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Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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Extension Entomology Staff Changes

Leroy Brooks, Professor, Extension Specialist, Insecticides and Pesticidal Safety, Entomology Department, retired on February 1, 2003. Leroy started his career as a cotton scout in Arkansas in 1958 while going to school at the University of Arkansas. After a short stint as a Vocational Agricultural Instructor and as an Entomologist with a chemical company he came to K-State as a Graduate Research Assistant in 1963 to work on his Ph.D. In 1965 he was hired on as an instructor in the Cooperative Extension Service.

Randy Higgins is still serving as interim Associate Director of Extension.

These changes have caused everyone to shift responsibilities in order to better cover our client's needs.

Jeff Whitworth has been hired to fill in for Randy Higgins and cover field crop insects in Eastern Kansas. He will also help with questions on household insects: (785) 532-5656; jwhitwor@oznet.ksu.edu

Phil Sloderbeck – covers field crop insects in Western Kansas, has statewide responsibilities for 4-H Entomology, stored grain insects and handles other general insect questions for Southwest Kansas: (620)-275-9164; psloderb@oznet.ksu.edu

Robert Bauernfeind will cover horticultural crop insects; insects in lawn, gardens and ornamentals and stored product pests: 785-532-4752; rbauernf@oznet.ksu.edu

Ludek Zurek replaced Don Mock last fall and is responsible for Livestock and Health-Related Insects: 785-532-4731; lzurek@ksu.edu

Sharon Dobesh replaced Don Cress about a year ago and runs the Pesticide Applicator Training and Certification program and handles the termites & wood damaging insects: 785-532-4748; sdobesh@oznet.ksu.edu

J. P. Michaud has been hired to replace Tom Harvey at Hays, but in addition has been given a 30% Extension appointment. His extension responsibilities will be focused on sorghum, sunflower and wheat insects in Northwest Kansas, and will help support our livestock insect programs as well: 785-625-3425 Ext. 212; jpmi@ksu.edu

If you have a question and are not sure who to contact: call Sharon Schroll our secretary 785-532-5891 and she will help you get in contact with the right person: sschroll@oznet.ksu.edu

Alfalfa Weevil and Pea Aphids

Recent warm weather has started the alfalfa growing and that means it is time to begin scouting for alfalfa weevil and pea aphids. Some reports of heavy pea aphid populations in far southwest Kansas. Alfalfa weevil could also be early this year in response to the mild fall and early winter. Several materials are listed for Alfalfa weevil and pea aphid control in our Alfalfa Insect Management guide for 2003 http://www.oznet.ksu.edu/library/ENTML2/MF809.pdf . When picking a material to use consider, which pest is the biggest problem (weevils or aphids), length of control needed, harvest interval, application hazards and price. For example some of the pyrethriods indicate that they may not provide adequate control under heavy aphid infestations. Thus, if aphids are the main problem then one might lean more towards the organophosphate materials, however if weevil are the main problem and there are a few aphids around then the pyrethriods may be an acceptable option. Length of control is often a consideration on early season weevil problems. Many of the chemicals can be applied at a range of rates, with length of control often dependent of the rate. If weather is forecast to be stable then sometimes it can be advantageous to use the high rate and avoid additional application. However, if there is rain or cool weather in the forecast and you are still several weeks to harvest it might be better to go with a light rate and plan on a second application later if needed, rather that to apply the full rate and have it washed off in a few hours. As one gets closer to harvest then one has to keep the harvest interval in mind and often go with the lower rates or possibly harvest a little early to avoid needing to treat. Growers also need to compare prices, with all of the competition arising from the new pyrethroids prices have been dropping so be sure to check prices before making a final decision on which chemical to use.

Army Cutworms

We received several calls from far western Kansas regarding army cutworms migrating out of buffalo grass pastures, lawns and CRP fields during February and March. This was somewhat unusual behavior, however the worm gets it's name from these army like migrations as they run out of food. Apparently the moths laid their eggs in these grassy fields last fall, and this spring, as the worms became active, there was not enough green tissue in these fields to feed the worms and they began searching for food. Heavy populations were reported along the borders of some wheat and alfalfa fields. And homeowners were concerned about larvae crawling across their driveways and even on the exterior walls of their homes. Problem is probably nearing an end, but still might be worth check any fields of alfalfa, canola or wheat that appear to not be greening up evenly or are slower to green up than neighboring fields.

Russian Wheat Aphids

Wheat growers in far western Kansas should probably be looking for Russian wheat aphids. Although this pest has not caused serious problems in Kansas the last few years, we have heard of a few Russian wheat aphids being found in the last few days and reports of some treatments being applied in southeastern Colorado. Look for more information in our Wheat Insect Management Guide http://www.oznet.ksu.edu/library/ENTML2/MF745.PDF .

Chinch Bug News Release

Chinch bugs, Blissus leucopterus leucopterus (Say), are true bugs that can be serious pests of sorghum and corn. Since they are true bugs they have mouth parts of the piercing-sucking type which they use to pierce the tissues of their host plant and suck out the liquid sap.

Adult chinch bugs overwinter in native bunch grasses (found in roadsides, pastures, CRP, etc. that have root systems which have clump-forming growth). As the warmer weather of spring returns, the adult bugs leave these overwintering sites and search for small grain fields (primarily wheat but also oats, barley, etc.) where they start feeding for a few weeks and eventually lay eggs around the base of these plants. As the eggs hatch these bright reddish nymphs start feeding on the developing small-grain plants where they gradually become darker gray with a white stripe on the top side of the 1st abdominal segment. This white line is visible until the wing pads start developing which cover it on the more mature nymphs. As small grains mature and start drying, the still immature, wingless nymphs leave in search of more succulent plants to feed upon to complete their development. These "walking" migrations can consist of huge numbers of immature bugs. Winged adults may fly out of the wheat fields for redistribution at this time also. Seedling sorghum or corn adjacent to these small grain fields can be overwhelmed with sheer numbers of young chinch bugs. Entire fields have occasionally been

severely damaged. Damaging populations of chinch bugs are more likely to occur in thin and weakened stands of wheat.

Large populations of chinch bugs are more likely during springs that are drier than normal. Warm, humid spring weather seems unfavorable for chinch bug development and is favorable for a fungus, Beavaria sp. which helps to keep chinch bugs in check. Warm, moist weather also provides favorable conditions for sorghum and corn and thus helps these plants better withstand chinch bug feeding. It only takes 7-10 nymphs per plant to cause stunting and stand loss. Larger, more healthy plants can better tolerate chinch bug attack but heavy infestations may still result in stunted plants, lodging, and yield loss.

Chinch bug "outbreaks" seem to occur in 7-10 year cycles when drier than normal conditions occur in spring. The wetter years of 1993 and 1995 had relatively low numbers of chinch bugs. Since these years, however, chinch bug populations have developed in locally damaging numbers especially where corn or sorghum is planted adjacent to thin wheat fields. Beginning in 2001, increased chinch bug activity has been noted (these were relatively dry years) especially in parts of central Kansas. This trend is expected to continue through the spring of 2003, especially if dry conditions continue through June. Thus, growers in the traditional chinch bug region of central Kansas should be aware of the possibility of increased chinch bug activity especially adjacent to wheat fields that are thinner than normal and plants are less vigorous.

Effective chinch bug management should consist of the following: 1) Carefully scout wheat fields (or other small-grains) in the vicinity of planned corn and sorghum fields 3-4 weeks before expected planting date. Infestations of one adult or 4-5 nymphs per linear foot in wheat borders may be enough to cause damage to border rows of adjacently planted sorghum/corn. The more bugs detected in the wheat the greater the potential for damage; 2) if significant numbers are found in wheat fields avoid planting corn or sorghum in close proximity wherever possible; 3) if planting is necessary, consider planting a trap crop of sorghum or sudan as early as possible before planting the rest of the field. This may temporarily interrupt the migration to the rest of the field and maximize insecticide effect to a large, concentrated population of chinch bugs. Migrating bugs may move up to a quarter-mile through other crops searching for corn or sorghum; 4) choose hybrids which seem to have a better tolerance to damage, though none are resistant and all may suffer under large populations; 5) consider the use of a planting-time insecticide especially for the rows adjacent to wheat fields. Foliar sprays may be an alternative choice but timing is critical. In one study, a delay of only 2 days in spraying 3 in. sorghum resulted in an 80-90% stand loss; 6) consider the use of seed treated with an approved insecticide. These treatments (planting-time insecticides, using insecticide-treated seed, or foliar sprays which may only last 2 days) may work well for a time, but all wear off in a few weeks; 7) finally,

consider an integrated approach to managing chinch bugs. This includes a combination of tolerant varieties plus use of treated seed, planting-time insecticides and/or foliar sprays. Recent research conducted by Dr. Gerald Wilde, KSU Research Entomologist, in Harvey Co., a traditional chinch bug area, over a three year period (2000-2002) showed an average yield increase of 8-9 bushels/acre when sorghum was treated with a Gaucho or Cruiser seed treatment.

For more information or specific insecticides registered for control of chinch bugs please contact your local county agricultural extension agent.

European Pine Sawfly

The 2003 European pine sawfly activities are underway in Kansas. In the Manhattan area, larvae began emerging from overwintered eggs on Tuesday, April 1. Warm weather over the past several days has resulted in accelerated egg hatch . As their name implies, pines are the preferred host of European pine sawflies. They are most commonly associated with mugo pine in landscape settings. Scotch pine are also frequently targeted. Although Austrian, ponderosa and white pine are palatable, European pine sawfly are not commonly observed in these species.

Given their minimal food requirements as small larvae and their inability to cause noticeable damage, European pine sawfly go unnoticed at this time of the year. In fact, they will go virtually unnoticed until the end of April and beginning of May at which time they will have attained significant size. At that point, the voracious appetites of the gregarious larvae result in the complete consumption of previous year's needles. The "naked" needless branches are usually what attracts one's attention that something is amiss.

Currently, close inspection is required to detect the presence of the small European pine sawfly larvae. Small larvae typically encircle a needle. Their shinny black head capsules glisten in the sunlight (Figure 1). They feed on the epidermal cells of the needles, leaving the main vein/tissues in tact (Figure 2). These eventually become browned and shriveled, resulting in a distinct pattern which stands out against the unaffected needles (Figure 3).

Figure 1

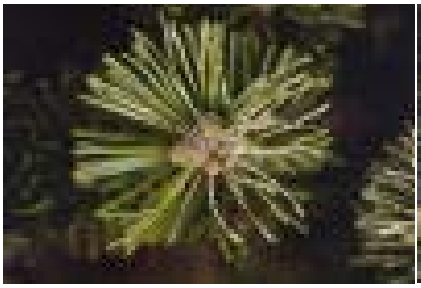

Figure 2

Figure 3

Various methods can be used to eliminate sawfly larvae. Infested terminals can be pruned and discarded. Larvae can be pinched/crushed. A stream of water from a hose can be used to dislodge larvae. Various insecticidal products are labels for use against pine sawfly larvae, including horticultural oils, horticultural soaps and a variety of synthetic products. All are available at local garden centers and retail outlets.

Hackberry Nipplegall Maker

There have been recent report about small jumping insects congregating around windows in apparent attempts to return to the outdoors. Samples of these insects sent into the insect diagnostic laboratory invariably are identified as hackberry nipplegall makers. Hackberry nipplegall makers are a type of psyllid, an insect closely related to aphids, except that they lack the cornicles ("tailpipes") which typify aphids. Additionally, the modified hind legs of psyllids enable them to jump ------ thus earning them their common name of jumping plant lice.

Hackberry nipplegall makers are aptly named. They are responsible for causing the nipple-shaped galls on the leaves of hackberry trees. Inside of each gall is a single psyllid nymph. Nymphs feed exclusively on liquids/juices produced by the gall tissue. Therefore, they do not deprive trees of nutrients targeted for overall tree health and vigor. The main objection to the leaf galls is strictly an aesthetic issue. The main objection to the adult psyllids is their appearance (especially in the fall of the year) when they congregate on the sides of houses as they prepare to enter homes where they seek refuge from the rigors of cold wintery weather.

The seasonal life history of hackberry nipplegall makers is straight forward and simple. . Overwintered adults become active at a time which coincides with current-season leaf production. Psyllids mate and deposit eggs on newly unfurled and expanded leaves. Eggs hatch in approximately 10 days, after which newly emerged nymphs begin feeding. Abnormal tissue growth soon envelops the individual nymph, thus causing the appearance of the nipple-shaped gall. Nymphs feed throughout the summer. By mid-September, newly formed adults exit the galls. They seek protected overwintering sites including the aforementioned residential quarters.

Although there are insecticides registered for use against hackberry nipplegall psyllids, control results are likely to be disappointing. The treatment period is very brief. It cannot be based on a calender date because the time of leaf development varies from year to year. And, within any year, not all hackberry trees leaf out simultaneously. If a person is bound and determined to apply insecticide treatments, they must monitor leaf development on each individual tree that they wish to protect.

A single treatment might be inadequate to protect foliage if the period of adult activity is prolonged, therefore necessitating an additional treatment/treatments. Or, rains could diminish treatment effectiveness. It is unlikely that the average homeowner has spray equipment enabling them to reach foliage in upper tree canopies. If a commercial sprayer is contacted, by the time that they fulfill prior commitments, the treatment period for attempting control of hackberry nipplegall makers may have passed.

A drastic tactic to prevent hackberry nipplegall psyllid invasions in the fall of the year would be the removal of hackberry trees on a property. Hackberry nipplegall psyllids could still be a nuisance in the fall if they move in from adjoining properties where hackberry trees still stood.

The reality of hackberry nipplegall makers is that they are not detrimental to overall tree health and vigor. Even if heavy galling caused premature leaf drop early in the season, new leaves would rapidly replace those that were lost. In addition, the new foliage (for the remainder of the season) would be free of nipplegalls because the egg-laying adults have long since disappeared.

Sincerely,

Phillip E. Sloderbeck
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