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 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.

Henry G. Bell.

Question—G. L. L.:—(1) I would like to learn a little about pit silos. I think they have a great many advantages and would like to try one. State how the gas trouble is overcome, and how the digging and plastering are done

(2) Have we not been cautioned to provide drainage for the inside of the silo to prevent actual accumulation of liquid. How can this be done in a water-tight pit?

(3) Is there any simple way of removing the silage from a pit silo.

Answer:—(1) Lowering a light into the silo will soon discover the presence of gas, since if it is present the light will go out immediately. The gas is heavier than air; hence, if you throw in a couple of feet of coarse blocks or rocks there will be room for the gas to settle at the bottom of the silo and not occupy the volume where the silage rests.

As to the digging and plastering, in digging a pit silo the dirt can be throw out to a depth of six or eight feet, but it is best to throw it out to a depth of about five feet and then true up and plaster the walls. Otherwise it will be necessary to build a scaffolding inside the silo. Care should be taken not to dig out too far, so that there will be holes or uneven places in the walls of the silo. It is best to leave three or four inches at east to be removed when the walls are finally trued.

After you have excavated about five or six feet and have the walls trued, they should be plastered with a good cement mortar. The first coat can be put on about a half an inch thick, and should be made of one part cement and three parts clean sand, and plastered right on the dirt walls. If the weather is rather hot and the walls have dried out considerably, it would be best to sprinkle them, so that they will be moist when the cement is put on. As it is desirable to have this cement three-quarters of an inch to one inch thick on the walls it would perhaps require three coats to do this, as not more than one-quarter of an inch can be put on at a time after the first coat. After the first coat has been put on, it will probably be possible to follow with the second coat, since the first sets rapidly, but the second coat will require time to set.

(2) There are two ways of getting rid of the moisture in the bottom of the pit silo. The first is to run a pipe from the bottom of the silo up to the ground level, and have it connected with a small pump. If moisture gathers in the bottom of the silo it can be pumped out at intervals. The second means of procuring good drainage is to arrange for a small drain pipe to run from the lowest point in the pit silo and connect with some outside drain. Before it is time to put the silage in, open this drain pipe and allow the water to drain out. After the silo is thoroughly drained close the pipe by driving a close fitting plug in the end of it. This will prevent the entrance of air.

(3) The hoist which was erected for getting out the dirt when building the silo can be used for taking out silage. A box with a capacity of about 10 bushels of silage is sometimes used. This box is provided with two 8-inch wheels under one end, and the other end has handles, so that it is possible to use this in the same way that a wheelbarrow is used. After the silage is used down to some distance, a horse or a gasoline engine can be used as a source of power to run this hoist.

CONTROLLING POTATO DISEASES

The Exercise of a Little Care Will Prevent Enormous Losses From Scab and Blight—Simple Preventative Measures.

By Henry G. Bell, Agronomist.

There are two grave periods in the life of the potato crop from the disease control standpoint. This first is before the crop is planted; the second is about the time the plants are making a good growth and extends up until maturity. Enormous losses are suffered by the potato growers, all of which are easily avoided by the exercising of a little care and time. It is so easy to treat all potato seeds that most men fail to do it properly because the method looks so simple.

Potato scab, for instance, is very widely distributed. It may easily be controlled by using the formalin method or the corrosive sublimate treatment. Formalin may be purchased at any drug store and should be used at the rate of one pint of formalin to 30 gallons of water. Place the potatoes in a gunny sack and soak in the formalin solution for two hours, then spread the seed out on the floor to dry before cutting. All sacks, machinery, baskets, knives and whatever else touches the seed should always be disinfected.

However, I prefer the corrosive sublimate treatment, as this not only controls scab but also controls the disease commonly called Rhizoctonia, which has become quite prevalent in many potato growing sections. This treatment is quite simple and inexpensive. Four ounces of corrosive sublimate, (which can be purchased at any drug store) should be dissolved in two gallons of hot water, after which enough water should be added to bring the mixture up to 30 gallons. This material should be placed in wooden vessels as it will destroy iron or tin. Lower the potatoes into the vessel before cutting and allow them to remain for one and one-half hours. This mixture should only be used four times after which it should be thrown away and a new lot made up. It may be advisable to gradually lengthen the time that each lot remains in the mixture, after the first. Corrossive sublimate is a poison and should not be placed where children or animals can get hold of it or drink the mixture. The latter treatment will absolutely control potato scab and Rhizoctonia and costs so little that no one can afford not to dip the potatoes.

Blight.

Potatoes in many sections also suffer from both early and late blight, which frequently kills the vines and causes the tubers to rot. These diseases very frequently cause heavy losses but they can be controlled by spraying with Bordeaux mixture. It requires, however, that the spraying be started early. The first spraying should be done when the plants are 6 to 8 inches high. Spraying must be used as a precautionary or insurance measure. If it is not begun until after the blight has attacked the crop only partial control can be expected.

In mixing up the Bordeaux mixture use four pounds of copper sulphate (blue vitrol) and four pounds of stone lime to 50 gallons of water. In mixing up the solution the copper sulphate should be dissolved in hot water and enough water added to make 25 gallons. In the same way the lime should be dissolved separately in a small quantity of water and enough added to make up 25 gallons. This diluted lime solution should be strained through cheese cloth or a fine wire strainer after which the two solutions should be mixed together by pouring into a large barrel or tank the spray. For best results it is a good idea to have a half barrel in which to mix the lime solutions and another for mixing the copper sulphate. The mixture should be thoroughly stirred or agitated while being sprayed. The Bordeaux solution should be used as soon as made. It depreciates very rapidly when standing for any length of time. Great care should be used in applying the spray so as to thoroughly cover the leaves, both on top and on the under side. This may be accomplished by having a sprayer with three nozzles, one suspended over the top of the row and one on each side, spraying both the side and beneath the leaves. The "Potato Bug" may be controlled by adding one pound of Paris Green or 2 to 3 pounds of Arsenate of Lead to the Bordeaux solution and both applied at the same time.

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, 235 Woodbine Ave., Toronto.

H. K.:—Gardening is of the greatest benefit to children. Not only is the work healthful for the body, but it is a real character builder and mental trainer. There is hardly one of the moral virtues which is not inculcated by gardening. We learn faith as we plant the tiny seeds in the confidence that God will give the increase; we learn that we must do our share when we water, prune and weed; we see the advantage of generosity as we note that the more we cut the flowers the more richly they bloom; we learn patience and perseverance in working for a harvest that is worth while. Then, too, the study of the plants' growth teaches us the great secrets of life, while the artistic sense is awakened and trained by observation of the lines, colors and forms of vegetation. Another advantage of gardening is the sense of responsibility which it engenders, together with the joy of achievement, for the child, feeling that even the tiniest bed is its very own to be tilled and planted and cherished, takes a special pride and pleasure in the toil. That reminds up that grown-ups are not playing fair when they let the little farmer fret and plan and work, and then calmly gather the results of his labor without even the courtesy of asking permission, much less offering any thanks or compensation.

E. R. S.:—The moral value of clean sport is admitted by every one who has had anything to do with training boys. There is no cleaner sport than tennis. It puts a player on his honor. Its etiquette requires that the opponent should always have the benefit of the doubt. For the boy you mention it would be especially valuable. Tennis, I am told, has developed one little fellow into a crack player who has the courage to lose a match rather than lose his respect for himself by accepting a mistaken decision of the umpire.

A. J. B.:—The Boston fern, like all of its tribe, should not get too much sun, but plenty of light. The secret of fern success is in watering. Do not water from the top, but put the pot in a basin or tub of water reaching half way up over night. Do this twice a week. Also wash the leaves off weekly with a little weak soap water.

J. H. L.:—A very hot oven is usually required for pastry. To test it place a spoonful of flour in the oven. This should brown in one minute's time.

M. D.:—1. Long hot baths are depleting. Hot baths for tonic effect should be short and always followed by a cold bath. A short hot bath lasting half a minute or a minute may be taken every morning without injury. The best time to take a sweating bath is before retiring at night. In such cases the bath should be followed by a neutral bath at 92 to 95 degrees F. for fifteen minutes. 2. It is not harmful to eat fruit a half hour before breakfast if one likes it that way. The combinations you mention of acid and sweet fruits, such as oranges and stewed prunes or figs, are wholesome. 3. To pasteurize milk for a child it is not necessary to boil it, but merely to heat it to a temperature of 142-145 degrees and keep it there for at least thirty minutes. If the milk is pasteurized in a bottle or other container which has been placed in a kettle of water, heat the water to 145-148 degrees, so that the milk will be at 142 degrees at least. Boiling temperature is 220 degrees. 4. A person is most susceptible to colds when tired.

The Sunday School

INTERNATIONAL LESSON MAY 6.

Lesson VI.—Jesus The Servant of All —John 13. 1-17. Golden Text Mark 10. 44.

Verse 3. The knowledge that he was Lord of all prompted Jesus only to act as servant of all. The knowledge that he was in this world only on his way from God to God makes menial work majestic: what are this world's standards to him!

4. Garments, not only the upper one. In Indian language, he adopts collie costume to do coolie work: the towel serves as his dhoti. One has to visit the East to realize how intensely degraded a man feels when made to do the work of a caste below him. The Son of God does a slave's work, to show that a man cannot be degraded by the work he does; then he dies a slave's death and shows a man cannot be degraded by what is done to him.

6. Cometh—Apparently not first. Verse 24 suggests that Peter was sitting some distance away. It would be just like Judas to take the place next Jesus, and receive this washing first. We can picture the others accepting it in utter bewilderment, too ashamed to speak. That was not Peter's way. Every word of his sharp out-cry carries all the emphasis Peter was capable of: thou hast most.

7. I and the first thou are both emphatic.

8. Peter finds the promise too vague, and it does not grip him: all he can think of is the utter shame of letting his idolized Master do such a thing for him! No part—Compare Acts 8. 21. No share with him in his work and his glory, unless he has cleansed him first. The very suggestion sends Peter into the other extreme.

10. A banqueter starts his preparations at home with a bath. In the dirty streets on his way to the host's house he gets his feet and calves badly splashed. So on entering the house, a slave removes his sandals (Matt. 3. 11—so read),, and another brings water and washes his feet (Luke 7. 44). So he proceeds to the meal.

11. This is parenthetic. Judas had received the washing, but it did not cleanse him any more than the parable of heavenly bread and wine gave him eternal life.

12. Know—Rather understand: it is so rendered in verse 7.

13. Teacher—The English Revised Version Master gives the note of authority better, and comes nearer to the original Rabbi. Lord—Authority over mind and heart (compare the Indian guru), and royal rights over the whole life, are the notes of the two titles.

When love is strong,
It never tarries to take heed,
Or know if its return exceeds
Its gift; in its sweet haste no greed,
No strifes belong.

—Helen Hunt Jackson.

Horse Sense

The symptoms of ring-bone are generally irregular lameness followed by constant lameness with a bony enlargement, partially or completely surrounding the coronet or pastern.

The best treatment is rest, then blister with 2 drams each of biniodide of mercury and cantharides mixed with 2 ounces vaseline, repeat in about two weeks. If this fails to cure have joint fired and blistered.

As the heavy spring work comes on, the work teams should be fed and cared for in the most careful way.

To increase the efficiency of the farm team means dollars in the pocket of the farmer.

The best way to feed for efficiency is to cut the hay, sprinkle it with water and mix the ground grain ration with it.

This ration is to be fed in the morning; at noon, feed whole grain; at night, give the cut hay and ground ration, and a little long hay in the mangers for the horses to pick at if they want it.

The hay can be soaked from one feeding to the next if desired. For old horses this is a good plan.

Docking or cutting off the tails of horses is a cruelty that lasts through life. They can never, after this cruel operation, brush off the flies and mosquitoes that make their life every summer a torment.

At Dominion Experiment Farms the cost of feeding colts rising one year old was found to average 10.6 cents per day, for colts coming two years old 9.33 cents., and for coming three-year-olds 6.08 cents. The total cost up to three years old was $71.96.

Hogs

If sows are fat when pigs are farrowed keep down the grain ration for the first two weeks.

If kept right, hogs are not apt to have much the matter with them. Good feed, a dry, warm place to stay, and a kind master, and you may leave the hog medicine down at the store.

There is not so much call for very fat pork as there was a few years ago. Sensible, too. The streak of lean ought to be a good thick one.

How much does it cost you to get a pound of pork? Figure on that a little; it will pay.

Not one farmer out of a thousand ever puts his hog on the scales until after he has ceased to be a hog and becomes cold pork. That is why so few really know how much it costs to make pork. But it would pay to weigh or measure feed and let the scales set you right on matters of cost of production.

Bedtime Stories

April's Way.

Fair April pinned a violet
Upon her dress of green,
And stepped out bravely in the sun
So that she might be seen.

She was a very charming sight,
Foretelling summer hours;
And when the raindrops pattered down
We called them April showers.

There is a way that April has
Of smiling through her tears;
And always when she smiles the sun
Up in the sky appears.

She knows that rain and sun are both
Spring's welcome guests, and so
She drops a tear chased by a smile
To make the flowers grow.

The Happy Spider.

"Swing high, swing low,
High hee, high ho!
Never despair,
Just swing, in the air.
It's all in a spider's life."

"Won't you please make a little less noise?" asked Mr. Elephant, as he looked up to see who was making such a racket. "Oh, it's you, is it, Mrs. Spider? I didn't know you could be so disagreeable."

"Disagreeable? I'm not disagreeable. I was singing, not making a noise. You have no ear for music." Mrs. Spider simply had to laugh.

If there was one thing Mr. Elephant could not stand it was being laughed at, so he took a good look at his ear, flapped it once or twice and said: "What's the matter with my ear? I really can't see why I, the king of beasts, should be worried by a spider."

"Oh, ho! The very idea! The Lion is the king of beasts. Every kind of king has a jester, so you must be the Lion's jester." Mrs. Spider went on with her spinning, singing the while.

"Swing high, swing low."

"Dear me! Didn't I ask you to cease?" whined Mr. Elephant.

"Cease? You must never ask a spider to cease. Through all the ages, since time began, a spider has been the model of patience and painstaking work. I simply can't stop, even if I wanted to. Don't be discouraged; you might learn something, even from a spider."

"It's very kind of you to want to teach me," said Mr. Elephant, swinging his huge body to and fro. "What may I learn from you?"

"As I learn from the tiniest things, so you, too, may learn from me. I learn from the ant to be industrious. From you, to be cross and fault-finding——"

"That will be enough about me," interrupted the big fellow.

Mrs. Spider went right on. "Do you know that a man was once so discouraged that he was ready to stop his work—stop everything—and as he lay on his bed he saw my great-great-grandfather, or some other spider, trying to swing to and fro and patch up its web, and finally the spider did make a successful swing and did patch the web, and the man was so encouraged by this little tiny act that he, too, kept on trying and finally conquered?"

"I don't know of anything I want to conquer," replied Mr. Elephant.

"Ah, my dear sir! You may not have a web to weave and you may not have an army to command; but there is always something in this world to conquer—bad habits, for instance."

"Haven't any," Mr. Elephant replied curtly.

"Then start in to conquer your terrific temper," suggested Mrs. Spider.

"Well, that's growing better," said Mr. Elephant.

"If you can't think of anything else to conquer, conquer yourself," replied Mrs. Spider softly. "That would be a great victory for you!"

Poultry

In poultry raising the farmer has an advantage over others in the wide range he can give his fowls.

The hen may be a machine, but few of us ever learn how to run it right.

Never hold duck eggs long. They depreciate in quality more rapidly than hens' eggs.

One nice thing about brooders is that you can put two in one house and they won't fight.

Early chicks will not thrive in a cold, open coop; it is an impossibility, so do not experiment any further with it.

The second brood of goslings usually need more care and more feed than the first ones, as the grass is apt to be so tough by the time they are hatched that is is hard for them to bite it off.

Goslings do not need feed until they are 24 to 36 hours old, when they should be fed any of the mashes recommended for chickens or ducklings, or a mash or dough of two-thirds shorts (middlings) and one-third cornmeal, which can be made equal parts shorts and cornmeal, and five per cent. of beef scrap added after six weeks.

A humid atmosphere in the egg chamber of the incubator is one of the first essentials to the hatching of strong, healthy chickens.

After the breeding season is over, roosters are worse than a useless encumbrance. They are a positive injury to the quality of the eggs.

Chicks should be left in incubators for 48 hours after hatching.

You cannot expect clean eggs from unclean nests; and clean eggs bring a premium.

Clean drinking water and plenty of it is one of the prime essentials to success in poultry.

The artificial incubation of eggs dates back to the early Egyptians, who used ovens heated with fermenting manure.

Eggs all of one color are preferred to those of mixed colors. Uniformity in size is also a matter of importance in marketing.

BANISH THE FAMILY TOWEL

Cleanliness Makes Health Possible, Therefore Let Us Use Individual Towels.

No more industrious spreader of skin diseases and other contagious complaints exists than the common hand towel. Hung up in schools and public places and even in the home kitchen, it is a constant menace to health and its use is a filthy custom that should be abandoned.

A microscopic study of towels used in grocery stores, hospital wards and house kitchens was recently made, with startling results. The number of bacteria developed was beyond belief and the worst of it was that most of the microbes were of the spore order and therefore the most difficult to destroy. These spore bacteria are known to live through boiling and to revive after the towel has been laundered, continuing their deadly work among the clean linen.

The mucous membrances and skin of the normal body harbor always a certain number of bacteria. After the use of water on the body, succeeded by vigorous towel rubbing, a large number of these bacteria are transferred to the towel. If the individual using the towel is healthy, the bacteria may do no harm, even through the towel be used by some one else. But if a person afflicted with eczema, ringworm or any of the parasitic diseases, uses a towel in common with other persons, every one who touches it is liable to infection. This bacterial population on the towel is increased by each one who uses it in turn and every pair of hands wiped on it plants a new colony of germs. As the towel stays damp from frequent use it becomes a genuine pesthouse where enough microbes are bred to infect a county.

Soap is a great aid to cleanliness because most bacteria do not thrive in the alkali and other chemicals which it contains. But soap, alas! is sometimes regarded as a luxury. To some persons the use of the hand towel is simply to remove dirt that has been loosened by a splash of cold water. If everyone using the hand towel brought clean hands to wipe dry on it, the danger would be less, but even then the common use of the towel would be unwise.

Consider the roller towel that hangs on many a kitchen door to be used by every member of the family. If there are children, it is in constant use. One child wipes his half-washed hands and another his jam-smeared face; the baby gets a hasty dab that leaves a deposit of milk curd; and the hired man takes his turn at it as he comes from the cow-stable.

It no one of the family is diseased, the towel is nothing worse than a filthy and repulsive thing but if any member of the household is afflicted with ringworm, for instance, that being a peculiarly persistent fungus germ, it may stay in that towel in spite of successive washings and ironings and spread infections weeks after it has been in use. Skin disease, affections of the eyes and graver maladies are a constant risk as individuals suffering from one or more of these diseases are sure to be present and use the washing accommodations.

The gravest dangers that lurk in the hand towel that is used indiscriminately are syphilis and tuberculosis. Many victims of the former disease are unaware that they have it but the germs can be passed on to the blood of another through surface abrasions, cuts, light scratches, chafed skin.

The Japanese are, as a class, a far cleaner people in their habits than we. The poorest of them takes a daily bath for the entire body and our custom of carrying a soiled handkerchief seems to them an abomination. For towels, napkins and handkerchiefs they use paper which is burned. To wash and use again such filthy articles is from their point of view incredible nastiness.

A supply of thin absorbent paper napkins kept on hand for use in case of "colds" is a cleanly precaution and a work saver as well, while the increased safety in burning up the infection is incalculable. As for towels, those who learn the cleanly comfort of a roll of absorbent paper towelling installed in the kitchen for general hand and face wiping, will never again be without it.

If for any reason, a family cannot have clean, individual towels, at the very least they should be changed frequently and everyone should use plenty of soap and thoroughly rinse the hands before drying. Then all towels and handkerchiefs should be soaked over night and then thoroughly rinsed. The one who does the work should avoid putting the hands in the water. A good disinfectant should be used when they are boiled.

All linen that is soiled with excreta from the body should be boiled hard.

There are various methods of disinfecting articles that may carry disease germs. Tuberculous and most other bacteria are destroyed by boiling, a process that is within the reach of all families. But many forms of spore germs, especially skin bacteria, are not destroyed even by boiling. These must be treated to a boiling in which something absolutely germ-killing is used. Carbolic acid is best but it is now very expensive and is a dangerous poison to have about. Bichloride of mercury is also efficacious but is a deadly poison and very dangerous for household use because the tablet form in which it comes is like other tablet medicines. Formalin is a good solution; a teaspoonful to a gallon of water is the right mixture. The hands must not come in contact with it until the clothes are rinsed, as it acts badly on the skin.

Stern insistence on clean hands for all the persons on the place will do more than any other one thing to keep disease germs away from the farm house. The first and last word in health is cleanliness. Hands, face, clothing and entire body must be kept clean.