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INSECT PESTS

CUTWORMS

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INSECT Pests AND THEIR CONTROL

By C. F. H. JENKINS, M.A., Government Entomologist

CUTWORMS

THE group of insects popularly referred to as cutworms is of world-wide distribution and contains some very important insect pests. The common name is derived from a feeding habit of many of the caterpillars which attack usually at about ground level and either cut the stem right through or injure it sufficiently to cause the plant to fall.

The common cutworm or brown cutworm, the army worm and the climbing cutworm are those of most importance locally, but the last mentioned will be dealt with in a later article.

COMMON CUTWORM.

(Euxoa radians Gn*)*

Adult.—The adult insect is a rather drab-coloured moth which flies mainly at night and is sometimes attracted to lights. It measures about 1½ inches across the open wings and has rather a stout body. The general colour of the fore-wings is dark brown, broken by almost black spots and some white markings. The hind wings are greyish white, with dark margins.

Caterpillar.—The fully-grown greenish-brown caterpillar is rather fat and fleshy in appearance, measuring about 1½ inches in length. It is commonly found under the clods during the daytime and on being disturbed usually curls up head to tail.

Pupa.—When fully fed the caterpillar forms an earthen cell at a shallow depth, and turns into a shiny brown pupa or chrysalis, from which the adult moth will finally emerge.

Egg.—The creamy-white minutely sculptured eggs are usually laid in clusters on the soil beneath the host plant, or they may be scattered on the foliage of the food plant. Several hundred eggs may be laid by one parent moth during her relatively short life of a week or so.

HABITS AND LIFE HISTORY.

The incubation period for the egg under favourable conditions is about three days, after which the tiny caterpillars emerge. These feed on delicate weed foliage or cultivated plants, and finally, after shedding their skin several times, reach maturity at the end of about four weeks.

The pupal or chrysalis stage may only last about a fortnight, but when dry summer conditions prevail this period can be extended to several months, for it is in this so-called resting stage that the insect is able to survive the long unfavourable summer conditions.

In certain portions of the State where rainfall or irrigation conditions are suitable, the cutworm may be found active almost throughout the year, but it is the autumn, and more especially the spring generations, that cause the greatest damage.

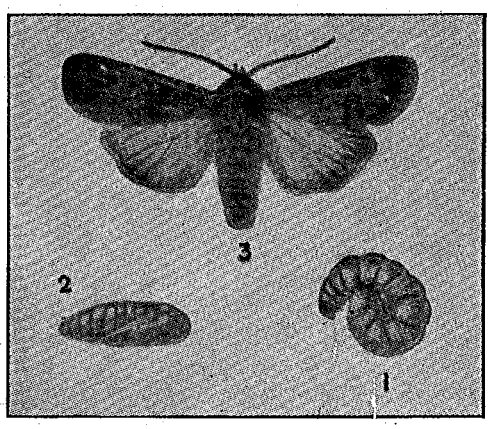

Fig. 1.—(1) The cutworm or larva; (2) Pupa; (3) Moth (all about natural size).
—N.S.W. Dept. of Agriculture.

The cutworm caterpillars have a very wide host range and may cause damage to almost all market garden crops and flowers. In addition, heavy populations may develop in lawns, golf greens, etc., and cause damage to the grass.

THE ARMY WORM
(Persectania ewingi Wood*)*

The general life history of the army worm is somewhat comparable to that described for the common cutworm. The moth is a pale slate-coloured insect marked with short parallel lines of a dark tint in the centre and towards

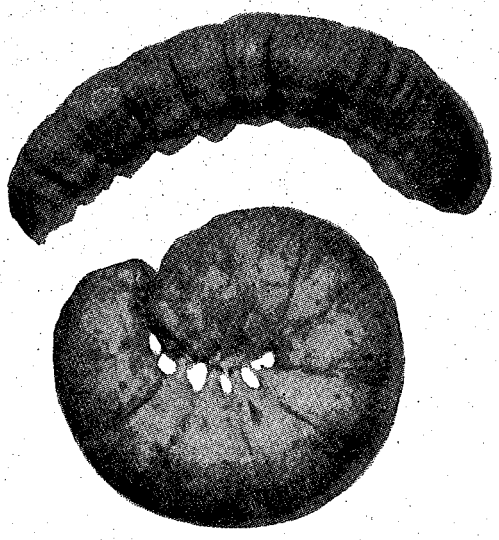

Fig. 2.—Typical cutworm caterpillars (enlarged). The lower picture shows the curled-up position which the caterpillar adopts when disturbed.
—Victorian Dept. of Agriculture.

the tip of the fore-wing. As the term army worm implies, large swarms of caterpillars may appear under favourable conditions and make mass invasions of crop or pasture from adjacent grass paddocks.

The army worm caterpillar is a little more slender than the common cutworm and carries some longitudinal stripes on the sides of the body.

General control measures for both pests are similar with the addition of trenching which will be specially described for the army worm.

CONTROL.

Clean Cultivation.—Following the autumn rains the adult moths emerge from the pupae which have over-summered in the soil, and fly abroad in search of suitable places to lay their eggs. Naturally a weedy situation will attract them, and if these weeds are dug in and the plot immediately planted, nothing but trouble can be expected.

Where it is not possible to plant on clean or fallowed soil an attempt should be made to have the patch worked up for at least a month before planting. Where this is impracticable artificial means of control will have to be applied should cutworms assume plague form.

Poisoned Bait.—The cutworm can be quite satisfactorily controlled by the thorough use of poisoned bran bait.

The bait should be distributed late in the afternoon so as to be fresh and attractive when the cutworms come out to feed after sunset. When a plot is known to be badly infested with caterpillars the bait should be broadcast at the rate of about 25 lb. to the acre before the land is planted. The bait may also be used to protect plants, and should be sprinkled along the rows or scattered around each plant. As far as possible care should be taken to avoid allowing the bait to come into actual contact with the plant stems, as many of the poisons used may cause some burning.

The most generally recommended formula for cutworm bait is as follows:—

	lb.
Bran	25
Paris Green	1
or	
Ten per cent. Gammexane or BHC (Benzene-hexachloride) dust	1
*Molasses	4
	Gallons
Water	2 (approx.)

* Many growers favour the use of molasses although satisfactory results are often obtained without the addition of this material.

The method of preparation is to mix the Paris Green or BHC powder through the dry bran, dissolve the molasses in about a gallon of water,

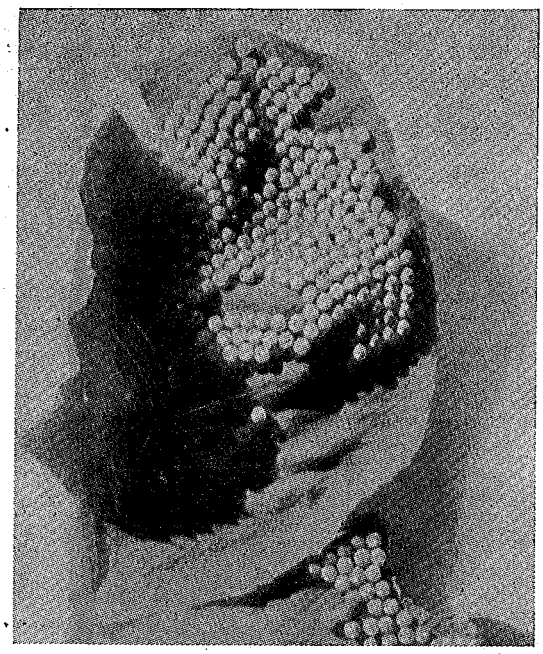

Fig. 3.—Cutworm eggs (enlarged about five times) on a clover leaf.
—U.S. Dept. of Agriculture.

and gradually stir the liquid into the poisoned bran, the additional water being added until a moist crumbling mash is obtained. The amount of water recommended need not be rigidly adhered to, as different types of bran may require

slightly more or less water. The aim should be to get a mixture which will scatter freely and is not too lumpy or sloppy.

Dusts and Sprays.—DDT dusts and sprays have proved particularly effective against cutworms and may be used either to replace or supplement baiting treatments. Applications of 2 per cent. DDT dust around plants to be protected have given very satisfactory results and 0.1 per cent water mixtures of DDT have also proved effective. General treatments with dusts or sprays may be used to control cutworm infestations in bowling greens and other turf areas.

Trenching for Army Worm Control.—The baiting, dusting and spraying treatments outlined for the common cutworm may all be used against the army worm. On account of the mass attacks which may occur, however, some mechanical method of stemming the advance is often an advantage. The digging of a trench or the ploughing of a couple of furrows across the line of advance will do much to check the insects' progress. The furrow should be thrown towards the caterpillar so that the insects are forced to climb the vertical face. The distribution of poisoned bait of DDT in the furrows and on the turned earth will further improve the efficiency of the barrier.