

Farm Crop Queries

Conducted by Professor Henry G. Bell.

The object of this department is to place at the service of our farm readers the advice of an acknowledged authority on all subjects pertaining to soils and crops.

Address all questions to Professor Henry G. Bell, in care of The Wilson Publishing Company, Limited, Toronto, and answers will appear in this column in the order in which they are received. As space is limited a stamped and addressed envelope is necessary that the question, when the answer will be mailed direct.

Question—H.S.S.—Can I sow acid phosphate with a force feed grain drill? It has no fertilizer attachment but I thought possibly it might work. Answer:—You can sow acid phosphate with a force feed seed drill if the acid phosphate is dry and finely ground. Such a method of application would not allow you to sow but a very light application. Be very careful to thoroughly clean out and oil the drill after use for acid phosphate sowing, otherwise the metal part will rust. If you have a lime spreader I would advise your spreading the acid phosphate with this implement and then thoroughly work it into the soil by disking and harrowing. This will give a better application than applying acid phosphate through the seeding attachment of the seed drill.

Question—J.B.S.—I have eighteen acres of oats. I intend to sow wheat after oats. The field is somewhat run. I have plenty of marl near the river. Would it pay me to top-dress the wheat with marl? If so, how much spread with a shovel? It is all right heavy soil. Answer:—Would advise you, after

the land is plowed, to top-dress it with marl at the rate of about two tons to the acre. If you have a lime spreader and the marl is dry, after it has been pulverized it can be spread with the lime spreader to best advantage. You can spread it fairly well with a shovel but you will not get it sufficiently evenly distributed. After the marl has been spread work it into the ground by thoroughly disking at least a week before the wheat is planted. At the time of sowing wheat I would advise adding 200 to 300 pounds of fertilizer to the acre in order to give the young crop a vigorous start. The fertilizer should contain from 2 to 3 per cent. ammonia, 8 to 12 per cent. phosphoric acid and from 1 to 2 per cent. potash would be valuable if it can be obtained. This fertilizer can be applied at the time the wheat is sown. If the grain is seeded to a mixture of clover and grass seed the addition of the marl will make the soil sweet in reaction and the fertilizer will have a very beneficial effect in insuring a good stand of grass.

Poultry
Market Calendar.
In August all surplus Leghorn cockerels and cockerels of other light weight breeds should be marketed as broilers. They are of little value as roasters.
Green ducks are young ducks from 8 to 12 weeks old. They should be sold before they moult.

Ducks on the Farm.
The keeping of ducks calls for little outlay in the matter of building houses. Any kind of a house, so it has a good roof, and dry floor, will do. A plain shed with dirt floor, and having the south side entirely open makes an excellent duck-house.
The floor of the duck-house must be kept dry and should be well littered with clean, dry straw. Strange as it may seem, while ducks will thrive if they have access to a stream of water or pond, they must have dry quarters at night. Ducks compelled to spend their nights on damp floors or on damp litter, will surely contract rheumatism.
Ducks are conveniently kept in flocks of about thirty. A house fifteen

Earning Money at Home.
Very often a girl who has been wishing for some way in which to earn a little money suddenly finds a good idea close at hand in homey disguise.
Not long ago one girl noticed, in wandering about the home farm, that a large amount of the fruit on the trees was dead ripe and about to go to waste. She went to her father with a question:
"May I have one box of berries out of every four that I pick, and one basket of plums, one of peaches and one of apples on the same basis?"
He was skeptical but also a little relieved, for the prospective loss of the small fruit was worrying him. "Go ahead and see what you can do," was his reply.
What the girl did was to get down to business at once. She gathered and sorted diligently, with a well-defined scheme in view for every pound of her own share. The fruit that fell

The Dairy
business and raising calves are incompatible. The milk that calves use is also needed by milk consumers, many of whom are babies. And so other reasons why the farmer knows animals that do with his young legislators.
It takes pasture and feed to mature beef. Every successful dairyman is using all his land to feed his calves. If he were compelled to feed beef he could keep fewer cows and a scarcity in milk.
More calves should be grown to maturity. There is no doubt of that. But legislation prohibiting the killing of young animals is not the way to increase the supply of beef animals.
During the summer while cows are in pasture or on green crops a balanced ration can be maintained by following concentrated feed mixture recommended for summer feeding: Three hundred pounds wheat bran, two hundred pounds gluten feed, one hundred pounds hominy, corn-meal or ground oats. Mixed wheat feed may be used in place of wheat bran. More gluten might well be added to the combination when cows are carefully watched.

KEEP THE POTATOES GROWING

Notes on the Cultivation of This Valuable Crop and How to Protect It From Its Enemies.

Many are growing potatoes in Canada this year, for the first time and, as a result of the greatly increased number of growers the crop will probably be greatly increased. But a good crop there must be an abundance of moisture in the soil and the tops must be protected from insects and disease.

CULTIVATION.—The soil should be kept cultivated with the cultivator or hoe until the tops meet sufficiently to shade the ground. As most of the tubers develop in the three or four inches of soil nearest the surface, and as the tubers will not develop well in dry soil, quite shallow cultivation is desirable at this season of the year. In soil which is dry there may be good development of tubers but there will be few tubers. The roots in such cases have gone down deep into the soil to obtain moisture but the tuber-bearing stems, which are quite different from the root system, do not develop well. Where the soil is a loose, sandy loam, hilling is not necessary and may be injurious, as the soil dries out more than if left on the level. In heavy soils it is desirable to hill the potatoes as it will loosen the soil and the ground is left level. When there is sufficient rainfall and moisture in the soil hilling is likely to give best results in all kinds of soil as the soil will be looser and the tubers can push through it readily. As a great development of tubers takes place during the cooler and usually milder weather of the latter part of summer, it is very important to keep the plants growing well until then. In one experiment it was shown that during the month of September there was an increase of 119 bushels of potatoes per acre.

PROTECTION OF POTATO TOPS FROM INSECTS.—It is very important to prevent the tops of potatoes from being eaten by insects, particularly by the Colorado Potato Beetle. The old "bugs" do not do much harm to the foliage, as a rule, and usually the plants are not sprayed to destroy these, although the fewer there are to lay eggs the less difficulty there will be in destroying the young ones. These begin to eat rapidly soon after hatching, and close watch should be kept so that the vines may be sprayed before much harm is done. Paris green kills more rapidly than arsenate of lead but does not adhere so well, and in rainy weather it is desirable to have something that will stay on the leaves so that they will be protected until it stops raining and thus prevent the tops being eaten. At the Central Experimental Farm a mixture of Paris green and arsenate of lead is used in the proportion of 8 ounces Paris green to 12 ounces paste arsenate of lead (or 12 ounces dry arsenate of lead) to 40 gallons of water in order to get the advantage of both poisons. It may be that it is not consistent to get both poisons when either 12 ounces of Paris green or 3 pounds paste arsenate of lead (or 12 ounces dry arsenate of lead) to 40 gallons water could be used, or in smaller quantities, say 1 ounce Paris green to 3 gallons of water.

The Sunday School
INTERNATIONAL LESSON
AUGUST 19.
Lesson VIII. Finding The Book of the Law—2 Chron. 34, 14-33.
Golden Text.—Psa. 119, 16.
Verses 14-18. Finding of the law in the course of the repairs described in the preceding verses. Book of the Law—Deuteronomy, though in somewhat briefer form than we now have it. Most scholars believe that it contained what is now Deut. 5 to 26, or 12 to 26, plus chapter 28. (For a fuller discussion, see F. C. Eiselen, The Books of the Pentateuch, Chapter XII.)
19. Rent his clothes—A symbol of grief or horror. Verse 21 shows that the book contained threats of terrible punishment for disobedience, which made a profound impression on the king.

Cheaper Poultry Feed.
On account of the scarcity and high price of feed the poultry industry of this country is threatened by the prospect of the wholesale slaughter of laying stock and a serious falling off in the number of pullets to be matured.
The necessity for retaining for milling every possible bushel of wheat emphasized. To provide poultrymen stock without unnecessarily lowering the supplies of milling wheat, the federal Department of Agriculture has requested millers throughout Canada to put on the market the cracked and shrunken wheat removed from grain before it is milled.
In addition to small and broken wheat these cleanings consist chiefly of the seeds of wild buckwheat, a near relative of the cultivated buckwheat. The Poultry Division of the Central Experimental Farm has used wild buckwheat in feeding experiments and reports it to be a highly satisfactory poultry feed and has ordered two cars of buckwheat screenings for the

trial and Branch Experimental Farms from the Canadian Government Elevators at Fort William. Fowls used to good grain do not take to it at first but when they become accustomed to it they eat it readily and do well on it.
The mill cleanings from local flour mills also contain traces of many other weed seeds, including several kinds of nutsheds. These, however, though two or three per cent. of the cleanings in the case of the standard grades of Western wheat, this material is specially recommended for backyard, suburban and professional poultrymen.
On farms the cleanings from yards and poultry houses where it has been fed would have to be disposed of so as not to disseminate noxious weeds in grain fields.
Those interested in obtaining this class of feed should immediately arrange with local mills or feed dealers for a supply. The mills cannot be expected to keep this material for poultry unless it is demanded for that purpose and that rests with the poultrymen themselves.

Your Problems

Conducted by Mrs. Helen Law.
Mothers and mothers of all ages are cordially invited to write to this department. Inquiries will be published with each question and its answer in each letter. Write on one side of paper only. Answers will be mailed direct if stamped and addressed envelope is enclosed. Address all correspondence for this department to Mrs. Helen Law, 235 Woodbine Ave., Toronto.

E. L.—1. A wrist-match with an illuminated face, a pocket flashlight, a pocket drinking cup or a solidified alcohol burner are useful gifts for a man who has left for a military training camp. 2. To disinfect a room thoroughly proceed as follows: If possible, mattresses and comforts should be burned. Wet everything else well with a bichloride solution, and sun the blankets. Scrub the walls and ceiling, wash with bichloride; also the floor and woodwork, then scour with carbolic soap. Fill cracks with soft putty, shut the doors and windows tight and paste strips of paper taken off the hinges, but left inside. Place three bricks in the middle of the floor, put an iron pan on them, into which a pound of flowers of sulphur has been placed, wet the sulphur with alcohol, stick in a short length of fuse, light it, then go out quickly, being careful to see that the door is also made tight. Leave undisturbed for twenty-four hours. The fumes will bleach any colors in the room. Dishes may be disinfected by boiling for 5 minutes.
H. R.—1. Bureau drawers which stick can be made to slide easily by first rubbing over the edges with sandpaper, then soaping them. 2. A garment that has had an overdose of bluing may be whitened by boiling. 3. Brown sugar can be substituted for white in pickling. 4. Try benzine to remove the tar stains from your silk dress. 5. To make oatmeal gems, soak one cup oatmeal over night in one cup water. In the morning stir together one cup flour and two teaspoons baking powder; add a little salt. Mix meal and flour together, wet with sweet milk to a stiff batter, drop in gem pans and bake immediately. 6. It is said that before eating is a good time to sleep, but not immediately after a meal. 7. Yes, tomatoeats are good for almost everybody who does not have ulcer of the stomach so that the use of the tomatoeats gives him pain. If they do not cause pain one need not be afraid to eat them. 8. The diet of a child of two years should consist of fruits, cream, a moderate allowance of pure grains and cow's milk and vegetable greens. Purees of spinach and other "greens" are particularly good.
Eva.—1. It is said that freckles can be bleached out by applying the following mixture to the face, being careful to keep it away from the eyes: Two ounces of buttermilk or sour milk, two drams grated horseradish, six drams cornmeal. Spread the mixture between thin muslin and allow it to lie on the face at night. 2. The following method of cleaning black satin is given by some authorities: Boil three pounds of potatoes in a pulp in one quart of water, strain through a sieve and brush the satin with it on a board or table. The material must not be

wrung, but folded down in cloths for three hours, then pressed on the wrong side.
Reader.—1. Bavaria is the largest state in the German Empire after Prussia. 2. "Sinn Fein" is Gaelic for "For Ourselves". 3. Inflamed eyelids should be bathed several times a day with a solution of half a teaspoonful of boric acid in a cup of hot water. 4. To test rutemgs, prick them with a needle; if they are good, the oil will spread around the puncture. 5. "Neither he nor I were there" should be "neither he nor I was there". 6. The 400th anniversary of the Reformation will be celebrated October 31.
Cook.—Perhaps the following notes may be of assistance: Salads and vegetables neutralize usual tendency of the body toward acidity, facilitate the elimination of waste products and poisons, and thus incidentally postpone the coming of old age. Salads are rich in lime, so necessary to bone-building; also valuable laxative. Green vegetables are particularly valuable in cases of anaemia and of other diseases which are ascribed to diet deficiencies. Vegetables are deteriorated by the loss of their salts in boiling water. Not only do potatoes lose much when peeled, but carrots, as usually cooked, lose nearly 30 per cent. of their total food material when cut into small pieces. Cabbage thus treated loses about one-third of its total food material, especially its ash or mineral matter. On the average 30 per cent. of the total salts is extracted when vegetables are boiled in water for thirty minutes. When, on the contrary, they are steamed or stewed in 10 per cent. Hence vegetables should be either steamed or stewed in a casserole or covered earthenware vessel, so popular in France. If boiled, the water should be saved for soup or sauces.
Beetroots, carrots and parsnips contain a large amount of sugar, and when served at a meal there is less of a desire for excessively sweet desserts. Cabbage, as usually cooked, is not digested for some five hours, but eaten uncooked in salad it takes less than three.

Salads, like vegetables and fruits, have little body-building and tissue repairing material, hence require to be supplemented by foods rich in cheese and in fat, such as eggs, meat, cheese (grated by choice or the cottage variety) and nuts.
with great pride. Then he held his head a little higher and forgot to take a peck at the piece of cheese.
"And to-day I was telling both the kingfisher and the hawk how much sharper and more graceful your claws are than theirs," went on the fox in very pleasant tones.
The crow answered not a word, but lifted first one claw and then the other from the limb of the tree and looked at each with great pride. But when he lifted the claw that did not have the cheese, he dropped the cheese to the ground. Whereupon the fox laughed loudly, seized the cheese and ran away to the woods, where he ate every morsel of it.
And the crow cried "Caw! Caw!" in very angry tones, and flew off to find a dinner to replace the one that he had so foolishly lost.
The moral is that, if a vain person is on guard at one point of attack there are always other points of attack that are not guarded, and a crafty flatterer will have little trouble in finding a way to reach them.

Electric Plants For The Farm.
One of the recognized necessities in connection with our increased agricultural production is better, and more attractive conditions on the farm, and among the many suggestions the use of electricity should be considered. Electric power is a great convenience in the farm home, and saves much time to the farm help. The farm or country home situated within the area of distribution is fortunate, but the vast majority must look to the small, isolated plant. This alternative, however, is now much more promising than a few years ago. Many factories manufacture this type of equipment, the operation of the plants has been simplified and cost has been much reduced. These small plants may be advantageously used for many domestic purposes in addition to lighting, such as ironing, washing, toasting, pumping water, etc.; and also for the very important use of charging storage batteries.

The Vain Crow.
One day a fox that was very hungry was passing through a field. He saw a crow on the limb of a tree busily eating a piece of cheese, and at once trotted to the tree and sat down beneath it.
"Mr. Crow," said the fox in harsh and unfriendly tones, "you must share your cheese with me."
The crow looked down at the fox, but answered not a word as he took a peck at the piece of cheese.
"Mr. Crow," said the fox, in a voice that was still more harsh and unfriendly, "if you do not give me part of your cheese, I shall climb the tree and take it all away from you."
The crow looked down at the fox, but answered not a word. He knew very well that the fox could not climb the tree, and so he took another peck at the piece of cheese.
The fox, finding that he could not get the cheese by threats, bethought himself of using the craft for which he was famous. He remembered how a fox once got a piece of cheese from a crow by telling the crow that a sweet voice she had and then begging her to sing. That crow was holding the cheese in her bill, and when she opened her bill to sing she dropped the cheese to the ground, whereupon the fox seized it and ran away. Since that time all crows have carried their food in their claws and not in their bills. Therefore, the fox knew well that it would do no good to beg the crow to sing. How, then, could he get that cheese? He thought hard and looked hungrily up into the tree.
"Dear Mr. Crow," said the fox at last, "I was only joking when I spoke before, for I am your best friend. Only yesterday I was telling both the woodpecker and the blue jay how much more beautiful your plumage is than theirs."
The crow answered not a word, but looked down at his glossy black sides

Efficiency In Life

Efficiency is the word of the hour. There are efficiency schools and books and courses; efficiency lectures and teachers and doctors. There is now abroad a young army of efficiency engineers who will set your desk near your base of supplies and arrange your tools to conserve your motions; who will teach your office-boy how to fold circulars in one move instead of three; who will buy your materials with economy and dispatch; who will order your books and save your postage stamps, and do other laudable things.

But efficiency in life is a different matter. None of us would be willing to live our days according to a set programme—so many minutes for conversation, so many outdoors, so many for those home tasks that are sometimes duty and sometimes clear joy. How, then, can a life be efficient yet escape being mechanical? Does not such unmethodical living make for waste and inefficiency?
Not if you observe certain great principles.

In the first place, every life should have a purpose toward which it is living—something that is striving to become in itself—something that it definitely aims to contribute to the world life. Right here at the beginning we discover the lack in many lives. They drift on year to year, with no clear goal ahead. Business plans definitely for twenty-five, fifty, one hundred years; no business ever succeeded without a building for the future. How many of us plan that way to be strong and joyous and capable men and women?

In the second place the efficient life will take account of stock once in a while and discard the things that are valueless for its purpose. Most of us waste uncounted hours with persons who mean nothing to us. They merely happen to be in our vicinity. And meanwhile there are other persons who need us and whom we need, and we regret that we have no time for them. The same thing is true of books, of pleasures, of many other things. Look over your life, and see. And, finally, a year cannot be really and greatly efficient unless it is in contact with the Source of Power. If a telegraph or telephone wire is grounded the message cannot reach us. Too often our spiritual "wires" are grounded—covered by a drift of little, unimportant things, not harmful in themselves, but fatal in the end because they have kept us from God. To keep the current clear between God and the soul—their is the fundamental necessity of the efficient life.

Poor Mastication in Children.
The train of ills that follows the insufficient chewing of food is great and may start early in life. Many children—in fact, most children—unless watched and corrected, will "bolt" their food. When they are healthy they are also hungry, and it is natural that they should regard the mouth as a simple and rapid channel to the stomach. To teach them how to eat is often exceedingly tiresome, but it must be done, even at the cost of nagging.
Insufficient mastication is especially harmful to the young, because the full growth of all the passages of the nose and throat actually depends on proper exercise of the muscles of this region in the early years. The use of the jaws in mastication is one of the best ways for a child to get this exercise; and if he misses it, by reason of improper habits of eating, the consequences may be very disagreeable.
Children who are not taught to use their teeth are likely to have inadequate nasal passages and a sluggish, local circulation, which in time lead to constant attacks of influenza and prevent the growth of adenoids. The child whose nasal and throat passages are well developed and constantly fed with a stream of pure blood does not continually come down with "colds in the head," and is not likely to suffer from adenoid growths.

You sometimes see children whose parents are bringing them up in the most approved way hygienically. They sleep in large, well-ventilated nurseries; they spend hours each day in the open air, and all the resources of science are at their service; yet they are not healthy. They are anaemic, nervous, pale little mouth-breathers. It is well in such cases to examine the habits of eating. Sometimes a physician finds that the diet is too exclusively of the pap variety—that the child does not get a fair chance to use his teeth. In other cases, although the food is of the proper kind, the child is not made to masticate sufficiently. The results are equally unfortunate.
The nut-eating game is a good way to teach children to masticate properly. The child who can chew on a Brazil nut for the longest time is the prize winner. Everyone in the game discovers how very good the food tastes when it is eaten slowly, and begins to form the habit of long chewing.

With insect enemies scarce, and growth exceedingly vigorous, apple orchards promise to be in fine shape for next year even if they are not going to bear much this season.
With milk weighed every tenth day and a composite sample tested once a month, the actual yield of each cow for her full period of lactation can be found with but little trouble.