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Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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Wheat Head Armyworm:

Wheat head armyworm are once again active in maturing wheat fields in western Kansas. Adults (photo 1) of the overwintered generation have been flying for a couple of weeks now and laying their eggs at the base of wheat plants. The good news is that light trap catches at Hays have ranged from 5-15 moths per night, compared to last spring when catches sometimes exceeded 100 moths in a single night. Based on these observations, we would not expect losses in the region to be as severe as in the previous two years.



Adult Wheat head armyworm

Some of the earliest hatched larvae are now quite large (photo 2) and can be found feeding on the developing heads of wheat, although most hide near the base of the plant during daylight hours. Damage (photo 3) resembles stored product insect damage with individual grains tunneled, chewed and hollowed out. However, those larvae that get harvested with the wheat are close to maturity and will not contribute to further losses in stored grain.



Larvae of Wheat head armyworm



Damage

Insecticide treatments are not economically justified against this pest, and most of the damage occurs so close to harvest that any application would delay harvest and result in even greater losses. As harvesting begins, growers should keep in mind that damage is normally concentrated around field edges, so the first load of grain will typically have more damage than subsequent loads coming from the middle of the field.

J.P. Michaud

Hessian Fly:

As reported last week Hessian fly is being reported in higher numbers than normal throughout much of Kansas. Producers, consultants and insurance adjusters need to remember that this pest can be the cause of lodged wheat this time of the year, in addition to the other common culprits of hail, wind and early freeze injury. Keys to pinning lodging damage to Hessian fly are, tillers lodging just above a joint, finding the “flaxseed shaped” fly pupae under the leaf sheath at or just below where the tiller is broke over. In addition knowing which varieties are susceptible to Hessian fly is also often a dead give away. If the susceptible varieties (eg. Jagger, Tam 110) are lodged and resistant varieties (Ike, 2145) are not, this is an indication that one should check the lodged tillers for the fly pupae (Check the **Wheat Variety Disease and Insect Ratings 2004** for more information on which varieties are susceptible: <http://www.oznet.ksu.edu/library/plant2/mf991.pdf> .



Lodged wheat



Broken tiller



Pupae
(Leaf sheath pulled back to expose Hessian fly pupae.)

If heavy infestations of Hessian fly are found in fields, then producers need to take action to avoid continued problems in future years. Tactics that can help reduce Hessian fly numbers include, selecting resistant varieties, controlling volunteer wheat, crop rotation, delayed planting and tillage to destroy infested residue. This year the worst infestations appear to be associated with susceptible varieties, planted no-till into last year's wheat stubble, usually prior to the fly-free date.

Phil Sloderbeck

Wheat Stem Maggot:

White heads showing up in wheat just after heading is often a topic of coffee shop discussions and they actually can be the result of a variety of causes (freeze, take-all, dryland foot rot, etc.). However, if the white heads occur on individual tillers of various plants in a more or less random patten (but often more prevalent along the edges of the field), and if the rest of the plant appears healthy, then one possible explanation can be the wheat stem maggot. To check for sure gently pull on the head. If it pulls out of the plant easily and there is evidence of some feeding on the straw, then the damage is more than likely from the wheat stem maggot. If you catch the injury at just the right stage sometimes you can find the larvae still in the plant (see picture), but often all you will find is the damage. Fortunately, damage rarely exceeds 1 to 2 percent of the heads and is usually considered inconsequential.



White head Wheat Stem Maggot



Wheat Stem Maggot

Phil Sloderbeck

One Question, 3 Possible Answers:

“What is feeding on my potato plants?”

Gardeners have been somewhat disappointed with their 2005 potato plantings. Many anxiously looked forward to Saint Patrick’s Day in early March — a time when potato planting traditionally begins. A drawback to “early planting” was that cool soil temperatures delayed sprouting. Damp, wet conditions were ideal for promoting rotting organisms which destroyed potato seed pieces, thus necessitating replanting. An additional situation recently occurred when unseasonably cold temperatures frosted the tender newly emerged plants “back to ground level”.

Despite these setbacks, gardeners were relieved to see new growth, thus indicating that the plants were alive and well. Now, however, something seems to be attacking leaves causing small “pinholes” as well as larger holes (Figure 1).



Figure 1 Holes in leaf

Currently two insects seem to be quite prevalent: flea beetles and grasshoppers. While they may not be apparent upon casual observation, with patience, both can easily be seen if time is taken for a closer look.

Flea beetles appear as tiny “specks” that suddenly disappear. These active beetles are aptly named for their small size (as small as 1 mm) and their ability to jump when disturbed. There are various species of flea beetles, many of which feed on a wide variety of host plants. Flea beetles may also differ in their seasonal life histories. Regardless the species involved, the results of their feeding are all the same: speckling caused by small dead spots (revisit Figure 1). The small adult beetles (Figure 2) have correspondingly small chewing mouthparts. Thus the appearance of small round ““dead spots” or actual small holes [described as “pinholes” (Figure 3)]. The larger holes (again, revisiting Figure 1) are caused by tiny grasshopper nymphs (Figure 4) which are approximately 1/4-inch in length. The lush foliage will provide them with an ample food supply, and they will rapidly gain in size — the result being bigger and bigger holes as they continue to forage.



Figure 2

Flea beetle in Center of Image



Figure 3

Flea beetles and actual "pinholes"

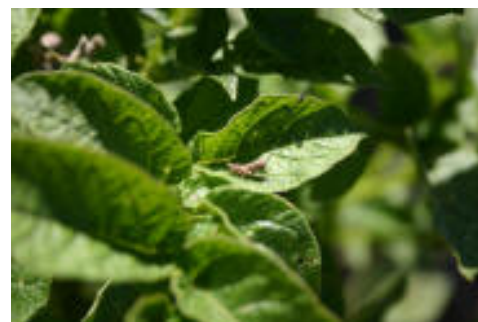


Figure 4

Small grasshopper nymph

There is no rush to apply an insecticidal treatment at this time. Given the overall lush spring production of potato foliage, the missing leaf tissue is but a minuscule percentage of the total leaf tissue, and therefore does not pose an overall threat to potato plants. Flea beetles will soon disappear after they deposit their eggs in the soil. The current grasshopper nymphs are being produced locally (they are wingless and therefore could not have migrated into garden areas) and will not immediately require treatment. However, if their observed numbers and damage continue to increase, an insecticidal treatment should be considered. Grasshopper baits probably should not be considered because nymphs are not likely to leave the lush, juicy and tender foliage to forage on a dry bran bait laced with an insecticide. A foliar spray would be more effective. Active ingredients registered for use against both flea beetles and grasshoppers include: carbaryl, cyfluthrin, lambda-cyhalothrin, esfenvalerate and neem.

The third early-season potato pest does not cause holes in leaves. Rather, they consume entire leaves. Meet the Colorado beetle (Figure 5) and Colorado potato beetle larvae (Figure 6). Adults usually feed alone and therefore do not cause extensive damage. Larvae often congregate (Figure 7) and strip plants of their foliage (Figure 8).



Figure 5
Beetle



Figure 6
Larval stages



Figure 7
Congregated larvae

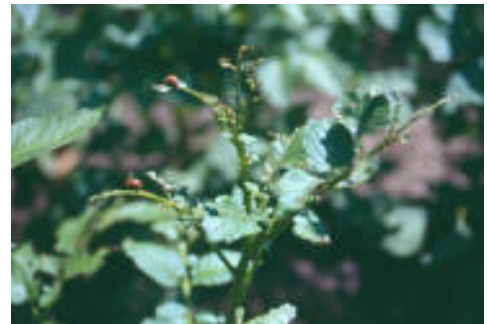


Figure 8
Defoliation

The substantial loss of potato foliage can have a negative impact on potato yields. Therefore, there is more immediate need to reduce/eliminate populations of Colorado potato beetle larvae. Handpicking larvae (although time consuming) is an “old time” remedy/activity. Insecticide applications provide a quicker and more thorough solution to the situation. Products containing the active ingredients carbaryl, lambda-cyhalothrin, endosulfan, esfenvalerate, permethrin, rotenone/pyrethrin, rotenone and spinosad are registered for use against Colorado potato beetles.

Revised Extension Publication C-595, Pest Control in Vegetable Gardens, was released earlier this month. It is available through County Extension Offices, or electronically available/downloadable via the internet.

Bob Bauernfeind

Bagworms:

The 2005 bagworm season is underway. Specimens collected in Lawrence on May 20th were judged to be less than a week old. People don't often think about the presence of bagworms this early in the season. Feeding damage is unnoticeable because lush early-season foliage (Figure 9) is minimally impacted by the small bagworm larvae.



Figure 9
Lush foliage

Despite their small size, early-stage bagworms are easily detectable. By closely examining foliage, the small light-colored/brownish bags will stand out against the green foliage (Figure 10). Early-stage bagworms become increasingly visible due to familiarity with their appearance and their increasing size within weeks of their establishment (Figure 11).



Figure 10
1-week old bag



Figure 11
2-week old bags

People should not be too eager to apply an insecticidal treatment. An early spray would only eliminate the first hatchlings which (again) are not causing serious damage. In most situations, an insecticide application towards the end of June would be sufficient to reduce/eliminate bagworms. That is, apply a treatment after the hatching period has been completed but before bagworms have reached their most damaging (large-in-size) developmental stages.

Revised Extension Publication MF-728, Bagworms, was released earlier this month. It contains a complete description of bagworms, their damage and their control. The publication is available through County Extension Offices, or electronically available/downloadable via the internet.

Bob Bauernfeind

Weekly Report from the Kansas State University Insect Diagnostic Laboratory:

The following samples were submitted to the Insect Diagnostic Laboratory from May 13 through May 25, 2005:

5-13-2005, Clark County: Wolf Spider in home.
5-13-2005, Shawnee County: Seed Beetle, Weevil in clothes closet.
5-13-2005, Shawnee County: Gnaphosid spider.
5-13-2005, Graham County: Carpet Beetle in home.
5-13-2005, Marshall County: Marginal Leaf Fold Gall on Pin Oak.
5-16-2005, Bourbon County: Petiole or Twig Gall on Hickory.
5-16-2005, Reno County: Dark Wing Fungus Gnats in flower roots.
5-20-2005, Leavenworth County: Earthworms in Cornfield.
5-23-2005, Bourbon County: Crumpled Vein Pouch Gall on Maple.
5-23-2005, Saline County: Leaf Cutting Bee in roof shingle.
5-23-2005, Shawnee County: Aphids on Cottonwood.
5-23-2005, Norton County: Springtails on people.

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@oznet.ksu.edu.

Bobby Brown

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Sincerely,

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