Farm Crop Queries

Henry G. Bell.

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 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.

Question—B.E.W.:—I have a field of corn which is now clean and growing very rapidly. I wish, however, to grow a green crop to plow under next year; and have a farm that has been run quite badly; but as you know, the corn crop this year is very late, and its value, if matured, will be greater than usual. Will the sowing of a cover crop now interfere with, or detract in any way from the present crop ripening early? And how much vetch and rye should be sown per acre?

Answer:—Regarding sowing a cover crop in your corn at this stage, I believe it will do no injury to the corn. You will gain in green material which you can plow under to improve the condition of the soil. A good mixture to sow is a bushel of rye to about three pecks of vetch.

The seed should be scattered between the corn rows and then worked in by a levelling cultivator or a narrow sectional harrow. It would be best done, of course, by a single row drill.

The addition of 200 lbs. to the acre of fertilizer analyzing approximately 2 per cent. ammonia and 10 to 12 per cent. available phosphoric acid would insure a good catch, and would also assist the ripening of the corn.

Question—F.W.G.:—I am told repeatedly that one should not cultivate beans after they bloom. They claim it is an old saying but cannot give any good reasons. Will you kindly advise me through your columns if there is anything to this and if so state why it should not be done.

Answer:—Growing beans should be cultivated very carefully. Men who handle large areas of beans say that most of the work should be put on the seed-bed and just sufficient cultivation should be given to keep down the weeds. If you will carefully dig up a plant of beans you will find that its roots spread out fairly near the surface and sufficiently wide to extend over half the distance between the rows. This being the case, a deep cultivation of beans, when the plant has made maximum growth, such as you will find at blossoming time, will cut off a large percent. of the small roots between the rows. The roots are the conveyors of plantfood. Then if you cut off the roots, you are to a certain extent starving the plant. From blossoming time to the filling of the pods of beans is a critical period for the bean crop. At such a time it requires a good supply of water; hence any injury to its root system should be carefully avoided. Another reason for avoiding cultivation at blossoming time is that there is a tendency during damp weather to spread bean disease, by the bean spores being carried by the cultivator or on the shoes or clothing of the workman.

Question—R.F.D.:—I have this year planted beans on heavy clover sod and have a fine crop of beans. I have been told I could plant another crop of beans next year without any added fertilizer on this same soil. I would like your advice on this subject. Another question I would like to ask is, should I be compelled to use commercial fertilizer? When is the best time to use it, fall or spring? Should I drill it in or spread it broadcast, and how much to the acre? This is a light loam sand soil.

Answer:—As a rule, beans should not follow beans. They should follow a cultivated crop like corn or potatoes. Of course, if your soil is in good shape and you have used a large amount of fertilizer this year, and if the beans have been absolutely free of disease, you may safely plant another crop next year where these stand. The last point is really the point of greatest importance, since bean diseases live in the soil for one or two years. On your light sandy loam soil you certainly will have to provide plantfood for next year's crop if you expect a good crop. The problem is just the same as is faced in feeding calves. If you expect the calf to do well from one year to another, you have to look out to supply an abundance of suitable food. Now fertilizers are carriers of plantfood and although the plantfood which you added this year may not all have been used up, yet I am of the opinion that you will find it profitable to make an addition of plantfood on next year's bean crop. On light sandy soils, especially if they are low in organic matter, it is profitable to top-dress the land after plowing in the spring with 6 to 8 loads of well rotted manure to the acre. This should be supplemented by the addition of acid phosphate or a complete fertilizer high in available phosphoric acid, at the rate of 200 to 400 pounds per acre, if largest yields of best quality are to be harvested. The fertilizer, of course, should be applied in the spring. Successful bean growers apply the fertilizer through the fertilizer attachment of the grain drill seven to fourteen days before planting the beans. If no grain drill is available any broadcast distributor will work, applying the fertilizer broadcast and working it in by harrowing and disking. When fertilizer is applied with a grain drill at planting time it should be allowed to run in the hole to each side of the one which drops the beans and not in the hole dropping the seed. Some successful bean growers go over the field twice, the first time drilling the fertilizer and the second time sowing the seed. This works the fertilizer into the soil and avoids the fertilizer and the beans coming in contact, the one with the other. While this method takes twice the time it mixes the fertilizer thoroughly with the soil, and the tender bean plants are never injured.

Question—J.B.A.:—As I have a field of alfalfa which I think would yield larger returns as seed I take the liberty of writing you for information in regard to the same. If you will kindly answer the following questions I will appreciate it very much. (1) Is the second crop the one to cut for seed? (2) About how many bushels per acre is an average yield? (3) Does it injure the future crops to cut it for seed? (4) Do you think the past hot weather has injured the prospects for seed?

Answer:—As a rule the second crop of alfalfa will produce the largest yield of seed in Canada; this for the reason that there are more bees at the time that the flowers of the second crop are in blossom than there are for the same period of the first crop. The seed should be cut when about two-thirds of the pods are filled; otherwise the earliest filled pods will shatter and some seed will be lost. From two to five bushels per acre is an average yield of alfalfa seed.

If the alfalfa crop has made a good strong growth and is well established, little injury will be done to the alfalfa by allowing it to come to seed, especially if after cutting the seed the crop is top-dressed with manure or fertilizer so as to give it strength to meet the coming winter conditions. The hot weather which has just past should not have injured the seed prospects unless the ground is very sandy and has dried out.

Question—H.J.:—I am trying alfalfa this year for the first time without a nurse crop. I will give you a brief outline of what I did and ask your advice as to the next move. Plowed seven acres this spring, three acres bean ground last year, four acres two-year meadow; worked it until about June 25th; sowed ground limestone on it, using about ten tons to the seven acres. Then I inoculated alfalfa seed and put it on about one peck per acre and dragged it in at once with a peg-tooth. The field is heavy clay for the most part, with a few sandy places. The field is rolling so it is pretty well drained. The seed came fine, a good stand. To-day the alfalfa stands six to eight inches high and is commencing to blossom, but in a good many places the leaves are turning yellow or pale green. Also quite a few thistles and ragweeds have come up along with it. Now the ground was so wet last spring that we could not draw out manure and we have 200 spreader loads or better in our barnyard. I decided this afternoon upon looking the field over to go over with mower and clip it quite high, then top-dress it quite heavy. What would you advise?

Answer:—I believe you have handled your new alfalfa field wisely. I would not top-dress it too heavy with manure just at the present time, but would give it a second top-dressing either late in the fall or early in the spring. My thought is that too heavy a top-dressing might smother out some of the tender plants. If after cutting and manuring, the crop does not make a good healthy growth, I would advise you to top-dress still further with 200 lbs. per acre of fertilizer carrying 1 to 2 per cent. ammonia, and 10 to 12 per cent. phosphoric acid. This will tend to invigorate the plant and give the crop strength to withstand winter conditions.

Storing Potatoes.

In storing potatoes a cellar or half cellar is best. The material used in building a storage house does not greatly matter. Either wood or stone masonry will serve. The material should be waterproof. Depth under ground is not of moment so long as it is sufficient to insure against freezing. Of course if the storehouse is heated you do not have to consider this. The ordinary house cellar is safe enough in this part of the country, though houses with a double cellar, the furnace in one part and the other part for vegetable storage, are particularly favored.

There are three things to keep in mind:

The temperature must be kept as low as possible without freezing.

The air must be as dry as possible all the time.

The place must be kept dark.

Keep the temperature as near 32 deg. Fahrenheit as you can; the ideal range is between 30 and 36 Fahrenheit. Potatoes in large quantities will not freeze at 28 deg. Fahrenheit if exposed to this temperature for not more than an hour or two.

To figure space allow 1¼ cubic feet for each bushel of potatoes.

There must be ventilation. If you are building a storehouse or semi-cellar build it in line with the wind generally prevailing through the winter. In spring leave the door open at night, closing it in the day. Doors or windows at either end to secure a draught through are desirable.

Store only clean potatoes. Potatoes breathe. Dirt chokes their respiration. Cover the floor completely before you begin putting them on top of each other.

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Silage As A Grain Substitute

By E. W. Gage.

The prevailing high prices of grain feeds in the face of very moderate prices paid for dairy products have reduced the dairy farmer's profits to a point where it is an open question with many whether it is possible to make the cow pay for the large grain ration necessary. Several dairymen have found that if they are able to dispense with half the grain he formerly fed without materially reducing the milk production and butter-fat, the chances for profit have increased at a smaller cost of production.

Tests Show Advantages

Several feeding experiments have been held in various sections of New York State to determine just what position silage may be made to occupy in the dairy cow's ration, and the relative basis for feeding as compared with purchased grains. In one of these tests ten cows were used, representing five different breeds, to determine what effect the feeding of more silage than is usually fed, with a corresponding reduction in the grain portion of the ration might have upon the production of milk, butter-fat, gain in weight, cost of ration, and consequent profit.

The general plan of this experiment was to compare two rations which should carry as nearly as possible the same amount of dry matter and nutrients. In one ration these nutrients were to be derived largely from roughage, mainly silage; in the other ration no silage was to be fed and as little roughage as seemed wise, the bulk of the nutrients being derived from concentrates. The two rations fed carried practically the same amount of dry matter. In one over fifty per cent. of this dry matter was derived from silage and less than eighteen per cent. from grain. In the other over fifty-seven per cent. of the dry matter was from grain, no silage being fed.

The silage used in the test was a mixture of one ton of soy beans and cowpeas to two and a half tons of silage corn. There were nearly twice as many soy beans in the mixture as cowpeas. The silage corn was very low in dry matter, owing to an unfortunate season. The silage was found to contain 18.63 per cent. dry matter, 2.36 per cent. protein, 4.68 per cent. crude fibre, 0.92 per cent of fat, and 9.36 per cent. of nitrogen free extract, being richer in protein and poorer in carbohydrates than average corn silage on account of the admixtue of soy beans and cowpeas.

The cows fed the silage ration produced 96.7 pounds of milk and 5.08 pounds of butter-fat per hundred pounds of dry matter; those fed the grain ration produced 81.3 pounds of milk and 3.9 pounds of butter-fat.

The cost of feed per hundred pounds of milk produced was $0.687 with the silage ration and $1.055 with the grain ration. The cost of feed per pound of butter-fat was 13.1 cents with the silage ration and 22.1 cents with the grain ration. The average net profit per cow per month (over cost of feed) was $5.864 with the silage ration and $2.465 with the grain ration.

Silage is a Grain Substitute

Comparing the average daily product of each cow for the entire test with her average daily product for the month previous to the change in ration (or the first month of their test in the case of two cows), the cows fed the silage ration shrank 2.84 per cent. in milk and gained 1.89 per cent. in butter-fat production. The cows fed the grain ration shrank 9.11 per cent. in milk and 14.18 in butter-fat production. Upon the conclusion of the experiment each lot of cows was found to have gained in live weight—the silage-fed cows an average of forty-seven pounds per head; the grain-fed cows an average of fifty-seven pounds.

The facts reported seem to justify the conclusion that silage can be made to take the place of considerable grain that is being fed to dairy cows in various dairy sections. Growing more feeds rich in protein—clover, alfalfa, soy beans, cowpeas, field peas, vetches—and ensiloing them, or feeding them as hay, will be possible to further reduce the amount of feed cost, and to increase the profits of the dairy herd.

The Sunday School

INTERNATIONAL LESSON SEPTEMBER 23.

Lesson XIII. Daniel In The Lions' Den—Daniel 6. Golden Text—Psa. 34, 7.

According to Dan. 1. 21, Daniel continued at the court of Babylon from the days of Nebuchadnezzar to those of Cyrus, who, according to the author, succeeded Darius, under whom the events narrated in the lesson text are said to have taken place (Dan. 6. 1). Under earlier kings Daniel had had opportunity to prove his loyalty to the God of Israel as also his usefulness to the kings; under Darius his faith was subjected to a new test. The situation was this: The friendly attitude of Darius toward Daniel displeased the officials, who plotted against his life (verses 1-5). As a part of their scheme, they induced Darius to sign a decree forbidding any man to ask anything of any god or man, except the king, for a period of thirty days (verses 6-9). At this point the narrative of the lesson text begins.

Verses 10-17. Daniel continues his custom to pray to the God of Israel; he is discovered, and though the king seeks to save him, is finally thrown to the lions. Chamber—Better, roof-chamber; that is, a room raised above the flat roof of an Oriental house, a place of quietness and retirement. Toward Jerusalem—A standing custom in later Judaism to pray with the face turned toward Jerusalem, or to the temple; which signified a turning toward Jehovah. Three times—Perhaps in the morning, at noon, and in the evening (Psa. 55. 17). Deliver—Unable to save Daniel, the king seeks to cheer him. Changed—That nothing might be done by the king or anyone else to rescue Daniel.

18-23. Contrary to all expectation, Daniel was miraculously delivered. Instruments of music—Word of uncertain meaning; perhaps, dancing girls, or concubines. The king was so troubled that he did not indulge in the usual diversions. Lamentable—Better, pained, or agonized. God . . . angel—A full recognition that the deliverance is due to divine interference. The king rejoiced over the rescue of Daniel and then ordered the accusers thrown to the lions. He also issued a decree exalting the God of Daniel, and heaped new honors upon the latter.

Horse Sense

Colts show to best advantage if taught to stand and lead before they are taken into the show ring. Teach them to walk and go through all the paces to which they will be subjected by the judges. Grooming the coat, combing and decorating the mane and tail, add much to the appearance of a show animal.

The exposure of young horses to the short spells of severe weather which occur frequently during the fall, causes a shrinkage in live weight and is a hindrance to rapid and economical development. Older horses seem to stand this sort of treatment with less loss. It it doubtless true that animals become accustomed to winter weather but frequent changes from fine fall weather to bad storms retard gains in colts without shelter.

Four yearling Percheron fillies with an average weight of 1169 pounds on pasture, with a ration of six pounds of corn and oats (one-half of each by weight) daily shrunk an average of 32 pounds each during the spell of severe weather on October 18 to 20 of last year, at an Experimental Station. Aged mares in foal lost only slightly during the same period.

Inexpensive sheds which will protect colts from wind, rain, sleet, and snow will prevent part of such loss in weight. Growing horses should not be housed too closely and prevented from taking plenty of exercise, but they should not be subjected to extremely bad weather if they are expected to make satisfactory growth.

Why sow choice wheat and timothy seed on land, and weeds and yellow dock and plantain in the heart?

Your Problems

Conducted by Mrs Helen Law

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, 231 Woodbine Ave., Toronto.

Daughter:—The author of "Martha By The Day" is Julie M. Lippmann. This entertaining story may be had at any of the large bookstores for sixty cents.

Stephanie:—A healing lip salve is made of one ounce cold cream, 15 drops of tincture of benzoin and 30 drops of glycerine. Rub the cold cream and glycerine together and then incorporate the benzoin with the mass. Rub with a spatula or flexible knife on a flat tile or plate. A mixture called cream of roses is also good. Melt an ounce of white vaseline and half an ounce of white wax and beat. When nearly cold add three drops of attar of roses.

E.B.S.:—1. Here is a good recipe for oatmeal muffins: Take one-half cupful milk, one well-beaten egg, one teaspoonful butter, one tablespoonful sugar, one cupful flour, into which has been sifted two teaspoonfuls baking powder and one cupful oatmeal mush. Stir well together and bake in hot muffin pans in moderate oven. 2. Perspiration stains can be removed from a blouse by soaking in strong salt water before washing. 3. The best and simplest way to mend a torn net curtain is to dip a square of net cut to fit into cold starch, lay on the wrong side of the curtain over the rent and iron with a hot iron. 4. A letter of acknowledgement for a wedding gift which has been sent by a whole family should be addressed to the mother but should contain mention of the other members. 5. It is good form to display wedding gifts in a room especially set apart for them. 6. When wedding gifts are on view the cards of the donors should be removed. 7. The best man usually takes charge of the wedding ring and the clergyman's fee.

Would-be Benefactress:—How does the following idea appeal to you: A woman living in a small town originated a novel plan for circulating reading matter among her neighbors of the outlying country districts. Her first step was to collect among her acquaintances all the used books and magazines that she could find. After sorting and arranging the collection she divided it up with an eye to suitability and variety, made each stack into a neat package and distributed the packages among the farm vehicles that stood hitched every day in the market place and wagon yards. It was not long before the farmers found her out and came to tell her what the contents of the bundles meant to them. They passed the reading matter, they said, from one family to another, so that each might have the benefit of it all. They reported also an unwritten law of their own making—that for every lost or badly injured book or magazine a fine should be paid, in the shape of a bit of farm produce, to be delivered to the giver of the books for the town poor among whom she worked.

The fines filled as real a need as the reading matter had filled; and since the farmers have begun to realize the fact, they carry their tributes straight to the doors of the recipients. Scarcely a week comes that the country people of the magazine circuit fail to bring in a little farm produce—turnips or berries or, in early spring, samples of the new green vegetables that city dwellers crave.

The outcome of the plan has been the establishment of a friendly circle that widens steadily. Good reading is put into the hands of appreciative people; the people themselves are brought into touch with others whose material needs are greater than their own; and the poor become the beneficiaries of a unique form of spontaneous giving. A great deal more than reading matter, in fact, is put into circulation.

Mrs. C. D.:—Yes, there are munition factories in the towns you mention, but they in common with all other plants in Canada just now are not engaging any more workmen. On the contrary they are dismissing their employees, as the supply of ammunition is abundant and the demand is steadily decreasing. It would be better to seek employment at some other occupation.

Bedtime Stories

Alan's Great Surprise.

When Laura's and Mary Anna's big brother, Alan, was a little fellow, he had to go to bed at eight o'clock every night except Friday and Saturday. He thought it was a hard thing to do, especially in the spring and early summer. Perhaps if he had been a country boy it would not have seemed so hard; but he lived in the city, where dozens of other boys were his near neighbors. The other boys went to the same school that Alan attended, and they were allowed to stay up and to play outdoors until nine o'clock every evening, and sometimes later.

Long after Alan was in bed, with his head on his pillow, but with his eyes wide open, he used to hear the boys playing ball in front of their houses, or hide and seek round the houses, or shouting like Indians, just for fun.

Spring, summer, fall and winter, it was all the same while Alan was a little boy; his bedtime when he went to school was eight o'clock.

Alan was well, and he learned his lessons easily. Both his father and his mother told him that he was well and that his eyes were bright and that he learned his lessons so easily because he went to bed early every night. He thought they were mistaken, but he did not say so. Instead, he kept his thoughts about it to himself.

Then one day came his great surprise. It was in June, a few weeks before the long vacation, and just the kind of day when everyone wishes to be outdoors, even the teachers. Birds were singing, and the air was sweet with the smell of roses. A gentle breeze wandered into the schoolroom, as if to call the boys and girls outside to play.

The children were not studying their lessons as if they cared at all who General Wolfe was, or where the highest mountains are, or the longest rivers or the largest cities, or how to spell hard words.

Alan was thinking of his big brother, Lee, who was in the high school. The high school boys had a holiday that afternoon, and Lee had planned to take the baby sisters, Laura and Mary Anna, in the automobile for a ride into the country. Little brother Alan was thinking of that when the teacher said to all the children, "You may lay aside your books for a moment, if you please."

Quickly all the children closed their books and sat straight, glad to listen to what the teacher had to say; they were expecting a surprise. The next moment Alan wished that he was anywhere else except in that schoolroom, because this is the question that the teacher asked:

"How many boys and girls in this room are in bed before nine o'clock every night except Friday nights and Saturday nights? All who are, please stand."

Alan despised a lie; so he stood beside his desk and tried not to notice that the boys who were his neighbors were snickering behind their hands.

A moment the teacher waited, thinking that others would stand; but no one else rose. Alan stood alone. He felt utterly miserable and wretched until the teacher said, "You may be seated, Alan."

Then came the great surprise: The teacher made a speech; she said she knew that Alan always went to bed early. How did she know it? Because he always came to school fresh and rested, bright of eye and ready for work. She said she could tell who sat up late and who went to bed early by the work they did in school. She could pick them out and name them if she chose.

When the teacher said that, several little girls turned red, and at least one boy looked foolish and ashamed. But the teacher did not mention any names; she only said that she was sorry that Alan was the only one who dared to stand. Then she advised all except Alan to open their books and study their lessons. But she told Alan to go home and have a good time; he had earned a holiday.

Alan walked a step at a time,—a step at a time, politely,—until he reached the big outside door; then he flew down the steps and ran home at the top of his speed, to get into the automobile on the front seat beside Lee for the ride into the country!

Orchid is Oddest of Plants.

Oddest of all plants are the orchids. They grow in all sorts of queer ways—some of them deriving the whole of their sustenance from the air. They are mostly tropical plants. Their flowers, in some instances, mimic butterflies. Altogether there is a good deal of the weird about them. But most remarkable of them all is the Holy Ghost orchid—so called because in each one of its beautiful blossoms there sits a miniature dove, with outspread wings, as if just ready to fly away. It is perhaps the most remarkable of nature's many curious imitations.