

9-10 EDWARD VII., A. 1910

Returning to the pea weevil, as I said, there is absolutely no reason why this insect should not be completely eradicated, because the method is very simple. All that is necessary is to take a barrel which will hold about three hundred pounds of peas, fill it with that quantity of peas infected with the weevil and on the top of the peas put a small saucer containing about three fluid ounces—that is about six table-spoonsful—of carbon bi-sulphide, and put on the cover of the barrel so that no air can enter and no vapour can escape. The vapour of the carbon bi-sulphide is very heavy. The liquid volatilizes and the heavy vapour percolates and sinks down through the peas, and if left in that condition for about forty-eight hours, when the barrel is opened not a single live pea weevil will be found. In that way you can easily treat your peas if you know or have any reason to believe that they are attacked by the pea weevil. Care should be taken, however, not to bring a light of any kind near the carbon bi-sulphide or its vapour, as it is extremely inflammable, and therefore dangerous under such conditions.

By Mr. Robb:

Q. It is the seed peas you would treat?

A. Yes. To treat the seed peas is the best method of preventing the succeeding crop from being attacked.

INSECTS AFFECTING CLOVER.

A number of insects attack clover; the different species attack the seeds, the roots, the leaves and the flowers. The clover-seed midge (*Cecidomyia leguminicola* Lintner.) frequently causes considerable injury to clover seed in Ontario. It is a very small insect and there are two broods which correspond to the two crops of clover. The small midges deposit their eggs in the flowers of the clover and the maggots feed in the forming seed, and by so doing destroy the entire contents of the seed. The first brood become mature in June and the adults—the mature midges—attack the forming flower heads of the second crop. The remedy which is suggested to us, therefore, is that of feeding off the first crop of clover before the middle of June, that is before the maggots become full grown. If the first crop of clover is fed off the maggots contained in that crop are destroyed and the second annual crop of clover will be comparatively free from the clover seed midge.

Another insect attacking clover is the clover-leaf weevil (*Phytonomus punctatus* Fabr.) which belongs to a very large family of vegetable feeding beetles. The larvæ or grubs of these beetles, like the larvæ previously referred to, become full grown in June. The beetles come out in July and August and attack the second crop of clover. The method which might be employed in the case of this insect is that of ploughing the crop under or it can be fed off; but it is better to plough down the first crop of clover about May, that is before the insects become mature.

Sometimes in Canada another insect occurs which feeds on the roots of the clover. This is the clover root-borer. (*Hylesinus trifoli* Mull), which is a beetle about half an inch long. These insects hibernate during the winter as beetles which emerge in the spring and lay their eggs near the base of the stalk of the plant. From these eggs grubs emerge which bore into the roots and feed on the central portion of the root, thus destroying the plant. In the case of this insect the simple remedy of ploughing down deeply the infested crop and thus getting these insects down underneath the soil and unable to emerge is the best.

Before I pass on to other insects I should like to say in passing that if there are any questions which the members of the Committee would like to ask at the present stage I should be very pleased to answer them because frequently one can explain things which might otherwise be overlooked.