

# Kansas Insect Newsletter

For Agribusinesses, Consultants,  
Applicators and Extension Personnel



K-State Research and Extension  
Manhattan, KS 66506-4027

Extension Entomology  
Tel. 785-532-5891

W. Waters Hall  
FAX: 785-532-6258

[http://www.oznet.ksu.edu/dp\\_entm/welcome.htm](http://www.oznet.ksu.edu/dp_entm/welcome.htm)

May 24, 2000 No. 6

## **CHINCH BUGS (Sorghum):**

It is perfect weather for them. In some thin wheat yesterday, I saw 4 to 5 adult bugs per sq. ft. (DK. Co.). Pull up some plants and check behind lowest dead leaves. Look for tiny red nymphs that are just hatching. Nearby corn already has too many adult bugs in it. More will come later as nymphs run out of food in the wheat. Protection against chinch bugs will be worthwhile in many parts of the eastern half of the state in fields being planted now.

## **YELLOW SUGARCANE APHIDS (Sorghum):**

Infestations are now appearing in some areas in the eastern third of the state, and perhaps in other areas as well. These small bright lemon-yellow aphids form colonies on the underside of the leaves. As they feed they inject a toxin that causes purple colored leaves on seedling plants and stunting and yellowing of more mature leaves. We are at the northern edge of this insect's normal distribution. Ordinarily, YSA is just a matter of academic interest here in Kansas, but we did see a field this week with perhaps 5% of plants with purple leaves caused by YSA. Most of the time, small colonies were also present. Sometimes, we experience damaging early season infestations especially in east central Kansas. On sorghum with 80 bu. yield potential, consider treatment on 2-leaf stage plants at levels of 20 to 25% of plants are infested, or when 40 to 50% of plants are infested during the 3-leaf stage (collar of the third leaf is visible). Greenbugs, so far, have been

absent in fields we have examined. With beneficials being recently abundant, significant early season infestations are not anticipated. **Flea Beetles** - we are seeing some on sorghum, but they don't usually bother sorghum as much as corn. Inform us if you see evidence otherwise.

Are you seeing **stunted plants & stand loss in corn?** Some are concerned about this, even in corn that is approaching a foot in height. Southern corn leaf beetle may be one reason. In a Dickinson County field yesterday, plants were about 1 ft. high and the plant population was near 30,000- plants/a. In some 17.5 ft. of row inspections, we saw two or three stunted plants and one or two dead or dying plants. The stunted plants had serious onion rolling. There was some irregular leaf feeding, but not especially pronounced. After a while we observed a few southern corn leaf beetles on the ground and in soil cracks. It is possible stunting is due to earlier foliar feeding by this insect, but we caution that other problems could cause similar symptoms. You might look for **SCLB** if you encounter similar injury.

Some of the early-planted corn is now at the stage where scouting for first generation **ECB** should begin. Trying to forecast the possible abundance is always tough. It may be noteworthy that levels over the past couple of years have been relatively low.

**Mites Already?** A caller from Goodland expressed concern about mites in 3 and 4 leaf stage corn. He was seeing eggs and a few mites on the lowest leaf on 10 to 15% of the plants. Of course just seeing them is worrisome. It tells us that we are in a dry period, and we hope it is not an early sign of a long, hot summer ahead. This is dryland corn, and it is not unusual for these very early appearances to correct themselves. One should probably watch this a while before taking any action.

### **BLACK FLY NUISANCE ALONG KANSAS STREAMS:**

Often when we get complaints of black flies (buffalo gnats, turkey gnats) bothering people in one area we suspect they are bothersome at many other sites, too. So far this year, we have received no such reports — but we should expect them.

On May 10, I stopped at several sites along a 60-mile stretch of the Arkansas River --- Ellinwood, Great Bend, Larned, and Garfield — and on Coon Creek near Kinsley. At every site, black flies were numerous and annoying, circling my head and bumping into my nostrils, ears, and eyelids — but none bit me. This is probably the species that has been bothering horses and cattle since late March (see Kansas Insect Newsletter No. 4, pp. 1-2), that seldom bites people. However, if one were fishing, camping, picnicking, or repairing fence, they would still be an intolerable nuisance. Deet-based repellents are the most effective protectants that are readily available.

And, any time now, we should expect the emergence of *Simulium meridionale*, the tiny, black species that **does** bite people and causes mortality in birds including poultry and ratites. Most complaints about this species in the past have come from Sumner, Harper, Sedgwick, Dickinson, and Mitchell counties, but they occur throughout much of the state. Keeping poultry in a tightly-screened structure is the surest protection; treatment with

permethrin spray is second best.

--D.E. Mock

### **GRAIN SORGHUM AND HOW STAND REDUCTION AFFECTS YIELD:**

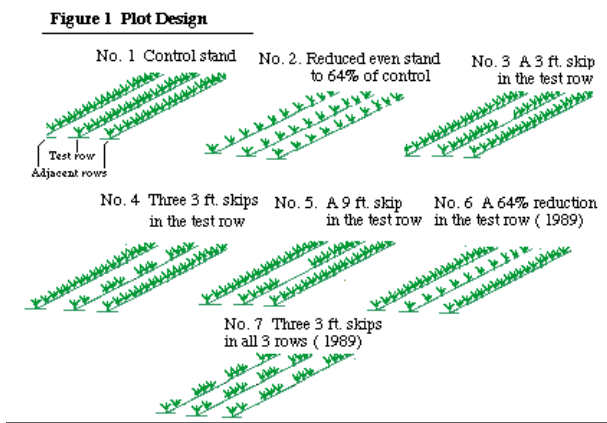
How much stand reduction can sorghum withstand? In the weeks ahead many of us will face with this problem as cutworms, wireworms, chinch bugs and other factors take their toll on new stands. Unlike the corn problems we have been dealing with, sorghum has tremendous compensation ability. When a stand is reduced, it may produce more tillers, increase the number of seeds per head or produce larger seeds. The amount of compensation that sorghum can make is influenced by a host of factors. Weather conditions, the hybrid being grown and the date of planting all have an influence. Generally, early planted fields can compensate more by increased tillering. Some years ago, a dryland sorghum study conducted by Erick Larson and Richard Vanderlip focused on how yield is influenced by stand reduction. We have summarized the results below:

#### **Conditions of the Study:**

Dryland plots were established at two sites: Manhattan where sorghum was planted 6/4/88 and 6/8/89. Plots at St John were planted on 5/25/88 and 5/24/89. The initial plant population was 50,000 plants per acre at Manhattan and 32,000 at St. John. Annual rainfall at Manhattan was 33 inches and 25 at St. John. Two medium maturity hybrids were used in the study, DK-46 which is typical of a hybrid with limited tillering response, and Pioneer 8500 which has greater tillering capacity, similar to many commercial hybrids. The treatments consisted a series of 25 foot long 3 row plots. In 1988 the center row was used as the test row with adjacent uniform rows on either side. Figure 1 shows the general plot design. The treatments were:  
No. 1 was a uniform control stand.  
No. 2 was a stand with all three rows evenly reduced to a plant population that was 64% of the

control stand. This was designed to provide the same plant populations as the longest skip length. No. 3 consisted of a 3 foot skip in the test row. No. 4 contained three 3ft. skips in the test row. No. 5 contained one 9 ft. skip in the test row. No. 6 consisted of just the test row with a reduced stand to 64% of the control. No. 7 consisted of three 3ft. skips in all three rows (the test row plus both adjacent rows).

**Results.** At Manhattan in 1988 in DK-46 in treatment No. 3, the average yield ( yield of the test row averaged with the yields of the two adjacent rows) was reduced by 10%; in No. 4 by 9% and in No. 5 by 12%. But in the Pioneer 8500



plots, reductions in the skips were compensated by increases in the adjacent rows. This is a great example of the results can be influenced by the hybrid used.

At St. John in 1988, no significant reductions in average yield occurred. Yield reductions in the skips were compensated by increases in the adjacent rows in treatments Nos. 4 and 5. No hybrid interactions were noted.

At Manhattan in 1989, average yield reductions occurred only in the multiple row patterns - treatment No. 6 by 9% and No. 7 by 10%.

These results illustrate how the pattern of stand reduction and plant distribution are critical to yield. If we see "Single-row" skip patterns, this normally

will not cause significant yield reduction. And if we see uniform stand reduction even down to 64% of the desired plant population this is also not likely to significantly reduce yield. Yield reduction is more likely where within-the-row-skips are present in adjacent rows. Unfortunately, with insect damage, we often have "hot spots" where there is serious damage in localized areas of a field. The number and size of these spots relative to the field as a whole should be considered.

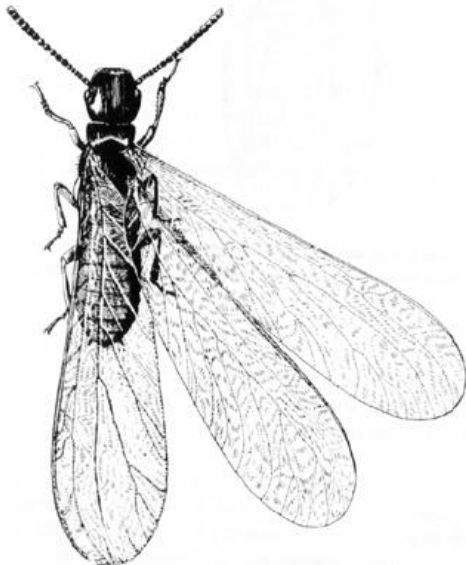
### Seeing Any Ants In Your House Yet?

I have decided that the presence of ants indoors is a sure sign of spring. Most of the time the pesky little creatures don't bother a me as much as my wife. As long as they stay out of my way I can ignore them but she hates them and as soon as they begin to appear around the kitchen sink, I know it's just a matter of time before I am going to be "called on the carpet" to make them go away. If you have this problem too, a few pointers might be helpful. If you are unsure about ant identification, the first thing to do is to make sure that these insects are actually ants. There is a chance they could be termites. It is pretty easy to tell the difference between the two, but if you are unsure, take a sample in alcohol to the local Extension office. Ants are thread-waisted, (very narrowly connected in the middle of the body between the thorax and abdomen) with elbowed (hinged or bent in the middle) antennae and they usually travel back and forth along a narrow trail or path. Now, look to see if the insects have wings. Ants are usually wingless. The problem may begin with a few individuals gathering in the kitchen or bathroom, which gradually become more numerous over a period of days.



Carpenter ant worker (photo courtesy of Steve White, KS Dept. of Agriculture)

If the insects are termites, they may suddenly appear in alarming numbers from a point in the wall or floor, and begin to trail in a narrow column across the floor toward the nearest exit. The winged individuals in a swarm like this are the termite reproductives. They are black with long, clear wings of equal length. These wings are very delicate and many break off as they crawl along the floor or wall. As they emerge, they tend to travel toward a



door or window.

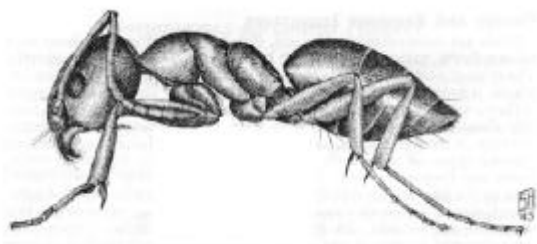
#### Winged termite reproductive

They are trying to escape to the outdoors where they will take wing and leave. Another clue to termites is that the duration of the swarm tends to be relatively short. Within an hour or less, the emergence ceases and all signs of the swarm disappear. We mentioned that ants are wingless, and this is usually true, but occasionally you may be confronted with an indoor swarm of winged ants – the reproductives of the ant colony. They carry the features of ants, but with wings. This is a sign that the ant nest itself is probably located within the structure of the building. But if the problem is ants it is usually more chronic in nature. They will tend to stay around day after day. Here too, you will see that they are traveling in trails, but sometimes it is hard to determine where these trails lead. In most cases, the wingless ants that are indoors are coming from nests that are located in the soil somewhere around the outside of the home. If you could discourage them from entering the home you could cure the problem. There are some species of ants however, (more than 100 common species are recognized as household pests) that nest indoors behind moldings, baseboards, counter tops, and similar places. Take the little pharaoh ant for instance. Since this ant is tropical, it is sensitive to the cold, therefore it nests mostly in heated buildings. This ant would be suspect if you see persistent numbers of small ants indoors during the winter.

Even if you are satisfied that the problem is ants rather than termites, you may want to study them enough to describe their color, size and appearance to a knowledgeable person. You may want to collect a sample for identification (collect half a dozen of the insects and place them in a bottle of rubbing alcohol). For instance, if the ants are large and black (large usually means they are close to a half an inch or more in length), they could be carpenter ants. You frequently see individual

carpenter ants crawling here and there across the floor as they examine bits of food or moisture. Mostly, carpenter ant nests are located outdoors in tree stumps, logs or lumber where they go about their business unnoticed. The occasional presence of a few carpenter ants indoors is also not that unusual; however, frequent and repeated presence indoors suggests that they may be nesting in moisture stressed wood in some part of the house. Most ant problems at this time of year tend to be any one of several possible species of small to tiny black, brown, reddish or yellowish ants. Most are outdoor species that tend to increase their foraging activities with the onset of warm weather. If your kitchen provides a source of food or water and it not too difficult to access, they may find it.

For instance the ants at my house (called the odorous house ant) are quite small as ants go. You have to look closely to make sure these insects are really ants, but just leave a half eaten banana on the kitchen counter, and within 10 minutes you will see a half dozen ants gathered around it. These little, dark colored ants are just about 1/16" long. They nest in the soil often under boards, stones or in



compost piles. The ones you see indoors are the foraging workers.

The odorous house ant

They are active and trail back and forth in single file. When alarmed, they dash around in an erratic manner holding the posterior part of their abdomen in an elevated position. When mashed, they emit a distinctive odor similar to that of a rotten coconut. Ordinarily these ants feed on the honeydew created

by aphids but when honeydew is in short supply odorous house ants forage indoors for sweets and other food including meats.

## Control approaches.

### Outdoors

Ants generally nest outdoors and a problem begins when the foraging workers find indoor sources of food or water. Ants typically follow regular routes( chemical trails) between the food source and their nest. Watch the ants to locate their trail. Try to follow them back to the nest. The best procedure is to treat the nest to destroy the colony. Unfortunately, all too often a trail is visible for only a short distance before it goes into a crack or disappears behind some immovable object.

At other times trails are easy to follow. After a few minutes of looking and searching, I was able to trace our odorous house ants from the kitchen sink back across the counter top down to the floor and along the wall to the patio door then outside along the foundation wall back to the corner of the house where it lead out into the lawn. At that point I lost it. If this happens to you, you might consider treating the exterior of the house using an insecticide labeled for use as a lawn treatment. If it is hard to find where the trail is located, you may need to apply the treatment (in a 2 to 4 foot wide area) around the entire building. This treatment is temporary and retreatment may be necessary. Some examples for an exterior treatment are: carbaryl (e.g., Sevin), chlorpyrifos (e.g., Dursban), diazinon (may be sold as Diazinon capitalized or as some other brand name), or Acephate (e.g., Orthene). These products for lawn use are usually sold as concentrates. A small amount is mixed according to directions with water to make a spray. A one to two gallon pump up sprayer works well for this purpose. Some of these products can used according to label directions to treat the nest. It usually requires making

the application a soil drench. In addition, there a variety of ready-to-to use products not specifically labeled for lawn use, but which may carry instructions for outdoor foundation treatments. In particular, some of the newer pyrethroid products are quite useful. Examples are ready to use products contain cypermethrin 0.2%, clyfluthrin 0.05 to 0.1%, lambda-cyhalothrin 0.06%, bifenthrin 0.05% and permethrin 0.5%.

## **Indoors**

Occasionally, an ant problem can be reduced simply by disrupting the indoor portions of the trail. The safest and simplest way may be by washing the kitchen surfaces with a mild solution of vinegar and water. Sometimes you can apply an indoor treatment along their trail to a part that is located some distance away from the food handling area such as along a wall or a baseboard. A household insecticide containing Permethrin works well for this purpose. One word of caution is that when this approach has been overused there have been instances where this has forced the ants to relocate into other areas of the house.

Another tactic is to use baits. Workers feed on the bait and take it back to the nest where they share it with the rest of the colony. However, baits are slow acting and it may take several weeks to see a reduction in numbers. Also, not all ants are equally attracted to baits. Ant baits that you buy in stores will be attracted to some species but not others. If interested in this approach, you may want to experiment with foods that are attractive to the ants. Some like peanut butter, some like sweets, some like fruit or meat products. A homemade bait can be made by mixing two parts of boric acid to 98 parts of a food attracted to the ants (1/4 teaspoon of boric acid to about 4 tablespoons of food attractant). Baits should be placed on small jar lids, pieces of cardboard, in straws or something similar except in places where ants are commonly observed. However, do not set baits where small children or

pets can reach them. Examples of commercial baits include Baygon 2% bait, boric acid bait, methoprene bait, or hydramethylnon (MaxForce or Combat) ant bait.

Finally, consider steps to prevent entry. It is generally assumed that careless cleaning habits in the kitchen will make the premises more attractive to ants. Of course, it is hard to be specific in terms of how much cleaning is needed as a preventative measure. However, when faced with an ant problem. increased attention to proper food storage, waste management and the cleaning of kitchen surfaces may be in order. In some cases, entry points can be sealed or caulked to prevent entry. Unfortunately many ant species are tiny making them more difficult to exclude as you might do against larger pests or species.

Sincerely,

H. Leroy Brooks  
Extension Specialist  
Insecticides (Pesticidal Safety)

Donald E. Mock  
Extension Specialist  
Medical & Veterinary Entomology

Donald C. Cress  
Extension Pesticide Coordinator