

The Control of Cutworms

By Arthur Gibson, Assistant Entomologist, Ottawa

During the months of May and June remedies for the various destructive species of cutworms are urgently requested by farmers, market gardeners, fruit growers, etc. Many of our common cutworms pass the winter in a partially grown condition and in spring as soon as young seedling plants appear above ground or when such plants as cabbages and cauliflower are transplanted in the field, many are cut or eaten off near the surface of the ground or a little below it. In many instances the young plant will be found to have been drawn partly into the ground. Not all cutworms, however, feed in this manner; some climb up fruit trees or such plants as currants, gooseberries, tomatoes, etc., and feed upon the foliage or the fruit. In fact, when they are excessively abundant they will attack anything green and juicy. In years of abundance some kinds, such as the Variegated cutworm, the Spotted cutworm and the Black Army cutworm, assume the marching habit, so characteristic of the true Army-worm.

The poisoned bran remedy is the one which is now used most extensively for the destruction of cutworms generally. This is made by moistening the bran with sweetened water and then dusting in Paris green in the proportion of half a pound of Paris green to fifty pounds of bran. It is important that the bran be noticeably moistened (but not made into a mash or moistened too much to prevent its being crumbled thru the fingers) so that when the poison is added it will adhere to practically every particle. Two gallons of water, in which half a pound of sugar has been dissolved, is sufficient to moisten fifty pounds of bran. If more convenient, the quantity of salt may be used instead of sugar, or even molasses may be employed. The mixture should be applied thinly as soon as cutworm injury is noticed. It is important, too, that the mixture be scattered after sundown, so that it will be in the very best condition when the cutworms come out to feed at night. This material is very attractive to them and when they crawl about in search of food they will actually eat it in preference to the growing vegetation. If the mixture is put out during a warm day, it soon becomes dry and is not, of course, as attractive to the cutworms. In treating fields of hoed crops, such as beets, turnips, etc., a simple method is to have a sack filled with the bran, hung about the neck and by walking between two rows, and using both hands, the mixture may be scattered along the row on either side. When cutworms are so numerous as to assume the walking habit, the poisoned bran may be spread just ahead of their line of march. In gardens, where vegetables or flowering plants are to be protected, a small quantity of the material may be put around, but not touching, each plant. Fruit trees may be protected from climbing cutworms in the same way, but the mixture should, of course, not be thrown in quantity against the base of the tree, otherwise injury may result from the possible burning effect of the Paris green. As an instance of the remarkable effectiveness of the poisoned bran, I would mention that on one occasion when we used it to protect young tobacco plants on the Central Experimental Farm, we soon afterwards made careful counts of the dead cutworms near a number of the plants. Around one plant we found 17 dead cutworms, around another 8, around still another 9, and so on. Only one half of the tobacco plantation was treated. In the other half where no poisoned bran had been distributed, the cutworms were extremely destructive, very many plants being destroyed.

During 1914, the Kansas grasshopper formula was found of equal value in the destruction of the Variegated cutworm and it will undoubtedly prove a most useful remedy for other cutworms, particularly the surface-feeding kinds. This formula is as follows:

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|-------------------|---------------|
| Bran | 20 pounds |
| Paris green | 1 pound |
| Molasses | 2 quarts |
| Oranges or lemons | 3 |
| Water | 3 1/2 gallons |

In preparing the bran mash mix the bran and Paris green thoroughly in a wash tub while dry. Squeeze the juice of the oranges or lemons into the water and chop the remaining pulp and the

peel into fine bits and add them to the water. Dissolve the molasses in the water and wet the bran and poison with the mixture, stirring at the same time so as to dampen the mash thoroughly. In our experiments near Ottawa on the control of locusts the farmers prepared the mixture on the cement floor of a stable or other outhouse, stirring it thoroughly by means of an ordinary field hoe. The mixture should be broadcasted early in the evening. In the control of the Variegated cutworm in alfalfa fields in Kansas, the above quantity of bran was spread in such a manner as to treat about three acres. Scatter the mixture thinly in places where it will reach the greatest number of cutworms, and when thus spread there is no danger of birds, poultry or livestock being poisoned.

Fresh bundles of any succulent weed, grass, clover or other tender vegetation, which have been dipped into a strong solution of Paris green (one ounce of Paris green to a pail of water), may be placed at short distances apart in an infested field, or between rows of vegetables or roots, and will attract many cutworms and protect the crops from further injury. These bundles also should be put out after sundown, so that the plants will not be too withered before cutworms find them. As in the case of the poisoned bran, they should be applied just as soon as the presence of cutworms is detected.

The Mail Bag

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Stalker, D.D., that "the nations which have contributed most to the civilization of the world have, during the period of their true greatness, been confined to very small territories; Rome was but a single city and Greece a very small country." And look at Great Britain and little England and all she has done and is doing for civilization. I must mention one other matter, as it interests us as wheat growers, and that is the delicious standard bread one gets in England and so cheap. It is a perfect food and as tasty as nuts. Tho we grow the finest wheat in Canada we cannot enjoy such bread because the best bread requires to be a careful blending of flours from all parts of the world; no one flour in any country will make the best bread. I enquired carefully into this matter, visiting one of the largest mills in Liverpool. Here again Free Trade England has the advantage, being the emporium for the wheat, as of other goods, for the whole world. Finally, as you wish me to compare conditions in Canada with those in England, let me remind you that Free Trade England derives 35 1/2 million pounds from her customs, there being a low duty on a few articles, while Protected Canada only derived 21 million pounds, altho duty is charged on almost everything. If we lower our duties on everything, we shall derive an enormous revenue from it, making petty taxes on letters and such little things unnecessary, and the whole country will be more prosperous.

F. W. GODSAL.

Cowley, Alta.

Livestock Marketing

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hub of the livestock industry in Western Canada and destined to remain one of the great livestock centres of the continent. The shipments from the Saskatchewan co-operative associations are sold in Winnipeg and a large proportion of the stock handled thru Calgary ultimately finds its way to Winnipeg either to meet the demand of the packing houses there or to be directed along the routes to the East and South. There is no reason why the farmers' co-operative livestock marketing in Western Canada should not some day rival the farmers' co-operative grain marketing in size and importance, with as beneficial results to the producer.

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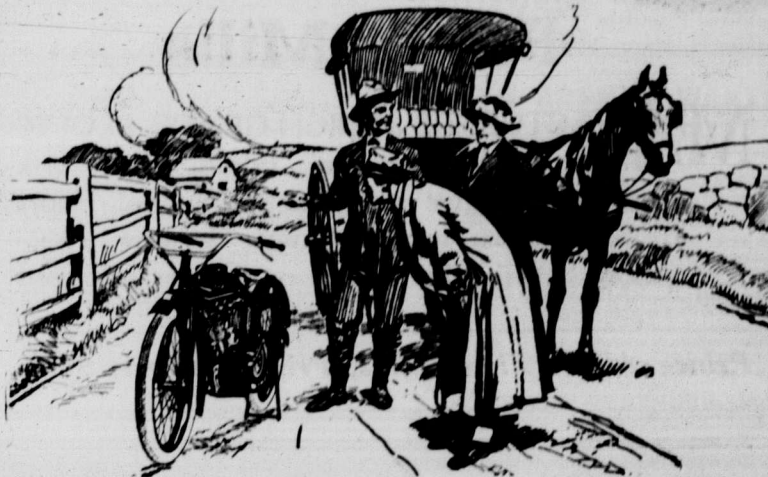
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