

suspected of being implicated. Of course, it was unjust to blame him without direct evidence, but one night a noise was heard in the cellar of our house, where provisions were kept; a muffled gunshot was heard by only two in the house, and a bulldog was given a midnight burial under the apple blossoms in the orchard. The second day after the hired man asked for a day off to look for his lost dog. The request was sympathetically granted, though it meant stopping a team, and the use of a horse was generously proffered him on which he might ride. So, mounted on a heavy-draft charger, "Jimmy" scoured the concessions and sidelines in a fruitless search for a dog he loved, "not wisely, but too well." That was a piece of "diplomacy," as the man was too good a servant to quarrel with, and, though deception is not a virtue, it is just a question whether, in such a case, the end did not justify the means. The only case in which we ever personally suffered loss of sheep by dogs was so peculiar that it may be worth reciting. One morning the shepherd found a dead sheep in the field, with a dog securely chained to its body, the chain being twisted around the sheep's neck and buried in the wool, making a prisoner of the destroyer on the spot. The shepherd disentangled the chain and proudly started to lead the culprit homeward, but the brute was unwilling to follow, and pulled back so vigorously that his head slipped through the strap and he was gone. However, he and his ownership was known, and when the owner was asked if he had lost his dog chain and strap, he was glad to receive his lost property, but less willing to pay the price of three sheep destroyed, which he did on demand through a lawyer's letter, the circumstantial evidence being too strong to risk carrying the case to a jury. It was never known whether this dog had an accomplice, but as they generally go in pairs, it is probable that if there was another he decamped on seeing his partner in the toils.

It was not the intention of the writer on commencing this recital of reminiscences to drift into the discussion of the dog question, but the mention of this handicap to the sheep business, and the unreasonableness of the stand taken by many in defence of the dog nuisance, makes me "hot," and, having relieved my mind on this point, with the permission of the Editor, I hope to follow this with more interesting remembrances of my experience in handling sheep. I would just like to add, however, that I know I am not incapable of loving a good dog. I could, without effort, "gush" over a handsome and well-behaved specimen of the genus canis, and am willing to admit that there are some good and useful dogs which have a worthy place, but I am quite sure that the overwhelming majority of good dogs are dead ones, and I believe the percentage of good ones grows less as the need for them decreases, as it certainly does where laws against stock running at large are enforced; and, when it comes to a question between sheep and dogs, I vote for the sheep every time. One of the difficulties in securing satisfactory legislation for the protection of this class of property, I have noticed, is that legislators, municipal and parliamentary, depend for their places on votes, and sheep-owners in this country, unhappily, are in almost a hopeless minority; hence, the attitude of many legislators on the dog question reminds one of that of the Western States politician who on the stump expressed a willingness to vote for a dog tax, when, in a stage whisper, an auditor was overheard to say, "I've got five dogs, all good ones, and I'll be darned if I vote for that fellow." Before concluding, the orator explained that he was in favor only of taxing dogs where one man had more than five head.

DEFENDS THE COLLIE.

Would you allow me a small space in which to answer our enemy of the collie dog. Something like surprise took hold of me when I read, a week or so ago, Mr. Holdsworth's article against the collie. He says the collie is the worst enemy the sheepman has to contend with. I venture to say he has never kept sheep without a dog (to any extent). Also, he says that over in the Oriental countries is the only place where the collie is at all useful. I would like to see a shepherd in Scotland or Ireland who would even think of keeping a flock minus a collie.

Again, it was said that if you took an hour's drive in any direction from his farm, that you would be chased and yapped at by at least twenty dogs, all of which were pure collies. I am afraid the climax is reached. It would take me a good while to be persuaded to believe that that person ever saw a pure-bred collie. I'll guarantee that he wouldn't count five pure-bred collies in that whole pack that chased and yapped. Where the whole trouble comes in is that our farmers either won't or don't know how to take care of dogs.

When the noblest animal, the horse, isn't properly taken care of, it stands to reason that the second noblest, the dog, will not be. If our farmer friends bred and owned pure-bred dogs, and treated them as they ought to be treated—that is,

that they be trained properly—our friend Mr. Holdsworth wouldn't be chased by so much as a dog's bark. It is the owner, and not the faithful collie, that is to blame. I am sure I am not alone in taking the stand I do.

Gentle reader, what is your opinion of the collie? Is it a useless brute, as some people claim, or does it deserve credit? I am referring, of course, to pure-bred collies. It is to be hoped I voice the sentiments of most farmers in this regard. Let's have your opinion.

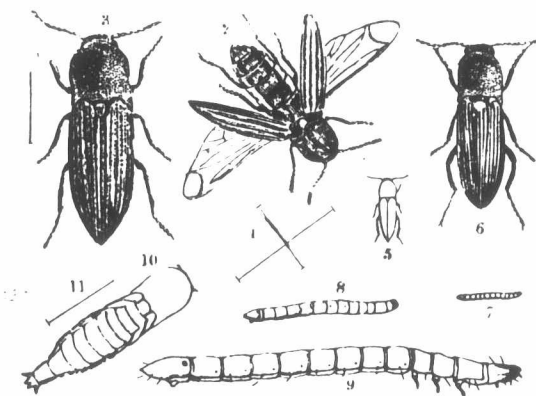
Bracebridge.

W. R. B. (Naturalist).

THE FARM.

WIREWORMS.

Complaints come of serious injury by wireworms, and an article on the subject will be timely. Examination of fields attacked will show numbers of slender, cylindrical, yellowish or reddish-brown, tough and shining grubs, with flattened heads and dark jaws. They have only three pairs of legs on the three segments following the head, and a single short, sucker-like foot in the middle of the last segment, beneath. When full-grown, they are about an inch long and one-twelfth of an inch wide. With these will be found, in spring, many specimens about half the size of the larger ones. Wireworms occur most frequently in low ground, and attack the roots of almost all plants, but particularly wheat and corn just coming up. They also bore into the tubers of potatoes in the autumn. Dr. Fletcher, of Ottawa, says it has been found that barley and rye are less attacked than any others of the small grains, and also that clover is little injured. Injury is most frequent on land which has been for several years in sod, and the attack is most severe in the second season after the sod has been plowed down. To explain why this is so, a few words about the life-history of the insect are necessary.



Wireworms (7, 8, 9); pupa (10)—enlarged. Click beetles—5, natural size; 2, 3, 6, enlarged.

Wireworms are the grubs of a large family of beetles known as click beetles, easily recognized by their power of snapping their necks with a click. The eggs are laid in summer about the roots of grasses and weeds, and the larvæ (wireworms) of most species take two years to come to full growth. They change to pupæ within cells in the ground in July, and become perfect beetles about three weeks later, in August. Most of the beetles remain in their pupal cells until the following spring before emerging.

When sod is plowed down, the larvæ feed, during the ensuing year, chiefly on the decaying grass and its roots. Those larvæ which are in their second year of growth change to beetles, and do little harm, as they have plenty of food in the decaying sod without attacking the crop; but the young larvæ, which were only half-grown when the sod was broken, attack the crop of the second year after, because by that time there will be little else on the land for them to eat.

A short rotation, in which land is not left in grass for more than two consecutive years, will, to a large extent, prevent the ravages of wireworms. Early fall-plowing, with subsequent disk or reaping, is advisable on infested land. Some farmers have obtained good results by plowing twice in the same autumn, the first time in August, the land to be well harrowed in August, and then cross-plowed in September. By this means, the pupæ and freshly-formed soft beetles are disturbed in their pupal cells, and many of them destroyed.

But when all is said and done, the wireworm pest is a hard nut to crack. In the way of immediate remedies, little or nothing can be accomplished. Extensive experiments, by Prof. Forbes, in Illinois, and Prof. Slighland, in New York, showed the uselessness of many recommended remedies, such as coating seed grain with poison, the surface application of salt and other chemicals, and even of a clean culture to starve the wire-

worms out, the number actually increasing in one case, if we are not mistaken, in land treated as a bare fallow for several years. Sometimes, where oats are being destroyed in spots, it might be practicable to reseed those portions with barley, a crop which, as noted above, is less subject to injury than oats. For the most part, however, reliance must be placed on good farming, including a short rotation and the liberal use of clover seed, so as to secure meadows of clover, rather than of grass.

PROSPECTS FOR LIGHT CROP OF CLOVER SEED

From present indications, the prospects for a good crop of red-clover seed are not at all bright in Ontario, where the most of the Canadian clover seed is produced. The late spring frosts, accompanied by very drying, cold winds, had the effect of practically killing all the old clover and wiping out most of the new seeding. Any pieces which were at all sheltered came through very well. The slow growth this spring and the lack of sufficient fodder for stock have forced many farmers to pasture meadows fully two weeks before a hoof should have gone on them. In 1905 there was a surplus of red clover seed in Ontario, and considerable stock was held over. But this did not make up for the shortage in 1906. A good deal of foreign seed from Chili and Europe was imported to make up the local shortage. Even what was imported has scarcely met the demand, and numbers of farmers are not seeding down with clover all that they had planned to seed, because they failed to buy before the seed supply became limited.

SOME DANGERS IN USING FOREIGN SEED.

Some of the foreign seed imported into Canada this season, from the standpoint of size and color, has our seed beaten. But, judged from purity, most of our Canadian-grown seeds were much better. The weed-seed impurities most common in the foreign seeds were dodder, ribgrass, catchfly, bladder campion, cornflower, fool's parsley, wild carrot and rape seed. There were other weed seeds as well, but not so bad as many of those mentioned. Had all this imported seed been released by our seedsmen, there would have been but few of these weed seeds left in the good seed. Entirely too much of it went on the market very close to the minimum legal standard for weed seed, viz., five to 1,000, which allows of about 1,472 noxious weed seeds in one pound of red clover, or about 9,000 to 15,000 noxious weed seeds per acre, according to the quantity of clover seed sown, this ranging, as a rule, from 6 to 10 pounds per acre.

WHAT TO DO.

It would appear to be the part of wisdom if farmers would keep every likely piece of clover for seed this year. The best quality of seed, judged according to size and color, is produced from pastured seed.

In growing pastured seed, the stock should not be left on the meadow later than the 20th of June, when a mower, with the cutting-bar tilted up pretty well, should reduce everything to the same level, especially where weeds prevail and the crop has not been eaten closely. Starting the second growth early, helps to escape the midge. If seed is produced after a crop of hay has been removed, it should be cut early in most seasons, at least when it is in full bloom. After the mower has reduced everything to one level, that is the time to weed out the ribgrass, as it can be quite easily seen for a few days and spudded up. If the seed has been produced after a hoe crop or bare fallow, which gives the best chance for producing clean seed, the weed problem is greatly simplified. Perhaps half a day spent in a ten-acre field at the right time, mowing with a scythe the weed on the killed-out and thin places, and pulling or spudding out such plants as curled dock, catchfly and Canada thistle, will enhance the value of the crop \$5 per acre, and produce, possibly, seed that would be absolutely free of weed seeds. This is what the producer of seeds should aim at. It is in his hands to produce clean seed, which will insure him the best market prices. Seedsmen continue to discriminate between pure and impure seeds to the extent of from 50 cents to \$2 or \$3 per bushel.

Every farmer who wishes may make use of the Seed Branch, Department of Agriculture, to have his seed tested for purity free of charge, and he will get his report back in three or four days, indicating to him to what extent his seed is pure, and what kinds and the amount of noxious-weed-seed impurities that may be present in his sample. The sample in every case should be representative of the bulk lot offered for sale. With these facts before us, it seems clear to the writer that good prices must prevail for No. 1 seed, and that, at the best, there will be only a limited supply. Let us produce in Ontario as much home-grown seed as possible this year. It is a safe proposition, and may pay much better than turning the crop into milk, mutton or beef. T. G. RAYNOR