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# Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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## Pretty, but.....

Many people consider the European white birch a desirable tree because of the attractive white color contrast added to home landscapes. However, this tree is subject to damage by the **bronze birch borer**. Generally (and initially), smaller upper canopy branches are preferred for egg laying. The flat headed borer larvae feed on vascular tissues immediately beneath the bark.



Stand of "healthy" birch



Bronze Birch Borer

The “flagging” appearance of girdled, dead branches is the first indication of trees-in-trouble. Left unchecked/unprotected in ensuing years, eventual tree death may occur.



Flagging



Dead birch tree

Upon inspecting branches and tree trunks, the characteristic D-shaped beetle emergence holes are readily evident. Larger “ragged” holes are created by woodpeckers foraging for borer larvae.



D-shaped emergence holes



Holes enlarged by foraging woodpeckers

Bronze birch borer beetle emergence begins in mid-spring and continues into late summer. Insecticides applied to bark surfaces of branches and trunks will kill newly emerged larvae as they attempt to tunnel through the bark. The active ingredient permethrin is contained in a myriad of products (currently 705 registered for use in Kansas). Hi-Yield markets two of the more familiar trade names registered for use against bronze birch borers: Indoor/Outdoor Broad Use Insecticide, and Garden, Pet & Livestock Insect Control.

The active ingredient imidacloprid can also be used for controlling bronze birch borer larvae already established in trees. Applied as a drench treatment poured around the tree base, the insecticide is taken up by the tree's roots and systemically distributed within the vascular tissues being fed upon by the borer larvae. Expert Gardener Tree and Shrub Insect Control, and Bayer Advanced Tree & Shrub Insect Control are two products so registered for use against bronze birch borers.

Bob Bauernfeind

## The upcoming flurry of activity.....

There has been an upsurge of moth activities around blacklight traps located around the state. The moths in question are those of the army cutworm. These moths are commonly referred to as “**miller moths**”. “Miller moths” is a broad umbrella term used by many people to describe “nondescript brown moths that seem to be everywhere for”.



Army cutworm moths attracted to blacklight trap



Army cutworm moth



Army cutworm "forms"

Upon closer examination, the moths can be seen to have, in fact, very distinct markings. There are variations in appearance of army cutworm moths depending upon the subspecies to which they belong. Further diversity in appearance is based on color: male moths have a more coloration as opposed to grey which typifies females.

The moths constitute an annoyance factor. They will exploit any crack or crevice in which to secret themselves away. Often times, they enter homes, garages and sheds/outbuildings. Especially unsettling is when, upon opening a car door, a flurry of moths rush out to escape. Indoors, any attempt to catch and remove, or to kill a moth, results in a dusty smudge on the wall, curtain sheers or any surface upon which the moths rest. The smudge is a result of "wing powder" (actually wing scales) which typically cover the wings of butterflies and moths.

People ask where the moths come from. The actual army cutworm cycle begins in the fall of the previous year when larvae hatch from eggs deposited in a variety of locations (traditionally, in wheat and alfalfa). The following spring, the overwintered larvae complete their development by the end of April and beginning of May. After a 3-4 week pupation period, moths emerge and begin their flurry-of-excitement. These moths are not sexually mature. Just as suddenly as they appear, they disappear, eventually migrating to the higher and cooler elevations in the Rocky Mountains where (during the summer) they will feed and develop into sexually mature forms. In the fall, they will return to the central plains to deposit eggs to repeat their life cycle.

Bob Bauernfeind

## **Chinch bugs:**

Last year(2005) was a unique year as we received no calls relative to chinch bugs or damage caused by chinch bugs. Hopefully, the same will be true of 2006, but you need to be scouting for the nymphs as the wheat matures. The nymphs will continue feeding in the wheat but as it starts to mature and dry out they will begin their "march" seeking more succulent plants and if your corn or sorghum is adjacent they will attack it. Generally, if you have 1 or 2 nymphs per square ft. in your wheat field any adjacent seedling corn or sorghum will be at risk for chinch bug damage. If you do have this situation you may need to carefully examine the young plants about every 3 days, or if you haven't planted yet it may be worthwhile to wait a week or two to let the chinch bug nymphs pass by or die if they can't find an adequate food source. For treatment recommendations see the Corn or Sorghum Insect Management Guides available at all County Extension Offices.

Jeff Whitworth

## **Mites on Corn:**

Spider mites moving out of wheat into corn fields are still causing concern in some areas of western Kansas. It appears that some corn fields are being treated needlessly. While there have been some reports of mites

severely damaging plants along field borders, particularly further south, it appears that many fields are being treated needlessly.

This year's dry weather in western Kansas has led to unusually high numbers of Banks grass mites developing in wheat fields. As the wheat dies, the mites are leaving the wheat to find new hosts. This is when they invade grassy crops such as corn and sorghum that are planted next to these dying wheat fields. However, young corn plants are not a real hospitable for these mites, and young corn can survive a lot of stress without a real impact on potential yield.

In cases where mites are extremely heavy (colonies covering nearly all the leaf surface), the stand can be threatened. In this case border treatments may be justified. However, this does not mean that treatments are warranted whenever a few mites are found in the field. In many cases noticeable levels of mites in the field early in the season can be a good thing--they are usually accompanied by predator mites, which will tend to keep the spider mites in balance for much of the season.

In most cases mites do not do well on seedling corn. The corn is likely to survive the initial migration out of the wheat fields, and can outgrow early mite infestations. Wind, rain and predators often reduce early mite infestations, before they really become serious. Mites actually reproduce more slowly on seedling corn than they do later in the season, so small colonies on seedling plants will not explode in your face like they do later in the season.

Recent heavy rains in many areas may have eliminated these concerns in some areas, however in areas that did not receive rain, weigh the need for treatment on seedling corn very carefully. If damage is severe and stands appear to be threatened then treatments may be justified, however, if mites are not causing severe damage, then just continue to monitor the populations to see if the corn can out grow the problem. Treating too early can upset the natural enemy balance and increase the potential for mite build-up later in the season. Late season outbreaks are more dependent on hot dry summer weather than they are on initial mite numbers invading the fields.

Phil Sloderbeck and Larry Buschman

## **Thrips on Cotton:**

It is once again time to watch for thrips on cotton. Most thrips problems in Kansas cotton seem to be related to thrips migrating from wheat as it matures in the spring. They rasp tender leaves and terminal buds with their sharp mouthparts and feed on the juices. Leaves may turn brown on the edges, develop a silvery color, or become distorted and curl upward. Light thrips infestations tend to delay plant growth and retard maturity. Heavy infestations may kill terminal buds or even entire plants. Damaged terminal buds cause abnormal branching patterns. The duration and intensity of thrips infestations vary greatly according to season and geographic location. Once cotton plants are four to six weeks old, they outgrow thrips damage and recover.

Scouting for thrips can be quite difficult. However, it is important to catch significant populations before

economic damage occurs. Start looking for thrips as soon as plants begin to emerge. Look for thrips in the newest growth. Work on hands and knees. Shake plants over a piece of white paper. If you see small, slender objects crawling, these are usually thrips. If there is residue of sand or soil on the plants, the thrips will be harder to see. Windy conditions require pulling some plants, placing them in a plastic bag, taking them out of the wind and examining the plants for thrips in the terminals and on the underside of the first two leaves. Look for early signs of damage.

If cotton is treated with a systemic insecticide at planting, it should be scouted for thrips two weeks after plants emerge. If live, immature thrips are found, it means that thrips are laying eggs in the field and residual properties of the seed treatment may have elapsed. Follow-up foliar application may be necessary.



Immature Thrips on Cotton

More information on thrips in cotton including control options can be found on the web at: <http://www.entomology.ksu.edu/DesktopDefault.aspx?tabindex=263&tabid=524>

Phil Sloderbeck

## Hessian Fly:

Reports of Hessian fly appear to be down this year compared to last year, but producers in south central Kansas should still be on the lookout for evidence of this pest as they harvest this year's wheat crop. If any lodging is noticed during harvest, producers should check plants for the presence of Hessian fly pupae. If stems are lodged just above a node, look for the pupae under the leaf sheaths just below where the stems are bent over. Also check for pupae at the base of the plants. Areas with noticeable levels of Hessian fly this spring are likely candidates for significant infestations this fall. More information can be found in the publication: Hessian Fly at: <http://www.oznet.ksu.edu/library/entml2/samplers/MF1076.asp>



Lodged wheat stem with leaf sheath pulled back to expose Hessian fly pupae

Phil Sloderbeck

## Wheat Streak:

A common question the last few weeks has been; why did wheat streak show up all of a sudden this spring? The answer is that the symptoms showed up this spring, but the problem really started last fall. Based on the severity of the wheat streak in many fields the infection actually occurred last fall and was the result of several factors that aligned to create one of the worst wheat streak outbreaks in recent years.

Wheat streak often does not express noticeable symptoms until after the wheat reaches the jointing stage and temperatures begin to rise in the spring. It can be described as a warm weather disease. Symptoms are often noticed from the road as wheat nears the boot stage, because heavily infested plants appear very stunted and the fields often take on a very uneven appearance, based on heavily infested plants mixed with plants infested later that are showing less stunting. So while the symptoms appear to come on all of a sudden the actual infestation started much earlier.

Several factors combined last fall to provide the ideal environment favorable for wheat streak. Moisture in late summer or early fall provided ideal planting conditions early and many growers decided to plant early fearing that the soil might dry out later. The same rains also fed the volunteer wheat. Then the fall extended through until early December. This gave the wheat curl mites several weeks to spread the virus. In some cases short forage supplies lead people to save some volunteer for pasture, in other cases volunteer was probably not worked or sprayed due to high fuel prices, other times the volunteer probably was worked or sprayed early, but some grew back prior to wheat planting, and in maybe the worse cases volunteer was sprayed out after wheat planting. And then there were the cases where wheat or volunteer wheat was purposely left as a cover crop for grasses to be seeded in early spring.

People often ask if wheat streak can come from CRP and pasture? The answer to this question is kind of mixed. On the one hand research has shown that many of the actual pasture grasses are not good hosts for wheat streak, however many of the grassy weeds that might be found in these areas are potential hosts. Several winter annuals such as cheat, goat grass, downy brome, and Japanese brome are hosts for curl mites and wheat streak, but these are not thought to be major sources of wheat streak outbreaks because they are usually not actively growing during the summer. A paper by Mike Christian and Bill Willis a few years ago indicated that none of the perennial grasses (buffalograss, little bluestem, indiagrass, and western wheat grass) that they tested were hosts for wheat streak, but they did find wheat streak in 5 annual grasses; barnyard grass, common witchgrass, giant foxtail, green foxtail and prairie cupgrass. In looking at this it maybe the road sides and ditches that maybe a better source of wheat streak than well maintained CRP and pastures. In general it is felt that while some of these areas may provide a reservoir for wheat streak, volunteer is often the main source for severe wheat streak outbreaks.

One issue that we must remember is that it is volunteer in the fall that is the issue. It may be long gone by the time the symptoms become present in the spring, and it may be hard to remember where the volunteer was last fall. Many times I have visited fields severely infected wheat streak in the spring and asked the producers if there was any volunteer wheat in the area, and been told flatly that no there was no volunteer, only to find evidence of volunteer in the neighboring fields. Note it does not take a whole field of volunteer to cause a problem small batches or clumps can cause severe problems, especially if there is a long open fall.

There were also some questions about what one could do once the symptoms started to be come evident this

spring? The answer is nothing. Even in fields where the symptoms seemed to be spreading across the field this spring, actually what we were seeing was the result of infections that happened last fall, in September, October and November. Although in some cases where the infections were limited to just the flag leaf and where there was very little stunting the infections might have actually occurred during some of the mild weather in January. However, by the time the symptoms became evident, most of the spread of the disease had already taken place weeks before and what we were seeing was the delayed effects of the earlier infection.

This year's outbreak was also compounded by drought and freeze. Much of the wheat in western Kansas came out of the winter in a very stressed condition. Root systems were shallow and then we got some moisture in late March and the wheat began to grow very quickly. Thus when we reached boot stage and the wind and heat began to rise the wheat again became very stressed, just about the time the wheat streak was also making its presence known. In addition several freeze events also contributed to the injury seen in many fields. Many of the samples that we have looked at this spring with wheat streak were also showing obvious signs of freeze injury. Thus, I think another reason that the wheat streak appeared to come on so quickly was because three major stresses came on at about the same time to severely stunt the growth of the wheat.

Thus, the question becomes what about next year? Well hopefully we will not have exactly the same conditions as this year. However, there are some things that should be done to reduce the chances of having even isolated outbreaks of wheat streak. Number 1 would be to control volunteer wheat. We need at least a couple of weeks where the volunteer wheat is dead prior to planting wheat. Make sure and kill the volunteer wheat prior to planting the new crop. Some of the worse cases of wheat streak every year are where the volunteer is killed after the new crop is planted. In these cases the wheat curl mites are forced to move out of the dying wheat and they often find their way to the newly emerging wheat. Number 2 would be to avoid planting wheat too early. In a normal year delayed planting reduces the length of time that the curl mites have to spread the virus in the fall and greatly reduces the chances of severe wheat streak infections. Number 3 would be to avoid varieties that are highly susceptible. While we don't yet have varieties that are highly resistant to wheat streak we do know of some (eg. Ike, Karl and 2145) that are highly susceptible and probably should be avoided in areas where wheat streak is a potential problem.

In closing here are a couple of more issues to keep in mind. Growers in areas where wheat is not harvested this spring may still need to worry about volunteer wheat this fall. Even though the wheat may not pay to harvest there may still be several bushels of seed that could lead to problems with volunteer. Also there is concern in some areas that are using planted wheat or volunteer wheat as a cover crop for establishing grass strips. Here options might include trying to find a different cover crop, killing the cover crop in the fall rather than in the spring, rotating out of wheat for a year or two while trying to stablizing the grass, or at a minimum delaying planting as late as possible.

Phil Sloderbeck

## **Weekly Report from the Kansas State University Insect Diagnostic Laboratory:**

The following samples were submitted to the Insect Diagnostic Laboratory from May 8, through May 31, 2006:

- 5-8-2006, Labette County: Leaf-cutting Bee damage to rose leaves.
- 5-8-2006, Shawnee County: Leaf-cutting Bee provisions, Mud Dauber nest on home.
- 5-8-2006, Lyon County: White Peach Scale on Weeping Mulberry.
- 5-9-2006, Sedgwick County: Bark Beetles in Juniper.
- 5-9-2006, Leavenworth County: Cocoons outside of home.
- 5-9-2006, Kiowa County: Armored Scale Insects on Pyracantha.
- 5-9-2006, Doniphan County: Fletcher Scale on Yew.
- 5-12-2006, Johnson County: Caterpillars in Hotel Room.
- 5-15-2006, Bourbon County: Potato Aphid on Tomato.
- 5-17-2006, Clay County: Clover Mites in home.
- 5-18-2006, Sedgwick County: American Dog Tick off person.
- 5-19-2006, Sedgwick County: American Dog Tick off person.
- 5-19-2006, Mitchell County: Ground Beetle larva in garden.
- 5-19-2006, Johnson County: Wandering Spider in home.
- 5-19-2006, Shawnee County: Aphids on Spruce.
- 5-30-2006, Saline County: American Dog Tick off person.
- 5-31-2006, Ottawa County: Burrowing Bugs from lawn.
- 5-31-2006, Brown County: Dark Winged Fungus Gnats in home.
- 5-31-2006, Shawnee County: Biting Mites in home.
- 5-31-2006, Shawnee County: Black Carpet Beetles in home.
- 5-31-2006, Sedgwick County: Leaf-cutting Bee in Wood Post.

If there are any questions regarding these samples or about the identification of any arthropod please contact the Insect Diagnostician at 785-532-4739 or at [bbrown@ksu.edu](mailto:bbrown@ksu.edu) .

Bobby Brown

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Sincerely,

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June 2

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