

# AGRONOMIC ALERT



## Chinch Bug in Corn

Chinch bugs (*Blissus leucopterus* (Say)) are not generally a concern in corn. However, under hot and dry conditions, chinch bugs can cause significant damage to corn. Proper identification and management can help minimize loss of yield potential.

### Identification and Life Cycle

Chinch bugs overwinter as adults at the base of grass plants with a bunch growth habit, such as big and little bluestem<sup>1</sup>. Adults are 3/16 inches long and have a black body and white wings with black triangles on the outer margins<sup>1,2</sup>. When crushed, they emit a musty odor<sup>1</sup>. When temperatures reach 70° F for several hours with sunshine, adults leave their overwintering location in search of a good place to lay their eggs<sup>3</sup>. Thin stands and open canopies of small grains are common egg laying locations. Females generally lay around 200 eggs, one egg at a time, and a few eggs per day, for around a month. They typically lay them behind leaf sheaths or in the soil<sup>3</sup>. After a few days, eggs turn from light yellow to red and hatch into nymphs<sup>3</sup>. It takes about a month for the nymphs to go through six stages, the last being an adult. Nymphs have a brown head and thorax, dark red eyes, and a pale yellow to light red abdomen with a black tip. There is a white band behind the wing pads. They can feed on any part of the host plant as they develop<sup>3</sup>. As nymphs develop into an adult, they get progressively darker in color<sup>3</sup>. Two or three generations can occur annually. When small grains mature, crops such as corn become a preferred location for chinch bug development<sup>3</sup>.



Figure 1. Adult chinch bug.

an insecticide application at the first signs of yellowing or wilting of lower leaves and if pressure is heavy. Drop nozzles and high spray solution volumes can help with control. Lorsban®, Warrior®, and Asana® XL insecticides have been labeled for control of chinch bugs<sup>4</sup>. ALWAYS READ AND FOLLOW LABEL DIRECTIONS.

### Conditions that Influence Chinch Bugs

- 1) Two years of hot and dry summers generally increase the populations of chinch bugs<sup>1</sup>.
- 2) Small grains planted into heavy soybean stubble can have thinner stands, which encourage chinch bug development<sup>1</sup>.
- 3) Nymphs from first-generation eggs cannot survive on corn, unless they have had small grains in their diet first. The reason for this is unknown<sup>1</sup>.
- 4) Chinch bug survival is inversely related to the nitrogen content of the crop they are feeding on. Hence, they do not feed on soybean plants, and, they prefer to feed on nitrogen deficient corn or grassy weeds<sup>1</sup>.
- 5) There is a fungus that can kill chinch bugs. The fungus is favored by hot, humid conditions and can significantly reduce chinch bug populations<sup>1</sup>.
- 6) Heavy rains after egg hatch can result in the nymphs getting trapped in mud and not surviving<sup>1</sup>.

#### Sources:

<sup>1</sup> Ratcliffe, S.T. et. al. 2004. Chinch bug. University of Illinois Extension. Integrated Pest Management. <http://ipm.illinois.edu> (verified 7/27/2011)

<sup>2</sup> O'Day, M. et. al. 1998. Corn insect pests. University of Missouri Extension. Missouri Manual 166, Illinois Manual C1358.

<sup>3</sup> Flander, K.L. et. al. 2004. Maize insect pests in North America. University of Minnesota Extension. <http://ipmworld.umn.edu> (verified 7/27/2011)

<sup>4</sup> 1999. Scattered reports of chinch bug infestations in cornfields. University of Missouri Extension. Integrated pest and crop management newsletter. Vol. 9. No. 12. <http://ppp.missouri.edu> (verified 7/27/2011)

### Crop Injury

Chinch bugs can injure several types of grass crops, including corn, from the east coast through the western plains and Texas<sup>3</sup>. Piercing and sucking mouthparts cause can cause corn plants to have a white color, become stunted, wilt, and possibly die. Damage resembles frost damage and is commonly heavier in the border rows surrounding a field of small grains.

### Management

A tentative threshold for corn under V4 is 10 chinch bugs per plant. Since damage from chinch bugs is not commonly widespread, thresholds for larger corn are not established<sup>4</sup>. It is recommended to scout heavily in areas near small grain fields. Borders, or possibly entire fields, may need to be sprayed with

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