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UT Extension

PB1033

Controlling the Alfalfa Weevil in Tennessee

THE UNIVERSITY of TENNESSEE

INSTITUTE of AGRICULTURE

Controlling the Alfalfa Weevil in Tennessee

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The alfalfa weevil is present in every county in Tennessee where alfalfa is grown. Producers should be prepared to control this extremely destructive insect whenever necessary if they expect to continue producing this valuable hay crop.

Description

The adult weevil is about $^{3}/_{16}$ inch long, including the snout. Young adults are light brown with a dark stripe down the back. As the weevils age, they become uniformly dark brown or almost black. The newly hatched larvae (worms) are $^{1}/_{32}$ inch long, legless, yellow with a shiny black head. They later become green and a white stripe is formed down the back. When fully grown, larvae are $^{3}/_{8}$ inch long. The larval stage, which causes the most damage to alfalfa plants, is completed in three to four weeks.

Damage

Alfalfa is the only plant seriously damaged by the weevil; although in the absence of alfalfa, clovers can be injured.

Damage is caused by the larvae and sometimes by the adult weevils. Larvae feed on plant tips and buds, on the upper leaves as they open, and then on the lower leaves, leaving only skeletons of the leaves. Severe feeding can destroy the crop. Larvae feed on plants from late March through April, and complete defoliation may occur by the time of the first cutting. The second crop may be delayed if too many worms and adults are left in the field after the first cutting (Figures 1 and 2).

Adult weevils feed primarily on new shoots on the stubble after the first cutting, which delays the re-growth of alfalfa. Adults may remain in the stubble if the weather remains cool. If re-growth is delayed for a week or so, a stubble treatment may be required.

Later cuttings are not subject to as much damage because the weevils leave the field and are inactive during the summer. Some alfalfa weevils return to alfalfa fields in the fall and will lay eggs throughout the winter on warm, sunny days.

Figure 1. Alfalfa Weevil

Figure 2. Foliar Damage

Spring Spraying

Control of the alfalfa weevil in the spring depends on (1) proper timings of insecticidal sprays and (2) timely cutting. To minimize weevil damage, producers should cut the first crop of fall-seeded alfalfa and also cut old stands of alfalfa when the crop is in the one-tenth bloom stage.

Thorough and frequent scouting of the fields is necessary in order to time sprayings most effectively. Damage can become severe overnight when the weather warms up.

Begin scouting your fields in late March and continue until the first of May or later. Starting at least 10 feet from the edge of the field, walk in a U-shaped pattern and pull 100 plant tips at random over the field. Make a thorough examination of the entire field.

An insecticide should be applied when 50 percent of the plant tips show feeding damage and larvae are present. Apply at least 20 gallons of spray mix per acre for effective coverage of the alfalfa plants.

Application

When using ground equipment, the pressure regulator should be set to apply sprays at a pressure of 30 to 40 PSI. Lower pressures produce too large a droplet and higher pressures produce too fine a droplet for thorough coverage.

If temperatures are below 60 F, control may be less than desired. Application of insecticides by aircraft is very effective provided sufficient volume is used. Less than five gallons of finished spray per acre may not achieve the desired results.

Tank Mixes with Herbicides

Early spring when weevils can become a problem is also the time of year to control weeds in alfalfa. Often producers can tank mix an insecticide and herbicide to control both weevils and weeds. Unless prohibited by one of the labels these applications are legal and should work. However, it is always good to run a jar test first with the products to be sprayed to make sure they are compatible. The primary broadleaf herbicide for established alfalfa stands is Butyrac 200 2SC at 4-6pt/A or Pursuit 70DG at 1.44-2.16 oz/A. A new herbicide for alfalfa that controls broadleaves as well as many grasses is Raptor at a rate of 4-6 oz/A. Grassy weeds can be controlled with either Select 2EC at 6-8 oz/A or Poast 1.5E at 1-2.5 pt/A. Use the higher rates of these herbicides when weeds are 3 or more inches in height. Tank mixes of Select or Poast with Pursuit or Raptor can result in poor grass control due to antagonism. Be sure to check the label for height requirements before applying any of these herbicides to seedling alfalfa.

Cultural Methods of Control

Fields with a high population of weevils may be harvested earlier than the normal time for the first cutting, in order to reduce the larval population in the field. If the alfalfa is within a week or so of the first cutting, harvest can be an effective environmental

control. Cutting the alfalfa exposes the larvae to direct sunlight, which may be fatal to weevil larvae. Be sure to observe the stubble for re-growth; if it is delayed, apply a stubble spray.

Biological Control Prospects

Parasites have been introduced into alfalfa fields over the past several years to allow their establishment in alfalfa. In the past two to three years, no new programs have been planned to bring in more alfalfa weevil parasites.

Material		Rate/Acre	Days from Last Application to Grazing or Harvest
Furadan (carbofuran)	4F	½ pt 1 pt 2 pt	7 14 28
Lannate (methomyl)	LV	3 pt	7
Methyl Parathion	4EC	½ -1 pt	15
Mustang Max	0.8EC	2.24 – 4.0 oz	3
Sevin (carbaryl)	XLR Plus	1½ qt	7
Warrior		2.56 – 3.84 oz	1 (forage) or 7 (hay)

CAUTION: Follow all label directions for all pesticides. Safety first and last. This guide does not replace the label. Read label before using.

Precautionary Statement

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

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