

# Soils and Crops

Address communications to Agronomist, 73 Adelaide St. West, Toronto

## Poultry's Dangerous Enemy.

Worms exist in poultry flocks in every stage. Where a flock is raised year after year on the same ground, the soil becomes saturated with the tiny eggs and growing worms which are absorbed into the intestines in several ways. Puddles of water around a well cause much trouble, for the chickens will drink this water as they always prefer dripping or running water, even if it is contaminated. The grain and greens grown on this ground will positively transmit the tiny start of more worms to the growing pullets.

Practically all chicks, when hatched, are normally endowed with a few of these worms. These appear as very tiny white specks, that grow and turn red, and serve as scavengers in different blind sections of the intestines. If kept at normal numbers, they have our approval, but when they become so numerous that they clog up the intestines, it is long past time when something drastic should be done to fight them.

It is easier to kill the excess of these worms when they are in the seed or germ stage, than when mature and hard. The lactic acid of buttermilk will do this. The trouble is, most of us don't realize what we are up against until the birds commence to die.

Another common way fresh birds become infested is through the medium of the dropping board. Some poultrymen use a harmful "expeller," such as turpentine or tobacco, which merely spreads the worms on the dropping boards, for the other birds to scratch over and eat. Even if the worms are dead, they are full of eggs, and soon become a hotbed of propagation of disease germs.

On cloudy or cold days a large per cent. of the birds will be found on the roosts, or scratching on the dropping boards. A few minutes spent putting wire over the boards will help vastly in fighting the worms, as well as preventing the hens from eating the soft-shelled eggs.

The first and greatest reason for fighting these worms from the very beginning, is because of the food they take from the flock, day and night. Standard growth for the breed, normal production of normally-shaped eggs are not the regular results when there is an excess of intestinal worms. The second reason is, the worms destroy and injure large numbers of the tiny, delicate cells lining the intestines. These cells play a major part in the final extraction of the blood-enriching nutrient in the previously-digested food, so that the chick is unable to receive any benefit from what little food the worms have not directly eaten. We must make every ounce of food count. Third, by taking the food, they starve the chick, so that it not only slows up in growing, but it is overpowered by lice, and weakened further by cold. I have seen whole flocks ruined in just this way.

Birds with an excess of worms seem

eager for food, yet they are thin; in a short time, there is "nothing to them." Their combs, wattles and faces lose all color, and all strength and ambition is gone. A brownish, sometimes bloody, diarrhea is often noticed. I have seen sections of intestines swollen to twice normal size from worms. The intestines of one hen that died were perforated. There are some thirty-six varieties of these worms. The worms found in the upper intestines are fairly soft, and could readily be killed and digested, with the proper internal means. There is a large variety of "dopes" used for fighting these worms.

Many of these are harmful to the bird and to the farmer. The commonest of these dopes are tobacco, olive-oil and turpentine. Tobacco has been used for years as an "expeller," but more effective, and less harsh means are now being used. One man even uses coal-oil. More cruelty.

One experiment station found that the best way to fight the worms was to give the ground a good scraping and cleaning, and fresh earth, and then treat the birds.

One simply can not get away from the need of limited or free range, on good grass pasture, for growing pullets. It's nothing less than a crime to shut up growing pullets in an eight or ten-foot coop, on a sand floor. Leg-horns are always busy; we might just as well let them spend their energy scratching for hidden grains, flying and chasing the elusive bugs and singing, as using their vigor. I've seen blood dropping from a Leghorn pullet, of which she was unaware. But her mates knew of it. The time will come when more of us will put the growing pullets in the green patch, instead of shutting up the birds in a coop and cutting the greens by machinery.

Wired-in dropping boards prevent the hens from getting the soft-shelled eggs, and thereby prevent them from learning to peck at good eggs till they break. Cleaner eggs can be had in this way, as the hens' feet are not soiled. This means fewer hours spent at night, washing off stains. One hundred hens average from two and one-half to five soft-shelled eggs a night. These are valuable, in the year's run.

Put inclined frames of wire and slats all around the four sides of the brooder house, so the chicks will always have fresh, cool air under them, no matter where or when they try to "pile up." One can use this idea to the chicks' advantage in any sized flock. Thousands of chicks are lost annually for lack of insurance like this.

An automatic water-supply is far more necessary than we realize. The hen is helpless, no matter how well bred, or how good the laying mash, without a steady supply of fresh, clean water. A flock will average a gallon to each sixteen to twenty layers. Dry water dishes and red mites will quickly cut the egg yield in half, or lower. One party reported: "No

eggs for four spring months." Red mites did it.

Colds have many causes; worms are primarily to blame, generally, as they have so undermined the bird's health that it is ready for a cold. It is the same with poultry as with humans—illness and poor health are bound to result from a steady lack of sufficient nourishing food and cleanliness. One of the oldest makers of poultry disinfectants advises us to kill and burn all bad cases of roup, and never use a bird that has had roup, even if seemingly cured, as a future breeder.

## Hallowe'en.

A witch and an owl began to prow around the house one night; The witch had a broom, and bats filled the room; the kiddies all ran in fright.

And a cat with a tail as high as a sail, talked "meow-ow—" found the house, A pumpkin grinned, "Glad I never sinned and was always as meek as a mouse."

"Hoo-hoo-hoo," cried the owl with never a scowl, "A game I have for the kiddies, Donkey's tail is off, pin it on, and aloft, a fine game, too, for the widdies."

When doorbells start to ring, and back doors to swing, and ghosts tread lightly the hall, A creep and a shiver down your back till you quiver and want to fall thro' the wall.

Jack o' lanterns awing, lights hobgoblins bring, be good in your own happy home, For the awfulst things, Jacks can sure bring, to boys and girls who roam.

Once a little brother sassed back at mother and a ghostess caught him in his bed, Took him and shook him most out of his skin, that bad little brother in bed. When I was a girl—a sort of a whirl a hobgoblin saw me one night, Washin' dishes on Hallowe'en, worst face I'd ever seen, popped at that winder in sight;

My heart pit-a-pat, didn't stop e'en at that, my face as white as a ghost. And a pie-face was there, "No!" "No!" "I wasn't scared" (?) that Hallowe'en night with that host.

## The Vagabond Song.

There is something in the autumn that is native to my blood— Touch of manner, hint of mood, And my heart is like a rhyme, With the yellow and the purple and the crimson keeping time.

The scarlet of the maples can shake me like a cry Of bugles going by, And my lonely little spirit thrills To see the frosty asters like smoke upon the hills.

There is something in October sets the gypsy blood astir; We must rise and follow her When from every hill of flame She calls and calls each vagabond by name.

—Bliss Carman.

A big woodpile will be worth money this winter.

Squash should be stored in a warm, dry room where there is a good circulation of air.

A good dairy ration should contain at least two kinds of roughage and three kinds of grain.

The silo is now generally accepted as an insurance policy against farm failures.

A fruit centerpiece is appropriate for any autumn entertainment, but especially so for Hallowe'en. Select a well-shaped pumpkin and cut it into a bowl. A piece of cardboard cut in scallops could be used as a pattern, tracing it first, then cutting through the pumpkin with a sharp, slender knife. Remove the seeds and pile the improvised bowl high with choice fruit. A mat of ferns or autumn leaves can be placed underneath the bowl with good effect.

## THE CHILDREN'S HOUR

### A "Spooky" Hallowe'en Frolic.

Of course, you will want to have a Hallowe'en party, for that is when stiffness and formality are thrown to the winds, and every one has a jolly, frolicking time.

Have your guests wear the regulation Hallowe'en costume—a sheet and a white mask. Or the boys may come as ghosts, while the girls represent witches. Every one loves to dress up, and boys and girls talk more freely if they think their identity is not known. The masks can be oblong pieces of cloth, with slits for the eyes, and strings at side for tying around head. The entire face should be covered.

Cut a witch from black paper, to fit any envelopes you may have on hand. Write your invitation on this in white ink. The invitation might read:

"Hallowe'en we'll celebrate On Tuesday evening just at eight, Come as a 'spook' and don't be late." The first part of the evening should be a very quiet, "spooky" affair. Have the rooms lighted only with Jack-o'-lanterns. You know it would not be Hallowe'en without the corn-stalks, the witches, the black cats and the pumpkin faces. Use these for decorating. Queer-shaped squashes make even more comical faces than the pumpkins.

When the guests begin to arrive, station a "spook" in the hall to open the door and point the way upstairs; another should stand in the upper hall and point out the room in which guests are to take off their wraps and don masks. Neither should speak, but each should wear a sign on which the words, "SPEAK NOT," should be printed. Each guest, when ready, should receive one of these, then be taken by the hand and led downstairs. Those assembled will rise from the floor to meet the newcomers, and bow low. Seat the guests in a circle, and try to keep absolute silence. If any are inclined to whisper, point to your sign.

When enough have gathered, one person who is a good story-teller should begin to tell ghost stories. Have the late guests detained upstairs until a tale is finished. Here is the outline of one you could use, filling in the details to suit yourself:

"Once upon a time three sisters lived alone in a great woods. The two elder sisters were very homely, but Sylvia, the younger sister, was noted for her beauty, especially for her auburn hair and her white, pearly teeth. Sylvia had a lover who had given her a large diamond ring. Now the eldest sister coveted both the lover and the ring, so one dark stormy night she killed Sylvia and hid her body. (Describe the storm and the hiding of the body.) One night a short time afterward, the eldest sister heard footsteps descending the attic stairs; a tall, white figure entered her room and stood beside her bedside.

"Who are you?" asked the sister. "I am Sylvia," came the reply. "Where is your beautiful hair?" "All gone." "Where are your beautiful teeth?" "All gone." "Where is your diamond ring?" "YOU have it."

Jump up suddenly as you say "YOU," and at this point have some one who knows the story scream. When all have quieted down, tell another one or two.

Then place a table in the centre of the room and have your guests join hands and stand in a circle around it. Place on the table a bowl containing water. Have some one play a dirge on the piano while the guests dance around the table. Have ready a sufficient number of fortunes wrapped in tin foil. Toss these into the water and ask each guest to snatch a fortune as all continue to dance. Such fortunes as these would be appropriate:

You'll meet your death, I fear, when in your eightieth year.

Far to distant lands you'll roam; but when you're broke you'll come back home.

A handsome youth with eyes of blue longs to steal a kiss from you. Happy and jolly you'll still be when

## Telling Fortunes at a Hallowe'en Party

Make some little cakes in muffin or gem pans, dropping an imitation diamond ring (wrapped in waxed paper) into one of them. When ready to serve refreshments, place on a plate as many cakes as there are guests. Serve the cakes to the girls, and the one finding the ring is expected to be the first one to become engaged.

Prepare fudge for the boys, cutting it into squares, which are to be wrapped in wax paper. One of the squares should have wrapped with it a small mitten cut out of cardboard or out of a white kid glove. Of course no one wants to "get the mitten."

Fortunes in verse are always popular, so the following may be copied separately and placed between the shells of English walnuts which have been carefully opened and emptied. The shells are then fastened together with a touch of paste and the nuts piled in two dishes, one for the girls and the other for the boys:

### For the Girls

Get your "hope chest" ready, Never mind the cost; Living's high, but he or she who hesitates is lost.

You will have a proposal Placed at your disposal, E'er forty-eight hours roll away. You needn't start humming And you know very well what you'll say.

You like the military And the navy you adore; A soldier or a sailor You never find a bore.

I see a little cloud in your sky; Engagement "showers" will fall by and by.

Your love is dark and ruddy With a dashing black mustache, He'll ask you to elope with him, But do not be so rash!

You are naturally fair enough To need no help from a powder puff; And the man who wins you will surely bless.

The girl who looks well in a gingham dress, Before next moon shall wax and wane Your fate will meet you, it is plain; Your love will run neither smooth nor fast.

But all will come out right at last. You feel a restless longing—discontent— You think for bigger things that you were meant;

'Tis woman's day, let all your powers be spent To make you the first woman President.

You're never more bewitchin' Than when you're in the kitchen, With the color in your cheek like a rose, And a little smudge of flour on your nose!

your twenty-fifth grandchild sits on your knee. There's one here to-night who loves you well, but this one's name I never will tell.

When you're too old to chew, a million dollars will be left to you. Now it is time to unmask and compare fortunes; then they will want to test the fates again. The tiny candles used on birthday cakes can be fastened in the halves of English walnut shells, if you will drop a little melted tallow into the shell and press the candle down in it while it is still soft. Paste a letter on front of shell, light the candles and set the little boats afloat in a large pan of water. Give each guest a letter so he may watch his own boat, and have some one interpret the movements of the different boats. Some will cling to the sides of the pan, and their owners will lead quiet lives; some will float together; some will collide and be shipwrecked; the one whose candle burns the longest will be the first one married.

Any of the old games, such as "bobbing for apples," taking a ring with the teeth from a dish of flour, are appropriate, for they belong distinctly to Hallowe'en and we would miss them if they did not appear once a year.

When it is time for refreshments, line the boys up according to height. Have the girls form a line in the same manner facing the boys, but have the line turned around so that the shortest girl stands opposite the tallest boy. Thus the tallest and shortest go together to the dining-room. Have apples, gingerbread, doughnuts, pop-corn balls and cider on the table; let each one take a paper plate and napkin and help himself or herself; then the couples can find a quiet corner in which to enjoy their meal. And they will enjoy it.

When baking the doughnuts, put in one a ring, in another a small key, in another a thimble; a penny, a button, etc., in others. Say nothing about it to your guests. The one who is surprised with the ring will speedily marry; the key means a long journey; the thimble and button denote spinsterhood or bachelorhood, as the case may be, and the penny stands for wealth.

To make pop-corn balls, take one-half pint of molasses with a pinch of soda stirred into it, one-half pint of sugar and one cup water. Cook until it makes a soft ball in water. Pour

You're a gay coquette, I fear, But your capture now is near; And before your romance closes, You will be as meek as Moses!

Go in for agriculture As a modern farmerette, And you'll raise the biggest cabbage That the world has seen as yet.

You have such an air and a fashion You would surely be welcomed with smiles, If you'd go into business in Paris To develop Canadian styles.

### For the Boys

You will take up aviation, And, discarding boats and train, You will travel over country In your private aeroplane.

You'll be a farmer up to date, You'll accumulate wealth and marry late, But this delay you will not regret For you'll marry a famous farmerette.

You're saving up for a diamond ring; You think it's a secret—it's no such a thing!

The girls all like you; Find your voice, Step boldly out — And make a choice.

A scientific farmer Of reputation rare, You'll have a prize exhibit At every county fair.

You'll be a breezy auctioneer, You've such a winning way! You'll hold the crowds and sell the goods, And how you'll make them pay!

Doomed to be a bachelor? Too timid to propose? Brave up; perhaps real courage may Reverse your fate—who knows?

A taste for showy neckties And for fashions up to date, If these go wrong it puts you In a very nervous state.

You are looking melancholy, Cheer up, brother, wear a smile, Girls have never cared for mooping; Cultivate a different style.

There's a picture that you carry— She's the girl that you will marry.

If walnuts are not available, blind-fold the guests and lead them one at a time into a dimly lighted room just before refreshments are served. Remove the bandage and to weird music produced by tin pans, whistles, etc., the fortune seeker advances to a witch who is seated in a dim cave and receives his or her fate, written on coarse, brown paper and tied with black thread. Those who enter first are allowed to remain in a dark corner to watch the others. When the fortunes have been distributed the witch disappears to the clutter of pans, and the guests all file into the dining-room where they open and read their fortunes.

over six quarts of popped corn and press into shape.

**Dairying a Permanent Industry.**

No matter what trials beset agriculture, dairying is and will always continue to be one of its profitable and its most secure ventures. The reasons are not far to seek. Ever since the days of primitive man the human race has used large proportions of animal food. As population presses, meat is partially replaced by vegetables in the diet. Nowhere, however, has animal food been entirely abandoned. Since the dairy cow is the most economical producer of human food from the grain and roughage of the farm, the increased consumption of dairy products is coincident with the increase of human population. This is one vital reason why dairying must continue.

Of all the enterprises in which men engage, live stock husbandry is the most alluring and the most enjoyable. But live stock husbandry rests wholly upon mammalian life—life that depends upon mother's milk. In ordinary farming the milk of the cow is freely substituted for that of other animals in the nurture of the growing young. But this reason, important as it must be, is one of the least of the reasons why dairying must continue.

The cow has been most appropriately designated "the foster mother of the human race." Childhood's dependence upon milk for its normal growth and healthy development is so absolute and so vital to our national welfare that dairy farming is rapidly coming to be the one indispensable industry. Textiles may be "fabricated," foods produced by "synthetic processes," building materials "substituted," but "there are no substitutes for milk. It is the one protective food in the human dietary."

Hence, dairying cannot be overdone and the dairy cow will never be replaced, neither in the nurture of the race nor the fundamental economics of the farm.

Save a few of the best heads of sunflowers. We pick them from the tallest and stoutest stalks with the largest heads that are well filled with plump seed. The heads are thoroughly dried and then shelled out in a large box where they can be stirred occasionally to prevent mould.

## GROW NATIVE TREES

Some years ago a Canadian forest engineer who was doing some work in the centre of one of the second tier of counties northward from lake Ontario, met a man who was fencing-in a hundred acre lot. The land was what is commonly known as a pine barren, an area once covered by a pine forest, but, since that was clean cut off and burned over, practically a useless waste. Any farms taken up in the area had been abandoned, and the repeated fires and the running of cattle had up to that time frustrated the attempts of pine to come in again, although around old trees that had been left, clumps of young trees were bravely making a start.

Learning that he was talking to a forest engineer, the man doing the fencing proceeded to explain that he was a Canadian, who had resided a long time in the United States, and that he had now come back to Canada to try his fortune growing soft-shelled walnuts on this cheap land. The forest engineer said that growing trees was a good investment, if a long-time one, but he asked, "Why plant soft-shelled walnuts?" "Because Mr. Blank" (naming a celebrated botanist) personally assured me that they were the most profitable kind of trees. One has yearly harvests of nuts to bring in money while his trees are growing to timber size."

"All that is true," said the forest engineer, "but Mr. Blank lives in California. I do not think he was ever in Ontario, and it is practically certain he was never in this country. Walnuts will grow here, but they are native only along the north shore of lake Erie. That they would really thrive here is doubtful, and that is more particularly true of a special and probably tender variety. This land once grew some of the finest white pine Canada ever produced. In spite of fires and cattle, white pine is regrowing, as you see, to cover the ground again; why not grow white pine, when nature is ready to meet you halfway? Walnuts are a gamble; pine is a certainty."

However, the walnut man with his California guarantee was not to be dissuaded. He spent considerable money in planting soft-shelled walnuts, and is now back in the United States at his old job, convinced that forestry is a fraud. In the meantime, the white pine has continued to come back and in a few years there will be a county forest of fine young pine in the township in which his soft-shelled walnuts were a failure. It is a good plan to experiment with exotic trees, but as a business proposition it is better to start growing the best of our Canadian native species, than which for the production of structural timber there are no finer in the world.

## The Sanitary Closet.

One of the vexing domestic problems of those who live in small villages is the disposal of human excreta. The common earth closet is always unsatisfactory; disposal of the contents is a repulsive job that becomes almost impossible to care for properly under complications such as frozen ground, excessive rainfall, and other disturbances.

We cannot give space to lengthy descriptions of how to construct closets but are glad to set forth a few suggestions. The concrete pit privy is a very valuable and practical type of closet. The receptacle may be made fly-tight, and being of concrete allows no leakage. The pit is divided into two compartments, on the principle that if one compartment is used alone until filled, and then left undisturbed during the months that the other is in process of filling, the fecal matter will have become so dried and decomposed that it may be removed to land remote from wells and springs and applied as fertilizer with little difficulty and slight offensive odor. This is made an easier matter if a little dry, loamy earth is shoveled in from time to time as the pit is filling.

A community able to arrange for regular scavenger service may make use of fly-tight closets with removable receptacles such as buckets, to be taken away weekly. A tank privy in which enough water is used to allow the development of bacterial action similar to that taking place in a cess-pool is among the possibilities. The solids disintegrate and then pass off through the overflow. Odors are kept down by maintaining a film of kerosene on the surface.

Recently the chemical toilet has become developed in such a manner that its operation may be considered quite successful. The general plan of operation is for the contents of excreta to be received into receptacles containing a powerful chemical solution. Upon falling into this solution the waste products are deodorized, disinfected and more or less disintegrated. Local vents leading outside of the building are provided to care for odors in the closet bowl and the parts of the apparatus above the chemical tank. An apparatus of this kind makes it possible, at a cost of about one dollar per year per person to have indoor closet facilities where no water or sewer systems are available, thus adding greatly to the comforts of the home.

It's far better to have the cement floor of a henhouse set on a six to ten inch layer of coarse stones. Dampness is fatal to hens.

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CELEBRITIES ATTEND NATIONAL BOY SCOUT CONFERENCE

Left to right: John Stiles, representing Canadian Scout movement; Captain Francis Gidney, official representative of England, next in rank to Lieut. Robert Baden-Powell, who started the Scout activities; James E. West, Chief Scout executive, for America; Mons. J. Guerin-Desjardins, representative of the combined three Scout movements of France. At the conference where 400 executives assembled at Blue Ridge, N. C., a presentation of the only solid Gold Eagle Badge ever presented in scouting, was made to Daniel Carter Beard, National Scout Commissioner. This is the highest honor that can be attained. The conference took place September 12th-19th.