crop of clover-seed, a big yield of oats, a record-breaking corn crop, or some such item of interest, it is well to record it. If John Smith had purchased the latest model of threshing outfit, or a farm truck of the latest make, those things would be more worth telling about than a commonplace wagon is.

Children's Activities Make Good Reading.

All club, church, social and school activities make readable items. School children are delighted to see their names in print, and often fathers and mothers who are unprogressive enough to refuse to take a paper for other reasons will subscribe because the children beg for the privilege of seeing their little school entertainments nicely written up. The country correspondent must be ambitious to help the publishers increase the circulation, for in a sense the writer of local items is a stockholder in the paper.

Little novel features about the entertainments should be emphasized, rather than such general statements as, "A very large crowd was present," or "The usual interesting exercises were carried out by the school." It is possible to tell of the large crowd in connection with some item, such as: "The children of Rose Corners School delighted a large crowd with the little play 'Red Riding Hood' on Wednesday evening." This combines the place, character of the entertainment and the time, pleasingly, and gives the reader the desire to know more about it.

Do not say that the hostess served a delicious and appetizing luncheon at the close of the meeting at her home, and then go on to name the articles she served, but condense to: "Delicious ice-cream and cake were served by the hostess," and save your space for the fact that the oldest member of the society was present for the first time in years, or that there were visitors from California, or that the six-year-old daughter of the home recited very nicely, or that the ladies sewed for the poor and were able to give several quilts to a missionary school as a result of their work that day.

Refreshments are pretty much alike the country over, and unless there is something specially new the space should not be given to enumerating cake, pickles, coffee and sandwiches. If the hostess had been able to serve something novel, then the ladies would eagerly read the item.

Death notices should be brief and dignified. The old habit of writing many stanzas of poetry and long flowery notices has gone out with the best papers. Wedding notices should tell of the bride's dress, in which all women are bound to be interested; who performed the ceremony; where the young folks are to live and the wedding journey, if there is one. Give a brief description of the affair as interestingly as possible. Try to pack into every sentence something interesting and attractive.

News Is Never Partial.

In some way try to notice each and every family in the neighborhood at some time. Many country families, particularly the children in the families, are timid and backward in the extreme, yet their little social affairs and items of interest please them immensely when reduced to modest news notes in the paper. Try to be impartial and fair to your neighbor. Often it is easy to find two-thirds of the local items dealing exclusively with one or two prominent families while the rest are ignored.

If the writer really enjoys the work, it will not be long until something more ambitious will be undertaken. Crop reports for the agricultural papers, answers to prize contests, letters to editors commending or criticizing certain articles, church items for the religious weekly, letters to the Open Forum of the daily papers, and many other small opportunities are eagerly embraced to "break into print," as some writers term it. And when the day comes that the first cheque is received for something the editor thinks is worthy of pay, the thrill that that little slip of paper gives will never be forgotten.

The memory of the first cheque I received for writing is as fresh and vivid as though it were yesterday that it came. I am truly sorry I ever cashed the cheque, for it would be worth far more than its face value as a souvenir of that happy hour if I could have it now.

THE SUNDAY SCHOOL

MAY 28

Jeremiah Speaks Boldly For God, Jer. 26: 8-16. Golden Text — Amend your ways and your doings, and obey the voice of the Lord.—Jer. 26: 13.

Lesson Foreword—Jeremiah began his ministry in the thirteenth year of Josiah's reign (1: 1), and continued to prophesy for the forty troublous years before the exile. The political events during this period were significant. Palestine was a buffer state between the rival empires of Assyria and Egypt and was invaded first by one and then by the other. Josiah was killed at the battle of Megiddo while fighting against the Egyptians (2 Kings 23: 29) and his kingdom passed under Egyptian control. The Egyptians set up Jehoiakim, his son, as king of Judah. It was at the beginning of his reign that the events narrated in our lesson occurred.

1. The Threat Against the Prophet, 8, 9.

V. 8. Jeremiah had spoken from a conspicuous place in the temple court, probably at a festival when the temple was thronged with worshippers from the country as well as from Jerusalem. **The priests**; were the officials of the temple and naturally resented his prediction that the temple would be destroyed. Jeremiah himself belonged to a priestly family, ch. 1: 1. **The prophets**; were false prophets who delivered messages that pleased the people. **Thou shalt surely die.** The officials doubtless thought that Jeremiah's pronouncement would shake the national confidence at a critical period, and therefore he was a menace to the state. All through his career Jeremiah had to face scorn and hatred; he was the most pathetic and the loneliest of all the prophets. He loved his people deeply and it almost broke his heart to denounce them.

V. 9. **Like Shiloh.** The important temple at Shiloh which contained the ark had been destroyed during the Philistine wars, Cam. ch. 1-4. Even though it was the temple of God it was destroyed and Jeremiah pointed out that a similar fate awaited the temple in Jerusalem. The people regarded the Jerusalem temple as a sort of fetish; as long as it stood they were safe, regardless of their mode of life. Jeremiah's prophecy against it was considered blasphemy. **All the people,** etc. "Apparently the priests and prophets seized Jeremiah at the close of his address and then the people crowded round the prophet and his accusers" (Peake).

II. The Charge Against the Prophet, 10, 11.

V. 10. **The princes**; the nobility, including perhaps the civil and military rulers. **The king's house**; was situated just across from the temple. Being so close at hand the princes could hear the uproar in the temple or a messenger may have informed them of it. So they went up to the temple to quell the disturbance. **The new gate**; probably the "upper gate" built by Jotham (see Kings 15: 35). The princes opened an informal law-court by the gate to decide Jeremiah's case. The courts of law were usually held by a gate. (See Deut. 21: 19; 22: 15; Amos 5: 15; Ruth 4: 1.)

V. 11. The religious authorities had previously held a court in which it was decided that Jeremiah was guilty of blasphemy (vs. 8, 9). While they were competent to declare what constituted blasphemy, they had no authority to affix the sentence. That was a matter for the civil authorities, the princes.

III. The Defence of the Prophet, 12-16.

V. 12. Jeremiah was allowed to speak in his own defence. Notice how calm his bearing was although confronted with the possibility of death he did not shrink. **The Lord sent me.** This was the warrant for his confidence. God had commanded him "to diminish not a word," v. 2. **He had** either to obey God or to please the people and he chose God's service. By nature he was as timid as a child (ch. 1: 6) but at his call God assured him that he, having appointed his commission, was responsible for his security, ch. 1: 7.

V. 13. **Amend your ways.** Instead of continuing in defence Jeremiah renews his exhortation to repentance. It was an excellent opportunity for preaching; the crowd was standing by and listening.

V. 14. **I am in your hand.** Jeremiah recognized that the tribunal before which he stood had the legal right to judge him. **Do with me,** etc. His mission had become so absorbing that all thought of self had vanished.

V. 15. Little as Jeremiah thought of his own personal safety it was only just for him to remind his judges that it would be a serious matter for them to condemn one whose only fault had been that he had been faithful to the commission which God had given him. **Innocent blood.** When innocent blood was shed it cried out for vengeance. (See Gen. 4: 10; Rev. 6: 9.) The nearest of kin was required to avenge the murdered man, but since Jeremiah's kinsmen had deserted him, God Himself would avenge His prophet. **Upon yourselves, and upon this city**; because they would be responsible if they put God's prophet to death.

V. 16. **Not worthy to die.** The princes were more impartial and unprejudiced as judges than the priests and prophets. They acquitted Jeremiah on the ground that he had spoken in the name of Jehovah. They were swayed by the impression made on them by the man himself and by the reflection that a prophet who proclaims an unpopular message at the risk of his life gives thereby ample security for his sincerity.

Application.

The prophet's task is seldom a safe or easy one, for wrong must be publicly rebuked. The Bible gives some striking illustrations of those in high positions being condemned as a patriot with soul on fire for righteousness. Moses risked the wrath of Pharaoh in his desire for the liberation of his people. Nathan had to say boldly to David, "Thou art the man." Repeatedly Elijah had to condemn Ahab. Amos could not keep silence in the presence of the courtiers guilty of indulgence and injustice. John the Baptist did not lack courage to tell Herod that his conduct was not lawful. In like manner it was the unpleasant task of Jeremiah to stand in the court of the Lord's house and speak stern words of reproof to the people.

The prophet spoke unpleasant words not through spite or personal pique, but because he saw the inevitable working of moral law. He had a higher conception of patriotism than that which seeks popularity in the present at the cost of national welfare in the future. On the surface it appeared disloyal to assert the futility of resistance to Babylon, but Jeremiah knew that Israel had a divine mission and their spirtual faith was more than their political liberty. The true patriot is he who seeks the highest welfare of his country, and who holds that the real welfare of his country is glory, dignity, and interest of the nation, but so far as they are consistent with justice and honor.

This higher conception of patriotism has given a noble honor roll of martyrs. The early Christians were subjected to pagan persecutions and in later times the Albigensians and Waldensians were brought before the Inquisition and tortured.

THE CHILDREN'S HOUR

What The Runt Did.

Mr. Watkins owned some choice white hogs that were registered stock and he was very proud of them. Among the last litter of pigs, born in March, there was one that would not grow. They were old enough to wean but this little fellow was no larger than it was when only a week old.

Ben, a lad of fourteen years, was as much of a hog fancier as his father, and when Mr. Watkins decided to kill the runt of the March litter, Ben begged so earnestly for the little life that his father gave a reluctant consent upon the conditions that the pig must be removed from the rest of the litter and be cared for by Ben.

The boy fashioned a small pen from some boards six feet long and of varying widths. They were nailed together in the form of a triangle which he could easily move around. It was placed out in the old orchard and a box was placed in one corner to furnish a warm bed.

Every morning Ben would turn a couple of shovelfuls of sod so the little pig could get some fresh roots, move the pen over to a new place, give it all the sour milk it would drink up, and plenty of fresh water.

At noon he would give it a slop made of milk, corn meal and bran, and the same at night, adding a teaspoonful of flaxseed meal every other night. He began by feeding one teaspoon of corn meal and one tablespoon of bran in each feeding of milk, and increased the amount until he was feeding a half cup of the corn meal and a cup of bran a day at the end of two months. This was not increased until the first of September, when Ben made a self-feeder and gave it all of the bran and corn meal mixed that it would eat until fair time, when his pig not only weighed sixty pounds more than any other pig of the same litter, but brought him three first prizes, one for the best pig in the boys' club, one for the largest pig for its age, and one for the best of its breed exhibited.

He feels that his success was due to the tonical success of the dandelion and other roots which the little pig seemed to crave, and to the morning's feeding of fresh sour milk. The doctor had told him to drink it fresh every morning if he wished to feel good, and he felt that if it was good for him it might be good for the pig.

The pig had all the green food it would eat all summer, besides its slop. The green food consisted of the orchard grass and weeds and such garden waste as poor beets, carrots, cabbage, etc., when Ben culled out as he worked in the vegetables.

Growing Delicious Sweet Corn.

The Golden Bantam is the sweetest sweet corn I have ever eaten, and forms the basis of all our planting. One year I found that by planting a row of other later and larger corn near the Bantam the ears would be increased in size by the mixing of the varieties and yet I could not see that the quality was lowered much. This is a simple thing to do and well worth trying by all lovers of this splendid variety. If the tassels of the Bantam are removed early to prevent their fertilizing the ears it might be a further improvement, but it would be essential to be sure the other crop had pollen at the same time as the Bantam or you might fail to get any corn at all.—A. H.

Well sown, half grown;
Well hoed, full load.

If corn fails, try a small patch of sunflowers for silage.