UT Extension
SP341-R

Insects

The Cereal Leaf Beetle in Tennessee 2007

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Introduction

The cereal leaf beetle is a serious pest of small grains in many parts of the world. The insect was first identified in the United States in 1962 in Michigan. Since then, it has migrated into the surrounding states as well as into Tennessee. The cereal leaf beetle has been reported in all 95 counties in Tennessee.

Figure 1. Cereal Leaf Beetle Larva and Egg.

Life History and Description

The adult beetle is approximately 3/16 inch long; the male is slightly smaller than the female. The wing covers are metallic blue-black. The legs are red, and the segment just behind the head is also red. The eggs are rounded on each end. Eggs turn darker just prior to hatching. Upon hatching, the larva is yellowish with brownish-black legs.

The larva deposits a globule of blackish fecal material on its back. This globule is moist and easily removed upon any contact with the insect's body. The larva is approximately an inch long when fully grown.

Figure 2. Larva with feeding signs.

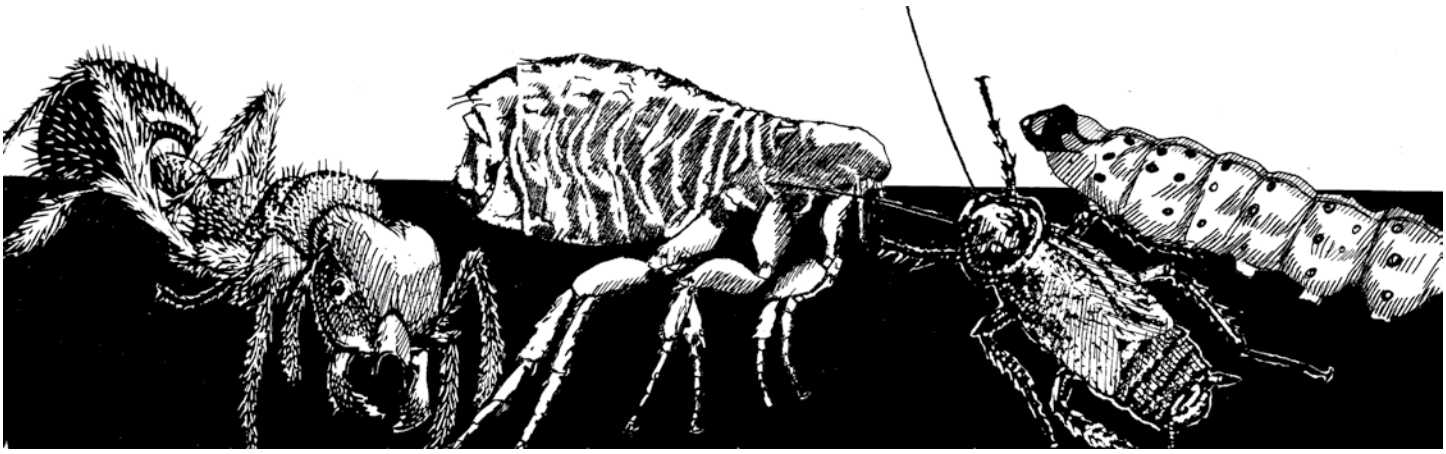

Figure 3. Egg on the upper surface of the host plant.

The adult females deposit their eggs on the upper surface of the host plant's leaves. In about three to four days, the eggs hatch. The larvae will feed on the host for three to four weeks. When the larvae are full grown, they enter the soil for pupation, which takes about a week to 10 days. After the adult beetles emerge from the soil, they feed for about seven days and migrate away from the field. They return to the field in the following spring.

The adult stage overwinters in field trash, grain stubble or behind the sheaths of corn plants. There does not appear to be more than one generation of cereal leaf beetle each year in Tennessee.

Damage

Adults and larvae damage grain crops in Tennessee. They attack small grains, such as oats, barley, rye and wheat. Corn is also attacked, but the damage to this crops has been minimal to date.

Adults and larvae feed on the leaves of the host plant, chewing out long strips of foliage between the veins. Heavy feedings gives plants a yellowish-white, frosted appearance. Some heavily damaged fields take on a whitish appearance. Someone walking through a field where a large number of larvae are present will notice that a wet, black residue from the fecal globules on the larvae collects on clothing .

Control and Economic Threshold Levels

The new economic threshold is based on the number of eggs and small larvae present, rather than large larvae.

- Treat when one larva and/or adult is present per stem.
- Proper use of sampling allows fields at risk to be identified and treated in time to prevent significant yield loss.
- In the spring, eggs and small larvae are easy for growers and scouts to locate on leaves, and the sampling system is relatively easy and time-efficient.

Data show that wheat fields with thicker stands are not damaged as much as fields with thinner stands. Research from other states indicates that heavier seeding rates tend to discourage cereal leaf beetle infestations.

Treatment Recommendations

Currently recommended insecticides and application rates can be found in PB 1768 Insect Control Recommendations for Field Crops. The 2007 edition is available for purchase from your county Extension office. It is also available for free on the UTCrops.com Website at http://www.utextension.utk.edu/fieldCrops/cotton/cotton_insects/InsectBook.htm or on the UT Extension Website at http://www.utextension.utk.edu/publications/.

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