

# Controlling Wheat Insects Successfully

## 2004 Recommendations



Charles R. Patrick, Professor, Entomology and Plant Pathology  
Chism Craig, Assistant Professor, Plant Sciences

Many farmers in Tennessee use wheat as a double-crop with soybeans. As with any crop, wheat has several insect pests that reduce yields if not effectively controlled in the field.

No doubt yields will be improved if more producers take time to inspect their fields during the growing season for insect pests. Many times detrimental insects and their damage are very difficult to locate in the field. This publication is designed to acquaint the producer with the major insect pests of wheat, the damage they cause and measures used to control the pests.

### Aphids

Several aphids feed on the leaves and grain heads of wheat. These pests are significant in that they are capable of transmitting disease organisms to the plant, in addition to the damage inflicted by their feeding habits.



#### 1. Oat Bird Aphid

The Oat Bird aphid is dark green in color, and is responsible for transmission of the Barley Yellows virus.



#### 2. Corn Leaf Aphid

The body is bluish-green and all of the legs, cornicles and antennae are black. The cornicles differ from the English grain aphid by being short and broad. Size of an aphid is about  $\frac{1}{8}$  inch long.



#### 3. Greenbug

The greenbug is a pale green aphid, sometimes having a dark green stripe down the back of the wingless forms. The tips of the legs and cornicles are black, and the antennae are mostly black.



#### 4. Rice Root Aphid

This aphid occurs on the roots of wheat and has been known to transmit Barley Yellow virus.

### Armyworms

The true armyworms are serious pests of wheat when populations reach large numbers. Armyworms get their name from their migrating habit, as they start at one portion of the field and devour everything in their path.



#### 5. True Armyworm

The mature larvae are smooth, almost without any hairs, greenish-brown to reddish-brown, with a dark stripe down the back and along the side. A broad dorsal stripe runs down the length of the back. This armyworm differs from the fall armyworm by having dark bands on the outer portion of the prolegs.



#### 6. Fall Armyworm

The fall armyworm is a pest in fall-planted wheat in Tennessee. These insects can

completely defoliate a wheat field when populations are very large. This insect differs from the true armyworm by having a prominent inverted Y on the front of the head and no dark bands on the outer portion of the prolegs. These insects have the typical armyworm "habit" of migrating from one portion of the field to the other portions.

### Other Pests



#### 7. Hessian Fly

These small insects have been responsible for tremendous wheat losses in the past. Presently, Tennessee may have an economic problem with this insect. As more producers plant in the early fall with nonresistant varieties, this insect may return to reduce our wheat yields. Planting after October 15 will reduce Hessian fly populations. However, volunteer wheat still provides a host plant for the pest. Plowing under the stubble will help reduce this pest. Biotype L has been found and other biotypes may be present as well.

Hessian fly larvae are reddish at first emergence and turn white or greenish white; they are shiny and without legs. Size when full-grown is approximately  $\frac{1}{4}$  inch long. This insect is not currently a major pest in wheat; however, some areas have had recent infestations showing up in wheat fields. Plant resistant varieties for control measures to date.



### 8. Cereal Leaf Beetle

The cereal leaf beetle is a pest of wheat, oats, barley and other cereal crops. It has been found in most all counties in Tennessee. The larvae are pale yellow and soft-bodied. Adults are shiny, black beetles with red legs and a thorax approximately  $\frac{3}{16}$  inch long. The larvae glue pieces of fecal material to their backs as camouflage. Feeding by adults and larvae results in skeletonized tissue between leaf veins. Check 10 plants per sample site for larvae and adults, which are present from April through June in wheat.

**Corn Leaf Aphid** – Treatment should be considered when heavy populations are causing leaves to dry up and die in several portions of the field.

**Greenbug** – Treatment should be considered when aphids are killing three or more leaves per plant.

**Rice Root Aphid** – No Threshold has been established in Tennessee. Use a seed treatment in the fall to reduce transmission of Barley Yellow's virus.

**Armyworms** – Treatment should be considered when four or more worms are present per square foot (16 per 4 square feet).

**Hessian Fly** – data show a 20 percent infestation causes a  $\frac{1}{4}$  bushel loss per acre in some varieties. Use resistant varieties when available. Present varieties have shown to be more susceptible to attack. No varieties are available for Biotype L at this time.

**Cereal Leaf Beetle** – Treatment is necessary if one larva and/or adult is present per stem.

## Suggested Economic Threshold Levels

**Oat Bird Aphid** – No threshold has been established in Tennessee. Use a seed treatment in the fall to reduce transmission of Barley Yellow's virus.

Chemical Control Measures		
Read label before use!		
Insect	Material	Rate/Acre
Aphids	Methyl Parathion Warrior T Gaucho XT (seed treatment) Cruiser (seed treatment) Lannate LV Mustang Max	$\frac{1}{2}$ -1½ pt. 2.56-3.84 oz. 1-3 oz/per lb. corn 0.75-1.33 oz. per 100 pounds seed $\frac{3}{4}$ -1½ pt. 3.2-4.0 oz.
Armyworms (True & Fall)	Methyl Parathion Lannate LV Sevin XLR Warrior T Mustang Max	1½ pt. $\frac{3}{4}$ -1½ pt. 1 qt. 2.56-3.84 oz. 1.76-4.0 oz.
Cereal Leaf Beetle	Lannate LV Sevin XLR Warrior T Mustang Max	$\frac{3}{4}$ -1½ pt. 1 qt. 2.56-3.84 oz. 1.76-4.0 oz.
Grasshoppers	Furadan 4F Mustang Max Warrior T	$\frac{1}{4}$ -½ pt. 3.2-4.0 oz. 2.56-3.84 oz.

*Photo credits:*

English grain aphid and corn leaf aphid by Dr. Richard Granthum, Oklahoma State University, Entomology Department. Oat Bird aphid by University of California Department of Entomology. Rice Root aphid by Jay Chapman, Clemson University, Clemson, S.C.

**Precautionary Statement**

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store, or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label. Persons who do not obey the law will be subject to penalties.

**Disclaimer Statement**

Pesticides recommended in this publication were registered for the prescribed uses when printed. Pesticide registrations are continuously reviewed. Should registration of a recommended pesticide be canceled, it would no longer be recommended by the University of Tennessee.

Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others that may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product.