

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. An space is limited it is advisable where immediate reply is necessary that a stamped and addressed envelope be enclosed with the question, when the answer will be mailed direct.

WINTER WHEAT POINTERS

Ontario farmers at this time are busy with their preparation for winter wheat sowing. They are taking special care to give the ground the very best preparation, since winter wheat this year means money. Prices are high and there seems every indication that they will remain so. In fact, wheat prices have but a very few times surpassed that obtained at the present time. The United States has just harvested a moderately large crop and the government is calling for an increase of over 30% of the crop produced in 1917. Uncle Sam aims at over a billion bushels of wheat this coming year.

Now, there are ways and means by which the average farmer can increase both his wheat and his net profits. Be sure to see that the seed-bed has very thorough preparation. A rough, lumpy seed-bed leads to uneven planting, since many seeds are buried too deep and others fail to get sufficient covering.

If, after the ground is plowed, it has been carefully disked and harrowed, possibly rolled and harrowed also, the kernels of seed are packed sufficiently so that the moisture supply for the young growing wheat will be sufficient. This moisture supply is all important, because it is the carrier of plant-food. The plant obtains nearly all of its food through its roots, and this food can be taken up only when it is dissolved in the soil moisture and root juices. If this very simple explanation were fully comprehended by all Ontario wheat growers, it would eliminate a great number of failures.

Winter wheat cannot grow in a pool of water. It has to face the rigors of a rather severe winter. If the drainage conditions tend to retard its development and subsequently weak, ill-nourished wheat makes an unsuccessful attempt to face the severity of the Canadian winter. It will be of little avail to seed winter wheat in ground that is poorly drained. Use well-drained ground so that the plant may have suitable growing conditions. Volumes have been written about the best varieties of wheat. The Canadian farmer is fortunate in that he can refer to his provincial or Dominion tests. On both the experimental fields of Ontario Agricultural College and the Dominion experimental farms, leading varieties of wheat are carefully tested year by year. Only those that show superior value are retained. After these have been carefully studied, recommendations are made on the basis of the results obtained. For Ontario the following varieties have been found to give good results: Banatka, American Banner, Imperial Amber, Yaroslav, Crimean Red. The first variety of wheat is especially good milling wheat, since it is hard and flinty and makes strong flour. Most farmers know that Dawson's Golden Chaff is one of the good varieties. This is a heavy yielder, but produces a rather soft grain.

There is something beside variety, however. All cows are not record-breakers. There are some that give ten, twelve and fifteen thousand pounds of milk in a year, and then again there are some that do not give enough milk to pay their board and are an actual expense to the farmer. To counter-balance this, there are a few that produce extraordinary high milking records, upwards of twenty thousand pounds or over a year. These are very valuable and their calves are eagerly sought as breeding stock.

It is just the same story with wheat. Just because a sample of wheat is of a particular variety is no criterion that it is of first-class quality. You should use a fanning mill to sift out the small and shelled grain, because inferior plants take up soil room, absorb moisture, consume plant-food and fail to return the good results obtained from superior seed. If you have time, by all means test the vitality of the seed, that is, count out

100 wheat seeds. Place them between damp blotting, and keep them near the stove. In about four or five days the wheat should have sprouted sufficiently for you to count the number that are going to grow. If you find that the wheat sprouts but 80%, increase your quantity 20%, if you expect to get a normal stand.

Most farmers have wheat drills, but many good farmers have to rely upon sowing the winter wheat on the harrowed ground and then covering it by harrowing and rolling. If such is the case, be sure to take care that the seed is thoroughly covered. There should be very little difficulty this year as to the seed sprouting after it is planted, because the land has been blessed with seasonable showers.

In preparing the seed-bed, be very careful to avoid using sprouted seed. In sprouted seed the little germ covering is broken. If seed has been sprouted and the sprout has been broken off, there is little likelihood that it would produce a good healthy plant.

You took good care to feed up the young calf or the young pigs early in the spring, because you determined to have strong, vigorous stock. The same care should be taken in the feeding of the wheat crop. If best results are to be obtained.

Many farmers are interested in fertilizers this year, but unfortunately do not understand what fertilizers are, or how they should be used. Fertilizers are carriers of plant-food in such form that the plant-food quickly dissolves in the soil moisture and can be used by the crop. Now, some of the elements of the milk which the calf drank went to building its flesh. Other food in the milk went to building the bone of the animal. It is somewhat similar in the food of the plant. So that the farmer may know the relative amount of plant-grower, plant-ripening and plant-strengthening that the fertilizer carries, the Dominion Government in 1909 decreed that there should be stated on the bags in which the fertilizers are sold, and that the analysis should be guaranteed. Now, the farmer reads that the fertilizer contains 2 to 4% nitrogen, we shall say. That means that the mixture contains 40 to 80 lbs. of that kind of plant-food, which causes the wheat plant to grow rapidly. Manure contains to the ton about 15 lbs. of this kind of plant-food. Of course every bit of stock manure should be carefully spread on the ground and worked in, in order to increase the growth of the crops. Fertilizers should be used to supplement the manure, or to make it go two or three times as far.

We said that some of the food in the milk which the calf drank went to building the bone of the animal. Bone is composed of a combination of lime and phosphoric acid. Now, strange to say, it is the phosphorus from this same kind of a compound which is used by the plant to give strength to the growing plant and to hasten its maturity. The per cent. of phosphoric acid (P2O5) shown by the analysis on the bag, will tell you how much of this kind of plant-food there is in the mixture.

Under present international conditions, there is a great scarcity of the next plant-food ingredient, potash. Some fertilizers offer one per cent, but many are sold with only the first two ingredients of plant-food in them. Potash causes the formation of starch or the filling of the kernel. It also gives the plant power to resist disease. Speaking generally, wheat soils are fairly well supplied with potash, so the lack of this plant-food for wheat is not seriously noticed, as yet.

Now the plant never uses pure nitrogen, which is a gas, or pure phosphorus or potassium, which are metals. We said a ton of fertilizer carries from 40 to 80 lbs. of nitrogen, from 160 to 200 lbs. of phosphorus and possibly 20 to 40 lbs. of potash. The rest

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of the ton is made up of the carriers of these various plant-foods.

Fertilizers will not supply humus, as manure does. They induce rapid root growth and consequently add to the humus of the soil, in so far as they produce this result, but they are not essentially a source of humus. They should be used then intelligently, knowing that they are concentrated plant-food.

Fertilizers may be new to some Ontario farmers, but they are not new in their use in wheat-growing sections. England has been using immense quantities of fertilizers for nearly 100 years. So have the eastern provinces of this country and the eastern states of our neighbors to the South. The State of Ohio, which produces large quantities of winter wheat, makes wide use of fertilizers. Prof. Thorne, Director of Ohio Agricultural Experiment Station, has recently pointed out that if the farmers in the county where the experiment station is located followed the fertilizer practices of the station, they would have increased their wheat yields 14 bushels per acre. It is not a question of theory, it is a point already demonstrated. Ohio Experiment Station has increased its wheat yields from 12 to 14 bushels per acre by proper fertilization; Indiana, 11.6 bushels; and Missouri, from 4 to 10 bushels where careful tests have been carried out. If such an increase can be accomplished on the Ontario farms this year, the farmers of the province can take great advantage of the high prices which must prevail this coming year.

Compost.

Well rotted manure or other organic matter is known as "compost," or when mixed with soil as "composted soil." This last is invaluable for use in greenhouses, hotbeds and cold frames where a rich soil is necessary in order to give quick action. The compost is mainly used for top dressing a growing crop, for fertilizing the soil in seed beds and for mown hills. If it has not already been done, measures should at once be taken by the gardener who contemplates growing vegetables under glass next spring to prepare himself with a pile of composted soil. Composted soil is prepared by making a long flat topped pile of alternate layers of manure and grass sods turned upside down, or if this cannot be had use earth. The sides of the pile should be made as nearly perpendicular as possible and the top flattened to permit of the rains soaking in. It is well to build the pile in a shady place and, if the water is available, to give an occasional good soaking.

After the pile has been built and has been allowed to settle for a couple of weeks it should then be spaded over; that is, throwing the entire pile a shovelful at a time over into another place, in order to thoroughly incorporate the manure with the soil. All weeds and other vegetable debris from the garden should be thrown into the pile. There is nothing better for this purpose than leaves. Do not burn leaves that fall in the autumn; rake them into a pile and permit them to decay, as they make a splendid fertilizer. If a neighbor wishes to dispose of leaves induce him to dump them on your compost pile. Maple leaves make fine material for the compost heap. Pine them up and let them rot over winter and they will be ready for use as manure in the spring. A little lime spread under the leaves have been turned under will be sufficient to neutralize the soil. Oak leaves are more acid and a proportionately larger quantity of lime will be required.

Proper gardening requires a long period of preparation. Now is the time to begin preparations for another year. A man without a plan is like a ship without a rudder. We are all in the habit of condemning the man who has some sin of which we are not guilty, but may be the reason we are not guilty of his particular sin is because it does not appeal to us so strongly as some others do. We all have weaknesses, and what appeals to you might not tempt me. Instead of condemning our neighbor let us look to some of our own defects and see how far from perfection we may be.

Hoos

Even though the hog furnishes the most meat for a given amount of feed and will produce it in the quickest time, it is pointed out that this meat should be produced mainly from food wastes and not from good grain that would furnish food directly to man. The great economy in pork production comes from the fact that pigs furnish a food by-product from these wastes and do not need the high-grade feeds that beef cattle must have.

Wastes on farms and in the towns make good hog feed; by-products from canneries, bakeries, fisheries, packing plants and the like can be utilized as hog feed and to better economic advantage than in any other way. Dairy wastes are particularly valuable as hog feed and promote rapid growth with a good money return for every gallon fed.

The farm orchard furnishes large quantities of wind-fallen or defective fruit, which is relished by hogs, and is beneficial if fed in small quantities frequently, and not all at one feed. Garden wastes, tops of vegetables, culls of all sorts, even weeds, are readily eaten, and such as may not be eaten will be worked over, going into the bedding and adding to the manure.

Kitchen wastes are an excellent source of food for hogs, but should be kept at a minimum, because practically all food prepared for man's use should be eaten by him.

McDairy

Do not feed the dairy herd as a herd, for cows differ in their food requirements just as human beings do. By feeding all cows in the herd alike, some are sure not to get enough for the greatest profit and others will get more than they can use to advantage.

Cows need much water and should be induced to drink two or three times a day if possible. The average milk cow requires nearly a gallon of water a day and more than two-thirds of that must come as drink and the balance from water in the food. Always provide clean fresh water.

Salt should be supplied at the rate of five to seven ounces a week, given as often as twice during the week. Do not use a common salt box in the yard unless all the cows are absolutely free from disease.

It pays in dollars and cents to give the cow extra care. The cow that is kept comfortable will give the best returns.

There is no advantage in cooking or steaming feeds for dairy cows. Some unpalatable feeds may be consumed in larger quantities if cooked but cooking does not ordinarily add much to the palatability of grains and may even decrease their digestibility.

THE WAR SPIRIT.

The sights and sounds of summer nights
Have changed; the steely stars
Are glinting bayonets around
The crimson flag of Mars.

The bullfrogs in the reedy pond
Are pounding the big bass drums.
The fireflies in the dewy fields
Behold! are bursting bombs.

The cricket on the sile,
Along the misty hill
The waving branches simulate
A regiment at drill.

Soft bandages as white as snow
The garden-spiders spin,
The katydid has turned her tune,
And now command, "Fall in!"

—Minna Irving.

Destroying Poison Ivy.

Poison ivy will not be killed by a single cutting, as new shoots or suckers are persistently sent up from the root stocks. The root stocks must be exhausted by destroying the foliage as fast as it appears, either by repeated mowing or by spraying with a strong salt brine made at the rate of three pounds of common salt per gallon of water. If the weed it cut or sprayed in June and the treatment repeated about three times at intervals of ten days or two weeks the root stocks will become exhausted and die. Arsenite of soda (a violent poison), one-quarter pound per gallon of water, or crude oil may be substituted for the salt spray. Spraying does not affect the roots directly, but is simply equivalent to cutting. However, there is the advantage that one need not come into actual contact with the plant.

Your Problems

Mothers and daughters of all ages are cordially invited to write to this department. Initials only will be published with each question and its answer as a means of identification, but full name and address must be given 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, 233 Woodbine Ave., Toronto.

Mother:—Here is a sample day's diet for a three-year-old child. Breakfast, scraped fresh apple or orange juice, strained oatmeal and top milk, milk to drink. Morning lunch, milk, biscuit. Dinner, poached egg, tender vegetable put through sieve, stale bread and butter, corn starch pudding, milk to drink. Supper, rice and top milk, seedless jam sandwiches, milk to drink.

School Girl:—Try the following games at the party for your school friends:—

Hands and feet guessing.—To play this game divide the party into two bands. One is sent out of the room, the other stays in. Place a screen (one of the folding kind) in front of an open door. The members of the band that has been sent out of the room then walk past the open door behind the screen holding up one of their hands as they pass. The members of the band left in the room must then guess whose hand it is. For every hand guessed correctly a point is scored for the band. After all of one side has shown a hand it is the turn of the other side to go out and do the same. The side scoring the most points in the end wins.

If the feet are to be guessed instead of the hands, the screen should be raised a foot or so from the floor so that the shoes may be seen underneath and the rest of the body hidden. Obstacle Race.—There is plenty of laughter in this game. Those who do not know it are sent out of the room and let in one by one. The boy or girl who is called in is shown two or three small objects, such as a footstool, a vase, milk bottle, etc., that have been placed in a line on the floor. The order is, "walk blindfolded past these objects without touching them." The player is accordingly blindfolded, but before the hazardous trip is begun all the obstacles are removed. The boy or girl will pick steps very carefully, trying to sidestep what is really not there at all. At the end of the game, when all the players who have been tricked except the last one whose turn it then is are present, there is a very great deal of merriment.

Word game.—Choose sides and appoint a scorer and a timekeeper. A player from A's party is sent out of the room while B's party picks out a letter. The A player is then called in and the timekeeper says "Go." The letter is told and then he must say as fast as he can as many words beginning with that letter as he can think of on the spur of the moment. At the end of a minute the timekeeper stops him and his score is counted. One of B's side then goes out and does the same thing. So on the game goes until all players alternately have had a turn. The scores of each side are then counted, the one with the greatest number of words winning. Z and X may not be chosen.

Mrs. S. D.:—Lunch-box bills of fare are very important, and you are a wise mother to pay special attention to them. Pennies spent in the candy store at noon can undo all the good of the nourishment taken under watchful eyes in the morning and at night, and a nice lunch is the very best rival of a penny candy store. Here are some bills of fare that can be made up from dinner left-overs:

Crisp rolls hollowed out and filled with chopped meat or fish; season with a little salad dressing; a peach and an apple.

Cold slices of meat loaf, soda crackers, buttered; stewed fruit put in a little jar with screw-on top, and a piece of ginger-bread.

Baked-beans sandwiches, orange and a couple of pieces of candy.

Hard boiled eggs, rye bread and fruit.

Minced-beef sandwiches, apple sauce (in jars) and cake.

Honey and nut bran muffins are a valuable addition to the lunch box. Here is the recipe: ½ cup honey, 1 cup flour, from ¼ to ½ teaspoon soda, ¼ teaspoon salt, 2 cups bran, 1 tablespoon melted butter, 1½ cups milk, ½ cup finely chopped English walnuts. Sift together the flour, soda and salt, and mix them with the bran. Add the other ingredients and bake for 25 or 30 minutes in a hot oven in gem tins. This will make about 20 muffins.

Teasing a baby to make it laugh is a crying shame.

"Gladness of heart is the life of man, and the joyfulness of a man prolength his days."—Ecclesiasticus.

The farmer in Japan who has more than 10 acres of land is looked upon as a monopolist.

The farmer grows his crops without any practical help from the government, and his right to them is indisputable.

The silo originated in the southern part of Europe somewhat previous to 1845, and there are five or six still standing, have done constant service and are made of wood.

THE CHILDREN'S FOOD

Questions Every Mother Should Ask Herself.

Did each child take about a quart of milk in one form or another?

Have I taken pains to see that the milk that comes to my house has been handled in a clean way?

If I was obliged to serve skim-milk for the sake of cleanliness or economy, did I supply a little extra fat in some other way?

Were the fats which I gave the child of the wholesome kind found in milk, cream, butter, and salad oils, or of the unwholesome kind found in doughnuts and other fried foods?

Did I make good use of all skim-milk by using it in the preparation of cereal mushes, puddings, or otherwise?

Were all cereal foods thoroughly cooked?

Was the bread soggy? If so, was it because the loaves were too large, or because they were not cooked long enough?

Did I take pains to get a variety of foods from the cereal group by serving a "cereal mush" once during the day?

Did I keep in mind that while cereals are good foods in themselves, they do not take the place of meat, milk, eggs, fruit, and vegetables?

Did I keep in mind that children who do not have plenty of fruit and vegetables need whole wheat bread and whole grains served in other ways?

Did each child have an egg or an equivalent amount of meat, fish, or poultry?

Did any child have more than this of flesh foods or eggs? If so, might the money not have been better spent for fruits or vegetables?

If I was unable to get milk, meat, fish, poultry, or eggs, did I serve dried beans, or other legumes thoroughly cooked and carefully seasoned?

Were vegetables and fruits both on the child's bill of fare once during the day? If not, was it because we have not taken pains to raise them in our home garden?

Did either the fruit or the vegetable disagree with the child? If so, ought I to have cooked it more thoroughly, chopped it more finely, or have removed the skins or seeds?

Was the child given sweets between meals, or anything that tempted him to eat when he was not hungry?

Was he allowed to eat sweets when he should have been drinking milk or eating cereals, meat, eggs, fruit or vegetables?

Were the sweets given to the child simple, i. e., unmingled with much fat or with hard substances difficult to chew, and not highly flavored?

Was the food served in a neat and orderly way and did the child take time to chew his food properly?

Health

Regularity Vital to Health.

Regular hours for retiring must be considered as one of the best methods for securing good sleep.

The human body has a wonderful periodicity in all its spontaneous actions, and by studying these much of the machinery of health may be made to work smoothly.

Witness one habit of walking at a certain hour to which we have been accustomed.

Regularity of eating is most important for health. The digestive tract will respond at regular times just as other habits will repeat themselves. Proper food properly digested will do much for one's health and happiness.

It is a mistake to eat too much. We should try to enjoy our meals by paying attention to the taste of food. Do not gulp it down. It should be masticated and tasted so as to stimulate those nerves which reflect their sense on the other nerves controlling the glands of digestion.

When you feel indigestion after eating a meal, note the ingredients eaten, and should it repeat itself try to convict the guilty food and dismiss it from your dietary.

Don't make eating a task, but a pleasure.

Youth demands a greater variety and quantity of food than does old age, and especially does it require more protein and meat.

Learning what foodstuffs best suit is one of the greatest educational tasks man has before him, for he no longer has the intuition of the lower animals. The latter seem to inherit a sense that directs them to what is best for their bodily wants. The vast majority of animals can differentiate between poisonous and nonpoisonous foodstuffs.

The Human Skin

The human skin possesses a very extensive sewerage system. Microscopic examination of the skin shows it to contain numerous minute tubes, each about one-fourth of an inch in length.

The greater part of this tubing is coiled up in the fat just beneath the skin. The tubing opens upon the surface and continually discharges a watery secretion known as sweat. Under ordinary circumstances the amount of liquid discharged through the sweat glands is small, according to the best authorities, amounting to an ounce and one-half an hour.

When the body is exposed to great heat, and especially during muscular activity, the amount of perspiration may be increased to thirty or forty times the ordinary amount, or two or three pints an hour. The average amount is about forty ounces, or one and one-half pints, each twenty-four hours.

The anatomists tell us that in the entire twenty square feet of skin with which the body of a full-sized man is covered there are about three million sweat glands, aggregating twelve miles of tubing.

Each one of these three million sweat glands produces during a lifetime of sixty years about one-third of an ounce, or three hundred drops, of sweat. A little computation will show that it takes a sweat gland from two to two and one-half months to manufacture one drop of sweat.

The skin absorbs also. Hence it must be kept clean as well as active. Porous clothing, light, and preferably white in color, is best because it permits light and air to reach the skin.

The daily cold bath and bi-weekly cleansing bath at night (in warm weather) are essential means of skin hygiene.

EFFECT OF HIGH-PRICED COAL.

Many Old Steam Power Plants Being Replaced by Modern Ones.

We are possibly just as wasteful of coal as is the United States, where, according to V. H. Manning, Director of the United States Bureau of Mines, fully \$500,000,000 were wasted last year, through inefficiency in use. Notwithstanding the higher efficiency rendered possible by the constant improvement of modern power equipment, the waste is increasing and the higher price of the commodity is subjecting the country to a still heavier penalty. Every pound wasted is that much less available to put into energy to win the war.

In the modern, efficient power plant, 20 per cent. of the heat in the coal consumed is converted into power, whereas in small power stations the efficiency frequently drops below 10 per cent. It is quite probable that, on the average, only about 5 or 6 per cent. of the energy of the coal is transformed into useful energy ready for distribution. Were it possible to increase the average efficiency to something near the maximum now attainable, about three times as much energy would be available for the productive industries of the country. The increasing price of coal is causing many old, inefficient steam power plants to be replaced by modern ones that convert a higher percentage of the fuel consumed into power.

It takes the constant labor of 60,000 people to make matches for the world.

One kind of curiosity is a small boy with two grandmothers who isn't spoiled.

The Doings of the Duffs.

