

Farm Crop Queries

CONDUCTED BY PROF. 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. When writing kindly mention this paper. As 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.



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H. G.—Is nitrate of soda a good fertilizer for corn and bean crop? If so, how much do they sow per acre? And where could it be purchased? And how much per ton, sacked?

Answer:—Nitrate of soda is a strong stock and leaf growing fertilizer. If you apply it alone to corn and beans you are in danger of increasing a corn stock growth and bean straw growth to the detriment of the formation of ears and pods. Applied in conjunction with acid phosphate it makes a good source of nitrogen for these crops. Supply nitrate of soda at the rate of 100 to 150 pounds per acre along with 200 to 400 pounds of acid potash. It would be well to mix these materials before they are applied. As to the cost and where it can be purchased, if you will watch the agricultural papers you will see regular fertilizer advertising which will direct you where nitrate of soda can be purchased.

C. F.—Would it be advisable to set tamarack fence posts, and about how long would they last? Does a dry post last longer than the green?

Answer:—Government tests have fixed the life of tamarack fence posts under average conditions, at nine years. The dry posts last considerably longer than one that is green. If you are putting in any number of posts it would be advisable to make sure that they are first grade dried material. In some sections there has been quite a shortage of cedar posts and second growth "sappy" posts have been substituted. Aside from the shortness of life of posts of this kind, the staples tend to pull out of the soft posts. Under these conditions the wire is apt to come down or the galvanizing rub off, which of course shortens the life of the fence itself.

A great many farmers are now using steel fence posts. With this type of posts there has been considerable saving of time and labor in putting up the fence. This post can be set and driven in about a minute and the wire is easily attached with clips. Government tests estimate the life of these posts under average conditions at 30 years and while they are slightly more expensive than wooden posts, their longer life and the saving in time and labor in putting up the fence more than offsets the additional first cost.

W. J. A.—Will you please tell me a ration for milch cows? I am feeding good clover hay, good oat straw, bean pods and silage, corn and oats for grain. What else should I get to balance the ration?

Answer:—I would recommend the following ration for dairy cattle, in pounds per day:

50 pounds silage, 10 pounds hay, 2 pounds straw, 5 pounds ground oats and barley.

R. F.—I would like to have full information about Hubam clover.

Answer:—Hubam clover is an annual white clover which ripens the seed the same year that it was sown. This was discovered in 1916 by Professor Hughes, Iowa Agricultural Exp. Sta. It has been largely heralded through the eastern half of this continent and has been grown extensively in some sections. Like all sweet clover it grows very rank and has to be cut early in order to make fairly good hay. On very poor sandy or gravelly land or on hilly land there may be reason for growing sweet clover, but speaking generally, other clovers and alfalfa make better hay.

R. W.—Please tell me the quickest way to get pasture for the cows this spring; also how to obtain permanent pasture.

Answer:—For annual pasture the Ontario Agricultural College recommends 80 pounds of seed per acre made up as follows:

Oats 51 pounds, sorghum 30 pounds, red clover 7 pounds. If this is sown as early in the spring as the ground will work, it should be ready to pasture by the middle of June. For permanent pasture mixture you may choose alfalfa or a mixture of timothy and red clover. About 4 pounds of timothy, 2 pounds alsike and 6 pounds common red clover.

C. O. H.—I have had some experience in farming but not enough to venture out on my own responsibility. Isn't there some way by which I can learn more about it before I undertake farming again?

Answer:—Your best way would be to get in touch with the Ontario Agricultural College. They could direct you to some leading practical farmer where you would be able to learn practical points about the management of farms.

A. A.—I have a field of alfalfa but a rather poor stand. It did not get any lime when seed was sown. How would it be to apply lime next

spring and a little more seed and drag them in?

Answer:—You may apply lime this spring by scattering it broadcast through the alfalfa before the frost has gone out. This will sweeten the soil. In spring or as soon as the soil is sufficiently dry to work, scatter six or eight pounds of alfalfa per acre and drag them in lightly. The application of 200 to 250 pounds of a 2-10-4 fertilizer will help materially.

R. R.—I have a piece of ground in which I intended to sow vetch for a cover crop last fall but the dryness prevented. Can I sow it in the spring and get enough growth by May or June to make it worth while?

Answer:—You can sow spring or common vetch. This is exceedingly good as a cover crop and as material for hay for milking cows. Sow this in spring after danger of frost has passed. If the spring is fairly warm it should grow sufficiently rapidly to make a good cover crop by May or June.

R. R.—Can you give me a simple rule for finding the cubic contents of a round or cylindrical cistern fourteen feet deep and fourteen feet in diameter?

Answer:—The cubical contents of a cylindrical cistern fourteen feet deep by fourteen feet in diameter can be found by the following rule:

Twenty-two sevenths times radius squared, multiplied by the height. This would make 2,156 cubic feet.

B. W.—I am planning on raising some pigs. Please tell me if sweet clover will make a good permanent pasture for pigs.

Answer:—Sweet clover is recommended by some Experimental Stations for hog pasture. Michigan Exp. Station, for instance, says:

"Sweet clover is well suited to use as a pasture crop for hogs. If properly managed, it should reseed itself from year to year and produce a large amount of succulent forage at a minimum cost."

C. N.—What is the true name for rutabagas? Please tell me how to raise them, what fertilizer, and what kind of soil they do best on.

Answer:—The true name of rutabagas or swede turnip is Brassica Rapa. L. Turnips grow on most any soil but do best on medium loam. The soil should be thoroughly worked in the spring. Before the last harrowing scatter over the ground 500 lbs. per acre of a fertilizer analyzing 4 per cent. nitrogen, 8 per cent. phosphoric acid and 4 per cent. potash. Harrow this in thoroughly, then mould or rib up the ground, flatten the surface of the ribbed rows and sow seed along the top of each drill. Turnips should come up very quickly. As a rule they are not sown until after the spring rains so that the growing conditions are most favorable. Thin out the turnips to a distance of about 6 to 8 inches apart. Turnips make greatest growth in late summer or early fall. They are not injured until the heavy frosts kill all growth.

Poultry

Poultry raisers who produce capons for market should use judgment as to the breed of chickens used for this purpose. Leghorns and similar small breeds, which are essentially egg layers, should not be used, as they do not sell for enough advance over the price of spring roosters to make it a paying proposition.

Capons produced from Plymouth Rocks fetch the highest price and they take on enough weight to pay for the feeding. Rhode Island Reds are also good for this purpose, in fact, any large sized breeds are the best.

When consumers buy capons they generally want birds which will weigh from seven pounds up. Leghorn capons do not reach this weight and they consume as much feed as the larger birds.

Heavy capons sell from four to seven cents per pound over the price of spring roosters, while as before mentioned, the Leghorn capons bring about the same price as the young roosters.

The demand for capons is growing every year and there is always a market for them in the late winter and spring months when spring roosters become too coarse for roasting, but the producer should start with the right kind of stock.

Speed the hogs with feed.

Says Sam: All work and no play makes Jack a city boy.

The clocks set an example to many a man in town. It never fails to take a rest whenever it runs down.

The Treatment of Grain for Smut

The smut diseases of grain are of considerable economic importance and every farmer should know how to combat them for the sake of his own crops as well as those of his neighbors. The treatments which have been devised are comparatively simple and should find a place in the routine of every farm. The following is a list of the common smut diseases of grain crops, with the treatments for each; this is followed by a detailed description of the treatments:

WHEAT—Stinking Smut or Bunt: Thorough fanning of the seed grain will remove most of the smut balls. This should be followed by the formalin dip or sprinkle, which give perfect control. Copper carbonate dust is giving good results and is easier of application, but it has not been tested sufficiently to warrant general recommendation.

Loose Smut: This disease cannot be controlled by seed disinfection because the fungus spores are not carried on the surface of the seed, infection being produced by a small part of the fungus carried within the grain. Hot water treatment is the only means of control.

BARLEY—Covered Smut: Formalin dip or sprinkle.

Loose Smut: This is similar to the loose smut of wheat and can only be controlled by the use of the hot water treatment.

OATS—Smut: Use the dry formaldehyde treatment, or the formalin sprinkle. In the case of hullless oats, either of these treatments causes a serious loss in germination of the seed, and copper carbonate dust should be employed.

CORN—Smut: This disease is not transmitted in or on the seed grain, but is carried over in the soil from one year to the next and spreads in the field from infected to healthy plants, producing the smut "boils" on any part of the plant. A strict rotation, and as far as possible, the collection and burning of the "boils" are the only means of controlling its spread.

Treatments.

Formalin Dip: Fill bags half full of grain. Add one pint of formalin (40 per cent. formaldehyde) to 40 gallons of water, immerse bags in the solu-

tion for ten minutes, moving them up and down so as to drive out the air bubbles. Remove the bags and allow to drain and then spread out the grain to dry. Be sure not to replace the grain in the bags used for the seed before treatment, but either new bags or ones that have been soaked in the solution and dried. The solution does not lose strength by use.

Formalin Sprinkle: Dilute one pint of formalin (40 per cent. formaldehyde) with 40 gallons of water. Pile the grain on a clean floor. Sprinkle the solution on the grain with a broom or sprinkling can. Mix well by shovelling over. When the grain is evenly wetted, pile it again and cover with clean bags for two hours, then spread it out to dry and put into clean bags. Forty gallons of solution is sufficient for 40 to 50 bushels of seed. If seeding is done soon after the treatment, adjust the drill to allow a free flow of seed, or the stand will be too thin.

Dry Formalin Method: Dilute one part of formalin (40 per cent. formaldehyde) with one part of water and spray this solution on the grain, shovelling over at the same time. One quart of solution to 50 bushels of grain. Cover the pile with bags or blankets for five hours. The seed can then be sown without drying.

Copper Carbonate Dust: Two ounces of finely divided copper carbonate is used per bushel of seed. The seed and dust are put into a barrel and the open end covered by tying a piece of canvas or a sack over it. The barrel is then rolled around on the floor until the dust has been thoroughly distributed over the seed. This treatment can be done at any time prior to sowing.

Hot Water Treatment: This is a difficult treatment unless there is live steam used in the dairy on the farm, or unless there is a cheese factory nearby, where the treatment could be done. The bags of grain are placed in water and live steam turned in until the temperature is raised to 127 deg. F. Enough steam is then run in to maintain a temperature of 124 to 127 deg. for ten minutes. The bags are then taken out and drained and the grain spread out to dry.—E. L. Drayton, Plant Pathologist.

Sheep Notes

The care of the flock before lambing has an important relation to the financial returns which may be expected from the lamb crop. Ewes which are in poor condition and lacking in vigor will produce a large percentage of small, weak lambs. Such lambs require more care and feed to develop rapidly enough to reach the market early when the prices are usually highest. If the ewes are thin in flesh at lambing time they will not produce a good flow of milk. This retards growth and stunts the lambs. A

small, thin lamb nearly always sells as a cull on the market. There is usually a large supply of culs, with little demand; consequently culs always sell for the lowest price. Sheep producers will find that it pays well, from a market standpoint, to have the ewes in strong, vigorous condition at lambing time.

A ration of three to four pounds per head per day of clover or alfalfa hay alone may be used. Approximately one-quarter to one-half pound of corn should be added three to four weeks before lambing.

A more economical ration is two to three pounds of alfalfa or clover hay and two pounds of silage. The silage

Testing Seed Corn

Without good seed satisfactory crop production is impossible. Good crops of wheat, oats, and barley are grown each year without a seed test before seeding. Why can we not get the same condition in corn is frequently asked. Corn is different in many ways from the cereals mentioned and we cannot expect the high germination common to well ripened harvest grains. Corn ripens later in the season when damp days and nights are common. The grain is attached to an open pithy cob that is frequently slower in drying out than the grain is in ripening. The corn grain contains a large percentage of oil and the grain oils are not noted as preservatives, if subjected to many changes. The corn germ is not as well protected by coverings as is the germ in the other farm grains. The fact that wheat, oats and barley can generally be sown without a test and relied on to germinate has led many farmers to believe that the same holds good for corn, and they hesitate to do the necessary careful work and prove themselves the dependableness of the seed corn before planting.

A few hours devoted to corn testing during the slack season in February or March will frequently prove of greater value in providing corn with which to fill the corn crib or the silo the next autumn than many days of hard work in the field during the season of growth. With the seed carefully tested and proven capable of producing strong vigorous plants, the risk is removed from the most important of all the factors involved in corn growing.

Various methods of making a germination test have been devised and different measures of success in operation obtained. The elimination that follows experience has caused a discard of many methods and centred on the usefulness and simplicity of the Sawdust Corn Germination Box. This method requires a minimum of attention, it is easy to prepare and it is sure. The box used as a container for the sawdust can be of any convenient size, easy to handle or stack up. Boxes 80x30 inches and 5 inches deep are very satisfactory and are large enough to test the seed ears required to plant five or six acres. The seed bed is prepared as follows: Pack moist sawdust to the depth of three

inches in the box (old or dry sawdust, hardwood sawdust is to be desired). Mark off in squares 2½x2½ inches with pencil a piece of cotton sheeting checkerboard fashion, number the squares. Lay this sheet over the sawdust, press down and moisten. Take six grains of corn from the ears to be tested, two from near the butt, two from the centre and two from near the tip, and place these in each square, number the ear to correspond with the number of the square in which the six grains are placed. Using a piece of cotton of the same dimension as the box, lay it over the seed and press down gently, do not disturb the corn in the numbered spaces. Take a second cloth large enough to fold both ways or about twice the size of the box, lay this larger cloth over the box in such a way that it extends all around, cover the box area with warm, moist sawdust, piling directly on the last applied large cloth, pack the sawdust down well, by treading or stamping with a brick or heavy block of wood. This layer of sawdust should be two inches thick when firmed. Fold the extending portions of the cloth over the sawdust forming as it were a large pillow or pad. When this has been done, the box or boxes should be set away in a stable or room where the temperature is always above freezing and generally maintained at 60 to 70 degrees. If mice abound, cover the box with a wire screen. After eight or ten days examine the germination for results, lift off the sawdust pad and then very carefully roll back the cloth that is in direct contact with the corn. Take note of the germination of the kernels in each numbered square, and save or discard according to the strength of germination. Every ear that has given dead, mouldy or weak germinating kernels should be thrown into the feed bin and only those showing great vigor and freedom from mould should be used. At the end of ten days the sprout and roots should be at least two inches long. The box, sawdust and cloth should not be used a second time without thorough scalding; this is done to destroy fungus spores that may be present. The outside two inches of space should not be used, as it may dry out and check the germination of any seed placed near the edge of the box.

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Salt should be kept before the flock at all times; an unlimited supply of fresh water should also be available.

It is important that the ewes get a moderate amount of exercise and where the flock is not on pasture the rough feed should be placed some distance from the sheds or barn so that the flock will get exercise in going to and from their feed.

Care must always be taken that the pregnant ewes are not chased by dogs or jammed through narrow gates or doors, as any rough treatment will cause a large per cent. of loss of lambs.

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THE GOVERNMENTS of the countries above mentioned have expressed their willingness to aid the immigration of this class of their people. In order to fill such applications satisfactorily and bring the help to the farmer at the proper time and with a clear understanding of the requirements and obligations of each, a printed "Application for Help" form has been prepared which can be obtained from any of the offices listed below.

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