http://www.oznet.ksu.edu/entomology/extension/extensio.htm

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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July 13, 2007 No. 20

“Broken thumb”……

Webster defines “rule of thumb” as: a general principle regarded as roughly correct but not intended to be scientifically accurate.

Effective **preventative control** of annual white grubs (the larvae of “masked chafers”) with short residual contact insecticides is contingent upon their timely application. The optimal 10-day window for an application is 30-40 days after the chafer flight peak. Based on prior years’ blacklight trap collection data, July 4 date has been the “rule of thumb” as applied to chafer flight peaks in Kansas.

Standard Blacklight Trap

Make Shift Blacklight Trap

The “broken thumb” refers to our 2007 situation ------ as determined at six Manhattan trapping sites and one each from Lawrence and Hutchinson, flights peaked 10-15 days prior to July 4. Therefore the 2007 optimal treatment window falls as early as July 20 – July 30 as opposed to August 4- August 14.

The rationale for the optimal treatment window is that all eggs will have hatched, and an estimated 90% of the grubs will only be in their first and second instars. Small grubs are incapable of causing extensive damage to root systems and are especially susceptible to contact insecticides.

Masked Chafer Eggs First and Second Stage Grubs

Several steps are required to ensure the effectiveness of preventative grub control with short-residual contact insecticides:

1. Granular products are typically used by homeowners for grub control. While some product labels present “settings” to be used for specific spreader models, those settings may differ from the actual flow rate of the spreader being used due to manufacturing inconsistencies and/or wear and tear on previously-used spreaders. Therefore, it is recommended that individual spreaders be calibrated to ensure the delivery of proper/adequate insecticide rates.

2. Most lawns possess a layer of thatch and/or debris which impedes the movement of the insecticides into the soil as well as intercepting/binding the insecticide. To facilitate the movement of insecticides into the root zone where grubs actively feed, utilize a vertislicer. power rake or core aerator to create passageways through the soil surface and thatch interface.

Soil "PlugCore" Sample

Soil removed exposing thatch layer

Soil/Thatch Interface

3. Apply a pretreatment watering which will facilitate the movement of insecticides into the soil with ……

4. Post-treatment irrigations. Consult product labels for recommended watering rates.

Comments on insecticide selection:

Active Ingredients

More Active Ingredients

According to insecticide field trails at The Ohio State University’s ORDAC (Ohio Agricultural Research and Development Center), products containing the active ingredients trichlorfon and carbaryl have proven/documented efficacy against white grubs, whereas (although labeled for use against grubs) products containing the pyrethroid active ingredients permethrin and lambdacyhalothrin have provided inadequate/ineffective control. Pyrethroids apparently have an affinity to be “tied up” by thatch and debris, thus preventing sufficient amounts from entering the grub target zone.

Bob Bauernfeind

First human case of the West Nile virus infection in Kansas this year

The first human case of the West Nile virus infection in Kansas in 2007 has been reported by the Kansas Department of Health and Environment. It was a neuro-invasive case; patient is an adult from the North Central Kansas. The patient was hospitalized but has since been released.

With the rainy spring this year, mosquito larvae have plenty of standing water to develop. This accounts for the recent increase of mosquito populations. Mosquito population management is best achieved by directing control efforts towards their larval stages which develop in standing water. Eliminate breeding sites by dumping and eliminating all containers in which water can collect. Apply larvicides to larger standing bodies of water (drainage ditches, ponds). Preventing mosquito bites is best achieved by using DEET repellents or soy oil–based repellents (for small children). Details on mosquito biology, West Nile virus, and effective repellents and larvicides are available at the following website: http://www.oznet.k-state.edu/library/ENTML2/MF2571.pdf

Ludek Zurek

More on Musk Thistle Weevils

In responding to various requests for online sources of weevils for musk thistle control, we have discovered than neither species is now permitted by USDA APHIS for shipment across state lines within the USA due to observations of non-target impacts on native thistle species. However, it is still permissible to collect and redistribute these insects within state borders.

We have identified a source of these weevils in central Kansas and individuals interested in obtaining some for release in the spring of 2008 should contact J.P. Michaud at jpmi@ksu.edu. Since we cannot predict the numbers that will available (and the minimum number for release per site is around 80 of each species), units will be distributed on a first come, first serve basis.

J.P. Michaud

Corn

Adult western corn rootworms started emerging in north central Kansas last week (week of 2-6 July). So larval damage should be mostly finished. If you planted susceptible

varieties with no planting time insecticide application and have no discernible lodging or goose-necking, your corn probably is now past the critical stage. If you are planting on continuous corn, now, and for the next few weeks, is the time to scout for adults to help you decide on a rootworm management strategy for next year. By adult sampling this year you can get a good idea of populations next year. Generally, if you have 6 adults per 10 plants this year you will need some type of rootworm protection next year—either a rootworm transgenic or a soil applied insecticide. You may also want to consider an adult spray program this year to reduce the amount of eggs laid but this needs to be done in a timely manner, again within the next few weeks if adults exceed the 6 per 10 plants threshold.

Jeff Whitworth

Soybeans

Dectes **soybean stem borer adults** were emerging last week (2-6 July) in soybean fields in north central Kansas.

Soybean aphids have been verified in a soybean field in Lyons Co. Dr. Doug Jardine, Plant Pathologist, and Brian Reese, Lyon Co. Ag. Agent, discovered small colonies of the aphids on a few plants sampled from the soybean rust/aphid sentinel plots on the 12th of July. This is relatively early for these aphids in Kansas and means many late planted soybeans may be vulnerable to damage by these pests. Please report any aphid infestations to your County Extension office or myself (jwhitwor@ksu.edu) or Phil Sloderbeck (psloderb@ksu.edu).

Jeff Whitworth

Alfalfa

Potato leafhopper populations are increasing and many fields in central Kansas are exhibiting “hopper burn” and worse symptoms such as a whole plant yellowing, etc. These little pests will be with us for another 6+ weeks. If you swath your fields instead of spraying, you still need to make sure you monitor the stubble as there may be eggs in the remaining stems or enough hoppers remaining to retard regrowth.

Jeff Whitworth

Additional Product for Grasshopper Control

In last weeks newsletter (http://www.oznet.ksu.edu/entomology/extension/KIN/Kin_2007/kin-19/07ksnew19.htm#Grasshoppers) we listed several products that can be used to treat grasshoppers in non-crop areas before they get a chance to move into crop fields. Thanks to Gail Stratman from FMC for alerting us to a recent label change for Zeta-cypermethrin (Mustang Max) that now allows use on pasture, rangeland, and many forage grasses, with a 12 hour REI and a 0-day harvest restriction on forage. He indicates that this means that grazing animals do not have to be removed to treat an area and says that Mustang Max is the only pyrethroid now fully labeled for grass, range, forage use. For more information refer to label at: http://cropsolutions.fmc.com/Portals/crop/Content/Docs/Labels/Mustang%20MAX%2006-21-07.pdf

Phil Sloderbeck

Sunflower Moth

Sunflower moth or sunflower "head" moth was abundant in the early planted sunflower plots at the Northwest Research and Extension Center in Colby on July 12th. Moths could be seen on most plants that were beginning to bloom. Moths seemed to be very abundant with up to 15 moths counted on a single head in the middle of the day. These kinds of numbers early in the bloom period may indicate that multiple sprays may be needed to control populations this season. However, populations appear to be varying widely across the state with reports from Northeast and South Central Kansas of little or no moth activity. As usual it is important to scout each field to determine if moths are present.

More information can be found on our sunflower moth web page at: http://www.entomology.ksu.edu/DesktopDefault.aspx?tabindex=345&tabid=547 and in the Sunflower insect management guide at: http://www.oznet.ksu.edu/library/entml2/MF814.PDF

Caption for image: Sunflower moth (Moth resting on sunflower leaf, moth feeding on flower just beginning to bloom, moths on blooming sunflower).

Sunflower Moth

Phil Sloderbeck

Thistle Caterpillar

One insect that is often observed in sunflower and soybean fields this time of year is the thistle caterpillar. As the name would imply the larvae often feed on thistles, but

occasionally they will feed on a variety of other plants. The adults are known as the painted lady butterfly and are one of the most common butterflies in the world. Feeding injury is often very noticeable as the larvae web leaves together, consume large patches of foliage and leave numerous dark fecal droppings. However, at this stage both soybeans and sunflowers can suffer significant defoliation without suffering much yield loss. In addition, often the damage is not noticed until the larvae are nearly full grown. Unless populations are caught when larvae are still small and defoliation is expected to exceed 20% treatment is not usually justified.

Thistle Caterpillar

Phil Sloderbeck

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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