

Plant Disease and Insect Advisory



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Chinch Bugs Management in Sorghum Tom Royer, Extension Entomologist



Chinch bugs will be moving out of maturing wheat very soon. Adult chinch bugs typically overwinter in bunch grasses and move into wheat in spring. They remain in the wheat until it matures, and then migrate to nearby corn or sorghum fields, usually as partially grown nymphs.

Adult chinch bugs are black with a white "X" on their back, and measure 3/16 inches. Immature nymphs are smaller and range in color from red to brown, and have a white band across their back. They typically feed on the lower leaves of the plant, or below ground if there are cracks that provide access below the soil surface. They feed by sucking plant juices through their straw-like mouthparts

and appear to inject a toxic substance with their saliva. Injury symptoms on the feeding site may appear as reddish spots, and heavily infested plants appear to be wilting and drought stricken or injured by frost. Smaller plants are more vulnerable to injury, and sorghum seems to be more susceptible than corn. As few as 2-3 chinch bugs can kill a seedling sorghum plant, but it will take 5-10 bugs per plant to kill larger plants.



There are several options for control of chinch bugs. If a producer has had consistent infestations for several years, he/she should consider treating the sorghum seed with Gaucho® or Cruiser® insecticide to reduce the risk of economic injury. A seed treatment will not provide complete control of chinch bugs, but it will "slow them down" for about three weeks and give the sorghum a head start. Rick Kochenower, Research Agronomist at Panhandle Research and Extension Center, Goodwell, has some preliminary data showing yield benefits that occurred in his variety trials from using a Gaucho seed treatment under heavy chinch bug pressure.

For rescue management of chinch bugs, an insecticide can be applied as a border treatment or full field treatment. If the chinch bugs are moving in from mature wheat field, consider a border treatment. The insecticide should be applied in a 30-60 foot strip along the boundary between the two crops. As the chinch bugs migrate, they will be controlled. One or possibly two

applications may be needed. If the infestation occurs throughout the field, it should all be treated. With either method, ground applications using 20 to 30 gallons per acre and directed at the base of the plant provides vastly superior control compared to aerial applications. Consider banding the spray over the row. Several products are registered for control of chinch bug and are listed in the following table. Always remember to read and follow all label restrictions.

Blister Beetles in Alfalfa

Phil Mulder, Extension Entomologist



Well it's that time of year again. With our record of intense grasshopper pressure, and the immature stages of blister beetles feeding on their eggs, it seems reasonable to assume that blister beetle populations will increase. I have a couple of specimens come in already that are the striped species, the one most often associated with toxicity problems in horses. Some alfalfa producers have inquired about the possibility of having hay certified "blister-beetle free" this late in the season. I would not begin to suggest that hay cut and baled after May 1 could be blister beetle free. The risk is too great even though our records show that our earliest spotting of blister beetles is not

until May 14. Growers interested in the first cutting as blister beetle free are generally safe if the above criteria are met. This is a good time to refresh our memories relative to blister beetle biology. 1) Adult blister beetles have been detected during early May in alfalfa fields. However, populations usually peak from mid- June to mid- July so there is greater risk of picking them up in your alfalfa during the second- forth cuttings. 2) Even though there aren't many adults in alfalfa in May, when most alfalfa is cut for the second time, it doesn't take very many to adversely affect the health of livestock, especially horses (cattle apparently are much less susceptible – having to do with their ruminant stomachs). Some studies have indicated that it only takes between 25-300 beetles to kill a horse during one feeding. This depends, of course, upon the species of beetle, cantharidin content, and size and health of the horse.

Since blister beetles are difficult to detect in alfalfa fields and it doesn't take very many to adversely effect the health of any livestock which ingest the beetles (or the cantharidin produced by them) it is risky to certify any cutting as "blister-beetle free." For the lowest possibility of having blister beetles in hay, sell cuttings to horse owners only if they were harvested before May 1 or after October 21. Any other cuttings are risky and should involve a discussion between the buyer and seller to attempt reducing the risks. I suggest that both parties should hold some responsibility for assuring that the hay is not contaminated. An application of Sevin, just prior to cutting (7 day PHI) would reduce the risk of contamination and the costs can be shared by both buyer and seller. This would not guarantee that the hay would be blister beetle free but should greatly reduce the risk. In addition, the seller can use a sickle bar or remove the crimpers on his harvester to insure that no beetles are crushed. Also, the harvest operation should not involve running over the hay after or during the cutting operation. This can crush beetles and not allow them to disperse before baling. Obviously, for experienced hay growers these options create

different problems associated with drying time, therefore, there should definitely be a premium involved when selling to horse owners.

Pecan nut casebearer season in full swing

Phil Mulder, Extension Entomologist

Based on the previous newsletter, most growers across the state have probably already made the decision to treat for pecan nut casebearer. Heavy populations of eggs and the start of damage symptoms were noticeable throughout the state last week. The degree day picture (see table below) indicates that first significant entry is or has already begun. For those growers that chose to ignore the first generation of casebearer due to light infestations and/or a heavy crop load, caution should be used in thinking that you have escaped the problem entirely. A second generation will be evident in about 38-45 days. If first generation problems were ignored then significant damage from second generation could be forthcoming.



Growers wishing to anticipate the arrival of second generation casebearer should use pheromone traps to detect the peak in the second flight and be ready to treat 12-16 days after. This may put us in a period of time when additional benefits can be derived from insecticide applications. In about 40 days, we should be in the beginnings of hickory shuckworm season, and treatments directed at casebearer are generally active on shuckworm. This is especially true with the use of Confirm®. In addition, the residual capacity of Confirm can provide excellent control of webworm and walnut datana if they become a problem.

Location	Degree day Total (6-09-03)	First significant entry total
Burneyville	2206	1831
Bristow	1803	1831
Duncan	2136	1831
Guthrie	1810	1831
Idabell	2217	1831
Tulsa	1893	1831

Additional Insect pests seen in pecan in 2003

Phil Mulder, Extension Entomologist



Pecan catocala is a large caterpillar pest of pecan seen in early spring. It is also known as the underwing moth. Larvae feed on foliage of pecans, hickories and walnut, but generally do not occur in extensive numbers. The larval stage is a large (2 ½ – 3”) caterpillar that appears to be tapered at both ends and sits very still on a leaf chewing the foliage. Once disturbed, the caterpillar will whip its body from side to side violently to attempt to scare off potential predators. Pupation generally occurs on the foliage with the pupal cocoon attached to a leaf and adults are present in mid-summer. The adult is a large moth (about 3” wingspan) that possesses mottled gray or brown forewings and usually a brightly-colored hindwing. One common species, the white underwing has a white and black striped forewing and a black hindwing with a white stripe. This insect rarely occurs in sufficient numbers to justify treatment.



The polyphemous caterpillar represents the larval stage of one of our most common giant silkworm moths. The moth is a large (3”- 5”), beautiful light brown color with large blue and yellow colored eye-spots on the hindwings. The larva is a robust caterpillar with an accordion shape and prominent spines along the length of the body. It feeds on a variety of trees, from oak and elm to hickories and pecan. Because of the large size of the caterpillar it requires a great deal of foliage to mature, and often concerns growers when discovered in groups. Fortunately, these rather large caterpillars do not often survive to the later stages of larval development, being consumed by predators or parasites. Management of this insect is not recommended, since control of pecan nut casebearer will generally coincide with peak populations of this species.



June beetles, green June beetles and rose chafers are medium to large beetles that are brown, tan or greenish in color. They feed on foliage of pecan generally during the dusk hours of the day,



but can be found throughout the day within the canopy. Immatures are white, C-shaped grubs known as “white grubs” and this stage feeds in the soil on grass roots and other forms of organic matter. Larvae are not considered a pest of pecan. Heavy infestations of adult beetles are sometimes common in late spring; however, populations rarely become intense enough to



justify treatment except on very young seedlings.

The pecan spittlebug is aptly named for its white spittle mass that is produced by the immature stages feeding in groups on plant juices. They are sometimes evident on buds, new shoot growth and on nut clusters early in the growing season. Feeding can result in terminal dieback and shedding of nutlets. Nymphs of this insect rely on the protection of the spittle mass; however, as they reach the adult stage they leave the mass and the spittle dries. Adults of the pecan spittlebug are about ¼ inch long and pale brown with a reddish tinge. The two-lined spittlebug is a common species seen in Oklahoma. It derives its name from the two prominent red stripes found running across the forewings. It possesses a somewhat brown or black background color. Generally, as long as infestations are not widespread on pecan nut clusters, this insect is a minor concern.



The flatheaded apple tree borer is a small (½ inch) metallic colored beetle that is somewhat flattened in appearance and generally attacks weakened, damaged or recently transplanted trees. Young trees are particularly susceptible. Infested trees can be diagnosed by the presence of darkened bark areas that may look wet or greasy and have a white frothy sap oozing from cracks. This damage is the result of larval feeding in the sapwood of the tree. Larvae are yellowish-white in color and lack legs. They also possess an enlarged, flattened head, which is very typical of this family of beetles. Growers that may have trees weakened by sun scald, winter freezes, ice storms or any mechanical injury should carefully watch for the symptoms associated with this insect. Rescue treatments with insecticide drenches are ineffective at killing larval infestations but can provide some control of adult beetles if timed properly. Proper watering, pruning, and fertilizing can help in strengthening

the tree for resisting damage. In addition, cutting and burning infested twigs and branches can help in reducing the infestation.

(Images captioned UGA... courtesy of ForestryImages.org)

Bagworms Are Hatching

Tom A. Royer, Extension Entomologist



Bagworms are a common pest of juniper and other evergreen shrubs and trees. While common, bagworm infestations often go unnoticed until the caterpillars become large and are causing visible damage. Then they are much more difficult to control with registered insecticide products as well. The most efficient way to get a bagworm infestation under control is to be proactive and inspect susceptible trees early.

As mentioned previously, this insect is a pest of juniper and other evergreens, but it will also feed on deciduous trees as well. The reason people are less concerned with them feeding on deciduous trees is that they can compensate for the defoliation that occurs with new “flushes” of leaf growth. Conifers are not so lucky. They can not recover from new damage until the following year, making the damage very noticeable.

Bagworms overwinter as eggs in the bag that contained the female moth. They begin to hatch in mid-May, and egg hatch may extend over several weeks. The newly hatched caterpillars immediately begin to construct a silken bag and attach bits of their food source to the outside of the bag. This bag serves as a protection from predators, weather, and perhaps most importantly to the homeowner, to insecticide applications.

For best control, early inspection of the host plants is critical. The trees and shrubs should be closely inspected, because they can be easily missed in the dense foliage of the inner part of the tree. Young bagworms are very small, and can go unnoticed. If an infestation is heavy, it will be important to provide thorough coverage of the insecticide over the interior of the shrub, and a repeat application may be needed to control later hatching larvae.

There are several insecticides registered for bagworm control. Products containing *Bacillus thuringiensis* (Bactospeine, Biotrol, DiPel) are excellent choices because they are very easy on other good bugs found in the garden. They must be applied as soon as young bagworms are spotted, and thorough coverage of the foliage with the spray is essential. Other products, such as malathion, Sevin, Orthene and Bayer Advanced Multi-insect Killer are very effective but will kill more beneficial insects than the first two.

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