

<http://www.oznet.ksu.edu/entomology/extension/extension.htm>

## Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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## They come in all shapes and sizes.....

Galls are abnormal growths of plant tissue caused by various organisms. The exact mechanism causing gall formation is not known, but is thought to be a plant response to hormonal substances introduced mainly by various species of insects and mites. Some of the gall forming organisms include gall flies, gall wasps and some of aphids, adelgids and phylloxerans. Many species of eriophyid mites cause a multitude of strange appearing deformities.



Hedgehog galls



Button Galls



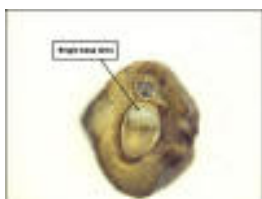
Galls on upper leaf surface



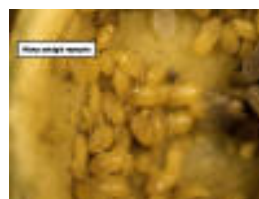
Galls on lower leaf surface

It is impossible to describe all of the variations associated with galls. But, each gall-forming species attacks a specific host plant. Moreover, galls appear on specific portions of a leaf --- upper versus lower surface; on the mid-rib or branch veins; or inter-veinal or on the leaf margin. Galls may be blister-like, sac-like, nipple-like or rounded. They may be “hairy” or “naked”. They differ in color. And any and all combinations of

these described abnormalities.



Single wasp larva



Many adelgid nymphs

For the most part, other than their objectionable appearance, leaf galls are insignificant in terms of being detrimental to over all tree health. Leaf tissues merely serve to support gall structures. Within each gall may be a single developing insect, or numerous immature forms. They derive their nourishment from the gall tissue, **not the leaf or plant tissues!**

Specific details on the precise life cycles and habits for most gall-formers have not been recorded. But what seems to be the rule-of-thumb is that the adults of most gall-forming insects and mites are present and ready to deposit eggs at the precise time that leaves break bud and unfurl/expand in the spring. This sequence occurs very rapidly (over several days to a week), and “precision timing” of spray applications (to eliminate adults before they deposit eggs) is impractical and next to impossible.

The sight of leaves littering the ground (due to premature leaf drop of extremely heavily-galled leaves) may be unnerving. However, trees will immediately initiate a new flush of leaves. And because the gall-forming insects have already run their cycle, the new foliage will be aesthetically pleasing (i.e. free of galls).

Some “wood” galls are restricted to the twigs and branches of their host plant. As with leaf galls, there are many different insect species responsible for wood/twig galls. Even under the heaviest “load”, trees and shrubs continue to grow. While some twig dieback can occur, seemingly dead and overloaded twigs harbor life and continue to grow and produce.



Gall-encrusted twig



New leaf emergence



"Dead?"



Very much "alive"

# SPRAY FOR BAGWORMS NOW!.....

The last week of June and first week of July is the ideal time to treat for bagworms. The 2006 egg hatch should be completed. Currently, small bagworms are not causing noticeable feeding damage, and are especially susceptible to insecticide treatments due to their small size.

Store shelves are filled with many products labeled for use against bagworms. All are effective against bagworms. More important than product selection is thoroughness of treatment applications. Merely delivering a “misty spray” to outer portions of trees and shrubs does little to eliminate the majority of bagworms. Because many are feeding deeper in the deeper portions of their host, it is imperative to achieve coverage in deeper recesses. Also, do not only treat those trees which are heavily infested, but include lightly infested trees in the spray program.

Bob Bauernfeind

## Potato Leafhoppers:



Adult potato leafhopper



Ovipositing and eggs will start hatching

Sampling alfalfa fields in north central Kansas for the past two weeks indicates adult potato leafhoppers are present. No nymphs have yet been detected but they will probably be evident soon as the adults have been ovipositing and the eggs will start hatching, increasing population densities. Eggs usually hatch 7-10 days after oviposition and this will continue for 6-8 weeks. This means there is the possibility of having large numbers of potato leafhoppers during this time frame. We generally have 2-3 generations in Kansas. Alfalfa feeding damage starts at the tip of the leaf with yellowing and then proceeds to the base of the leaf (called “hopper burn”). Older feeding may be more reddish or purple. Feeding damage to alfalfa stubble may result in short, bushy or leafy plant tops because the feeding reduces stem elongation. Continued feeding results in stunted plants, reducing yields and allowing weed growth. If potato leafhoppers are present over multiple cuttings, alfalfa winter survival and future yield potential will be reduced.

We probably don't pay as much attention to scouting and managing this pest as it deserves. Often, slow regrowth is attributed to hot, dry weather when in fact, potato leafhoppers may be the culprit or a contributor. Scouting should be conducted with the second cutting and continue to the fall. Treatments should be applied before enough feeding has caused yellowing. One application is usually sufficient when applied to the stubble.

Guidelines for treatment thresholds are as follows:

### Potato Leafhopper Thresholds

Avg. Stem Length (in.)*	Avg. No. of Leafhoppers/sweep**
up to 3	0.2
3-6	0.5
8-10	1.0
12-14	2.0

\*\*Stem length = average plant height of plants from the sampled area

\*\* Leafhoppers per sweep = average number of leafhoppers per sweep from at least 20 pendulum sweeps from at least five representative areas per field.

Alfalfa varieties Konza and Riley have potato leafhopper resistance and are recommended for new plantings.

Please refer to the Alfalfa Insect Management Recommendation (2003) for insecticides labeled for use against potato leafhoppers.

Jeff Whitworth

## **Dectes Soybean Stem Borer:**

Collections from Scandia Experiment Station on 6-23-06 were 50% larvae and 50% pupae: sample on 6-29-06 12 larvae/3 pupae/6 adults per 100 sweeps.

Jeff Whitworth

## **Soybean Aphid Watch 2006:**

As of June 29, 2006 there has been only one report of soybean aphids in Kansas during 2006 (Trace numbers of Soybean aphids reported in Chase County on June 27 by Alan Kimble).

We are very interested in hearing about any sightings of this aphid in Kansas. As you are probably aware, this pest was first confirmed in the United States in 2000 and was first detected in Kansas during 2002. To our knowledge, populations capable of causing economic loss in Kansas were first documented during 2004, but populations were down in 2005. What will happen in 2006 will probably depend on local and regional weather conditions. Cool weather will probably favor the aphid and hot weather may impede its development.

If you think you have found this aphid on soybeans in Kansas please fill out a report on exactly where the aphids are being found including Latitude and Longitude if you have access to a GPS unit or at least the legal description of the field. (A pdf file of a report form can be found at "Soybean Aphid Report" ) Mail Reports to Phil Sloderbeck, Southwest Research-Extension Center, 4500 East Mary Street, Garden City, Kansas 67846, send the information in an e-mail to [psloderb@ksu.edu](mailto:psloderb@ksu.edu) or call in information to 620-275-9164. If you are not sure if the insects you are finding are actually soybean aphids you can send a sample to Phil at the above address or to our diagnostic lab at: Attention Diagnostician, Kansas State University, Department of Entomology, 123 Waters Hall, Manhattan, Kansas 66506.

If you have a little more time when sampling soybean fields this summer it would be helpful to use a soybean aphid survey form. It is similar to the report form but describes a more detailed sampling procedure that is being used in a multi-state effort to track the spread of this pest.

If you start seeing significant numbers of soybean aphids in fields and need to try to make treatment decisions you may be interested in using the New Speed Scouting Technique for Making Treatment Decisions. The purpose of this new sampling plan is to improve efficiency when making management decisions for soybean aphid. Speed sampling does not require counting every aphid on a plant, and treatment decisions can be made quickly - especially at very high or very low aphid densities.

If you want to follow the distribution of the soybean aphid this summer there are three web sites that you should follow. In Kansas, we will post information to our web site at: <http://www.oznet.ksu.edu/entomology/extension/InsectInfo/SoybeanAphid.htm> . For a nation wide look at the distribution of the soybean aphid (and soybean rust) check the USDA web site at: <http://www.sbrusa.net/>. And for information on the movement of winged aphids check out the Suction Trap Network at: [http://www.ipm.uiuc.edu/fieldcrops/insects/soybean\\_aphids/suction\\_trap\\_network/index.html](http://www.ipm.uiuc.edu/fieldcrops/insects/soybean_aphids/suction_trap_network/index.html)

Thanks in advance for any help you can provide on keeping track of this invading pest. If you have any questions contact:

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## Cotton Scouting Videos:

In last weeks news letter we mentioned that it was time to begin scouting cotton for flea hoppers. If you are looking to learn more about scouting insects in cotton you may want to check out the web site: <http://lubbock.tamu.edu/ipm/AgWeb/videos/> from Texas A & M. they have several videos available, but two that

you may want to check out at this time are: Sampling Techniques to Determine Lygus Bug and Fleahopper Numbers in Cotton and Beneficial Insects: Our Allies in the War Against Cotton Pests.

Phil Sloderbeck

## Time to Rate Roots for Rootworm Injury:

Well it is almost the 4th of July and that reminds me that now is often a good time to assess corn rootworm injury. This practice is especially useful to compare various rootworm treatment options, say *Bt* rootworm corn with soil insecticides.

Assessing damage is really a fairly simple process. Simply dig 10 to 20 roots at random from the management systems you want to compare (ideally a treated area, vs. an untreated area, but one can also compare one treatment option with another (soil insecticide vs. rootworm resistant corn). Take the roots to an area where they can be thoroughly washed to remove all soil and then rate the roots using one of the two damaging rating scales commonly employed for rating rootworm damage. The scales are based on the number of nodes of roots having heavy rootworm injury. One is based on a 3 point scale and the other is based on a 6 point scale. Both focus on the appearance of the three functional nodes (or whorls) of roots on a normal corn plant. On the three point system no damage is rated a zero, and one node (circle of roots), or the equivalent of an entire node, eaten back to within approximately two inches of the stalk is rated a 1, two nodes destroyed gets a rating of 2 and three nodes lost is assigned a 3. On the 6 point scale, no damage is rated a 1, minor root feeding is rated a 2, one root destroyed is rated a 3, one node of roots damaged is rated a 4, two nodes is rated a 5 and three nodes is a 6. (See <http://www.ent.iastate.edu/pest/rootworm/nodeinjury/nodeinjury.html> for more information). While one could debate which scale is better, either one will be useful to determine if there appears to be differences in the amount of damage observed among treatments. Minor differences are probably not too meaningful, but no damage vs. an entire node or two of roots missing will probably be meaningful. Notes on root damage, combined with yield estimates could be very helpful in fine-tuning future management strategies.

Phil Sloderbeck

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

The following samples were submitted to the Insect Diagnostic Laboratory from June 16, through June 27, 2006:

- 6-16-2006, Shawnee County: Pigeon Tremex on hickory trees.
- 6-19-2006, Neosho County: Plant Bug damage to ornamentals.
- 6-20-2006, Marion County: Wolf Spider.
- 6-21-2006, Osborne County: Sawtooth Grain Beetle in home.

- 6-23-2006, Coffey County: Pseudoscorpion in home.
- 6-23-2006, Miami County: Leaf-footed Bug nymph around home.
- 6-23-2006, Sedgwick County: Plum Gouger Weevil on sand plum.
- 6-26-2006, Saline County: Uglynest Caterpillar on cherry.
- 6-26-2006, Shawnee County: Male Scale Insects on Bur oak.
- 6-27-2006, Pottawatomie County: Horsehair worm.

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).

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Sincerely,

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