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The Army Cutworm

EXTENSION SERVICE
UNIVERSITY OF NEBRASKA COLLEGE OF AGRICULTURE
AND U. S. DEPARTMENT OF AGRICULTURE
COOPERATING
W. V. LAMBERT, DIRECTOR

THE ARMY CUTWORM
O. S. Bare 1/

In past years, outbreaks of the army cutworm (Choriza-grotis auxiliaris) have resulted in the destruction of thousands of acres of alfalfa, sweetclover and small grains in Nebraska. Damage in some years has been very heavy, but the greater part of this damage could have been prevented at small expense had the proper control measures been taken at the beginning of the outbreaks.

The army cutworm hatches from the eggs of one of our common moths or "millers." Like all cutworm moths it flies and feeds at night, but hides during the day in some dark, quiet place. The moths are most abundant in late May and early June, when they sometimes appear by the thousands and constitute a nuisance by congregating in large numbers in houses and outbuildings. Eggs are not laid at this time and the moths soon disappear, probably dispersing to higher altitudes. They reappear in smaller numbers in September and early October, and deposit their eggs on the soil; preferably in newly sown fields of winter wheat or on the bare soil of alfalfa fields. Eggs are laid also on the soil in sweetclover fields and closely grazed pastures. These eggs hatch in about 10 to 20 days, and the little cutworms that come from them are able to make only partial growth before winter sets in. When cold weather arrives, they burrow deeper into the soil where they spend the winter. They begin feeding very early in the spring, usually appearing in March and continuing through April. This is the time when control measures should be taken. They are very destructive to alfalfa and winter wheat, and sometimes do serious damage to oats, barley and sweetclover. When they become very numerous in a field they commonly move in armies, much like the true armyworm. Most of them mature during the last half of April and damage ceases quite abruptly. When fully grown they are dark colored, smooth bodied, dirty or greasy appearing caterpillars nearly two inches long. At maturity, they bury themselves a short distance in the soil and change to brown, inactive pupae. The pupal period lasts about three weeks, and at the end of that time the adult moths or "millers" appear.

1/ Associate Professor of Entomology.

Control Measures

Baits. - The army cutworm is easily controlled by the use of poisoned bran baits. Practically any grasshopper bait formula is effective. The following formula gives excellent results.

Bran - - - - -	100 lbs.
White arsenic (or Paris green - 4 lbs.) -	5 lbs.
Blackstrap molasses - - - - -	2 qts.
Water - - - - -	to make a moist crumbly mash.

Six lbs. of sodium fluosilicate may be used instead of the white arsenic or Paris green. One half lb. of chlordane or one lb. of toxaphene per 100 lbs. of bran also is effective.

Mix the bran and poison well. Stir the molasses into 5 gallons of water and pour it slowly into the poisoned bran, stirring constantly with a spade or wooden paddle to insure thorough mixing. Then add enough water to make a moist crumbly mash that will scatter in flakes when thrown from the hand. If the bare hands are used in mixing or spreading the bait, the hands and the forearms should first be coated thinly with cup grease or axle grease to prevent the poison entering the pores or skin abrasions.

As the cutworms feed mainly at night, best results will be secured by spreading the poisoned bran late in the afternoon. In early spring, the army cutworms may feed mostly during the warmer part of the day, and in such cases best results will be secured by spreading during the forenoon. The formula given above makes sufficient mash to treat 10 to 20 acres. The bait should be distributed thinly over all injured areas, and if the worms are moving forward, the uninjured areas ahead of them should be treated. The bait can be distributed very satisfactorily by means of an endgate seeder having a feed of the fluted cylinder type. It must be fed gradually, or it is likely to pack in the hopper and fail to feed. Seeders having a feed of the augur or screw type will not spread the bait, as it will clog in the feed. If a suitable seeder is not available, the bait can be distributed by hand from a tub or box in the rear end of a truck or wagon. Application by airplane should be fully satisfactory on large acreages. The bait should be used while fresh and moist, but it should not be wet enough to fall in lumps as this will endanger livestock, poultry and birds. If spread thinly and according to directions there will be no danger.

If only a small quantity of bait is needed, the following formula will be found convenient:

Bran - - - - - 1 pk.
Paris green - - - - - 1/4 lb.
Molasses - - - - - 1/2 pt.
Water - - - to make a moist crumbly mash.

Sprays are most effective when applied at warm temperatures when the greatest numbers of cutworms are above ground and can be hit with the spray. The following sprays have proved effective for army cutworm control, but results have not been as good as with baits.

1. Toxaphene applied at 1 3/4 to 2 pounds actual insecticide per acre. One quart of 40 per cent or 1 1/2 pints of 60 per cent emulsifiable concentrate contains 1 1/2 pounds of toxaphene.
2. Chlordane applied at 1 to 1 1/2 pounds actual insecticide per acre. 1 1/2 quarts of 4-pound or 1 1/2 pints of 8-pound emulsifiable concentrate chlordane contains 1 1/2 pounds chlordane.
3. DDT applied at 1 1/2 pounds of actual insecticide per acre. Three quarts of 25 per cent emulsifiable concentrate contains 1 1/2 pounds actual DDT.

Sprays may be applied with ground equipment or airplane. The emulsifiable concentrate form of insecticide is needed for application by low gallonage sprayers.