**Chinch Bugs**

Nymphs of chinch bug are pale yellow when hatched but soon become red except for the first two abdominal segments that remain pale (Color Plate 7). Subsequent instars become darker red but retain a pale-yellow band across the front part of the abdomen. The last nymphal instar is black and gray with a conspicuous white spot on the back between the wing pads. The 4.2-mm-long adult chinch bug is black, with reddish-yellow legs, and conspicuous white forewings, each of which has a black triangular spot at the middle of the outer margin.

Chinch bugs overwinter as adults in bunch grass. In spring, they migrate from overwintering sites to small grains where they lay eggs. Chinch bug eggs are laid behind lower leaf sheaths of host plants, on roots, or in the soil near hosts. Nymphs of this first generation migrate to sorghum and other hosts such as corn. In southern regions, adults may move directly from overwintering sites to sorghum without first infesting small grains. The life cycle is completed in thirty to forty days. A second generation develops and disperses within the host crop field, and there may be an additional generation in southern regions.

Symptoms & Damage

Chinch bug adults and nymphs damage plants by withdrawing large amounts of juices from stems or underground plant parts. Young plants are highly susceptible to damage. Older plants withstand more chinch bugs than smaller plants, but they, too, become reddened, weakened, and stunted, and frequently lodge. Chinch bug outbreaks are favored by dry weather.

Monitoring

Careful examination of plants, especially behind leaf sheaths and soil around plants, is required to locate chinch bugs. Plants at no less than five random sites should be exmined in a field. Small plants and soil, especially loose, dry soil where chinch bugs often feed, should be carefully examined. On large plants, chinch bugs most commonly are found behind leaf sheaths.

Insecticide should be applied when two or more adult chinch bugs are found on twenty percent of seedlings less than 15 cm tall. On taller plants, control may be warranted when there are four or five nymph or adult bugs per plant (Figure 4). Generally, one chinch bug per sorghum seedling results in approximately two percent grain yield loss. Fifteen chinch bugs per plant can reduce crop value thirty-three percent.

Management

Cultural management practices that stimulate dense, vigorous sorghum stands are recommended to suppress chinch bugs and injury. Sorghum should be planted as early as possible. Chinch bugs sometimes are difficult to control with insecticide. Systemic insecticide applied for soil insect pests to seed or at planting for soil insect pests control chinch bugs. At-planting, soil-incorporated insecticide may be justified in fields with a history of economically damaging infestations of chinch bug. Granular products must receive after application about 13 mm of rain to be effective in suppressing early season chinch bug infestations. Insecticide application to plant foliage may be justified if infestations reach the economic threshold. When using ground application equipment, insecticide should be applied in at least 93.5 liters of water per hectare through nozzles directed at the base of plants. Satisfactory control seldom is obtained on plants in the boot stage or older. Insecticide applied by aircraft seldom is effective or recommended.



Chinch bug Blissus leucopterus leucopterus

Chinch bugs are sporadic pests of sorghum in Texas. Adult chinch bugs are black, with reddish yellow legs and with conspicuous, fully developed white forewings, each of which has a black triangular spot at the middle of the outer margin. Immature chinch bugs resemble adults in shape but lack wings. Young nymphs are yellowish, later turning reddish with a white or pale yellow band across the front part of the abdomen. Older nymphs are black and gray with a conspicuous white spot on the back between the wing pads. Eggs are laid behind the lower leaf sheaths of sorghum plants, on roots or in the ground near the host plant. The life cycle is completed in 30 to 40 days, and there are at least two generations a year. Chinch bugs overwinter as adults in bunch grass. They begin moving to sorghum when temperatures reach 70 degrees F. Adult and immature chinch bugs suck juices from stems, leaves or underground plant parts. Young plants are highly susceptible. Older plants withstand attack better, but they, too, become reddened, weakened and stunted. Chinch bugs are favored by hot, dry weather, and large numbers of adult and immature bugs often migrate from wild bunch grasses or small grains into sorghum. To fi nd chinch bugs, carefully examine plants and surrounding soil. Make at least fi ve random checks per fi eld. Cultural practices that stimulate dense, vigorous plant stands are recommended because these conditions are less favored by chinch bugs, and injury usually is reduced. Plant sorghum as early as practical. Apply insecticide when two or more chinch bugs are found on 20 percent of seedling plants less than 6 inches tall. On taller plants, insecticide often is justifi ed when chinch bugs infest 75 percent of the plants. Generally, one chinch bug per seedling sorghum plant reduces grain yield by 2 percent.

**Suggested insecticides for controlling chinch bugs.**

**Commercially treated seed**

Clothianidin (Poncho® 600) 5.1-6.4 fl oz/100 lbs seed

Imidacloprid (Gaucho® 480) 8 oz/cwt

45 Thiamethoxam (Cruiser® 5FS) 5.1 oz/cwt

**Applied at planting**

Aldicarb See remarks (Temik® 15G) 7.5 oz/1,000 ft of row

Chlorpyrifos See remarks (Lorsban® 15G) 8 oz/1,000 ft of row

Terbufos See remarks (Counter® 15G) 7 oz/1,000 ft of row

**Applied post-emergence**

Carbaryl See remarks (Sevin®) (4F) 32-64 oz/acre (80S or 80WSP) 1.25-2.5 lb/acre (4XLR+) 32-64 oz/acre

Carbofuran See remarks (Furadan® 4F) 8-16 oz/acre

Chlorpyrifos See remarks (Lorsban® 4E) 16-32 oz/acre (NuFos® 15G)

Cyfluthrin See remarks (Baythroid® 2E) 1.3-2.8 oz/acre

Cyhalothrin See remarks (Karate® 1F) 3.84 oz/acre (Warrior® 1E)

**Remarks**

Aldicarb. Apply granules in furrow and cover with soil. Do not feed green forage to livestock.

Carbaryl. Use high-gallonage ground application directed at bases of plants.

Carbofuran. Ground application only. Use 20-30 gallons of water per acre. Do not apply more than twice per season. Do not apply after heads emerge from the boot.

Chlorpyrifos. Apply with enough water to ensure a minimum spray volume of 20-40 gallons per acre. Use ground equipment to direct spray toward bases of plants. The waiting period from last application to harvest or grazing is 30 days for the 16-oz rate and 60 days for more than 16 oz. Do not apply more than 48 oz per acre per season. Do not treat sweet sorghum.

Cyfluthrin. If one or two applications are made, green forage may be fed or grazed on the day of treatment. If three applications are made, allow at least 14 days between last application and grazing. Direct applications at the basal portion of the plant.

Cyhalothrin. Do not graze livestock in treated area or harvest for fodder, silage or hay.