

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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June 28, 2013 No. 13

It Is Starting To “Heat-Up” So Get Ready To Deal With The Twospotted Spider Mite

The warm weather that we are encountering throughout Kansas and will experience later on means it is time to be on the look-out for damage caused by the twospotted spider mite, *Tetranychus urticae*. Twospotted spider mite is considered a warm-weather mite because, in general, populations are mainly active from late spring through early fall. Summer temperatures allow twospotted spider mites to reproduce rapidly, so they tend to overwhelm natural enemy populations, which are able to regulate them under “moderate” temperatures. This article will primarily cover the management strategies that homeowners and professionals may implement in order to alleviate or avoid problems with twospotted spider mite.

Twospotted spider mite management involves maintaining plant health, implementing sanitation practices, and/or using pest control materials with miticidal activity (miticides). First, it is important to avoid exposing plants to any type of “stress” by maintaining proper watering, fertility, and mulching as this may reduce any potential problems with twospotted spider mite populations. For example, inadequate moisture or overfertilizing plants, particularly with nitrogen-based fertilizers, may enhance development and reproduction of twospotted spider mites. It is recommended to monitor for twospotted spider mite populations regularly by knocking the spider mites off plant parts such as branches or twigs onto a white sheet of paper. This makes it easier to observe spider mites. Plant-feeding spider mites typically leave a green streak when crushed whereas predatory mites leave a red streak. A very effective and quick method of dealing with twospotted spider mite populations is applying a forceful water spray throughout the plant canopy at least twice per week during the season. This will dislodge eggs and the motile life stages (larvae, nymphs, and adults). It is essential to direct forceful water sprays at the leaf undersides where the twospotted spider mite life stages are located. The removal of plant debris and weeds eliminates overwintering sites. In addition, many broadleaf and grassy weeds are hosts for twospotted spider mites.



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There are a number of pest control materials with miticidal activity available to professionals for regulation of twospotted spider mite populations outdoors including abamectin (Avid), acequinocyl (Shuttle), bifenazate (Floramite), etoxazole (TetraSan), hexythiazox (Hexygon), potassium salts of fatty acids (M-Pede), and petroleum or neem-based oils (horticultural or summer oil). Homeowners do not have many options in regards to miticides. The only “true miticide” still available is hexakis or fenbutatin-oxide; however, this compound cannot be purchased by itself because it is usually formulated with acephate (Orthene). Be sure to read the label and make



applications before twospotted spider mite populations are extensive and causing aesthetic damage. In addition, when using pest control materials it is imperative to rotate compounds with different modes of action in order to avoid twospotted spider mite populations from developing resistance. Furthermore, if possible, try to target “hot spots” or localized infestations of twospotted spider mites, which will also reduce the potential for the development of resistance. Twospotted spider mites reproduce by a combination of sexual and asexual means resulting in offspring that develop from both fertilized and unfertilized eggs. Therefore, within a twospotted spider mite population, males only have one copy of a resistant gene (R), whereas females have two copies (RR). This indicates that females are more tolerant to miticide applications or may develop resistance more rapidly than males. Be sure to thoroughly cover all plant parts with spray applications; especially when using pest control materials with contact activity. Some products such as Avid and TetraSan have translaminar activity, which means that the material penetrates into leaf tissues and forms a reservoir of active ingredient within the leaf. This provides residual activity even after spray residues have dried. Mites that feed on leaves will ingest a lethal concentration of the active ingredient and be killed.

It is important to note that many pest control materials used to suppress other insect pests encountered on horticultural plants may be harmful to the natural enemies of twospotted spider mite, which could lead to an inadvertent increase in twospotted spider mite populations or secondary pest outbreaks.

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Raymond Cloyd

Lady Beetles

Visited the Wilson Lake area last week and was literally attacked on several occasions by adult lady beetles- mostly the convergent but many sevenspotted mixed in as well, in swarms of 100's at a time. It was really a nuisance, as they would just take off in a gnat-like swarm every once in a while and land on everything and everybody in the area- and they do have an irritating bite. As most everyone probably knows by now, from many areas throughout the state, lady beetles are more abundant this summer over a larger area of the state than we have ever seen before. This probably bodes well for controlling any aphid pests we may have for the rest of the summer, but populations of this size will require really large populations of aphids to feed on which would be unusual this time of year, especially with this many lady beetles around already.

Dectes (Soybean) Stem Borer

Discovered the 1st adult soybean stem borer in NC KS, in a corn field, but that was in soybeans last year- so am assuming it is an adult that had just emerged from overwintering in the soybean stubble. These adults will probably be aggregating and mating over the next couple of weeks then disbursing to oviposit in the soybeans and/or sunflowers.



Dectes Stem Borer Adult

Jeff Whitworth

Holly Davis

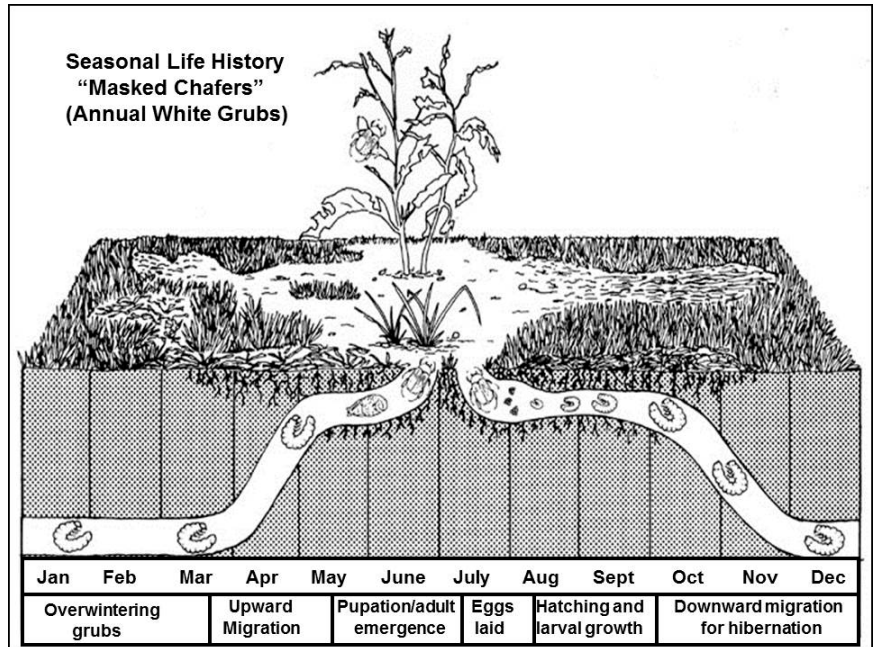
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With Regard to Grub Control in Turf

Based on current recovery of “masked chafer” beetles from blacklight traps, it is timely to address grub control considerations for individuals privately tending their lawns.

“Masked chafers” (of which 6 species have been documented in Kansas) all have similar yearly life cycles. Overwintering in the soil as 3rd instar (last developmental stage) larvae, grubs complete their feeding requirements during springtime. Broadly speaking, they pupate in May. While small numbers of “early bird” beetles may appear at the end of May and beginning of June (as well some stragglers appearing through August), earnest flights typically span 4-6 weeks beginning in mid-June through the end of July. Eggs are deposited in the soil with larvae hatching in 2-3 weeks. Larval development is rapid. Typically by mid-October, in response cooler soil temperatures, 3rd instar grubs descend deeper into the soil to overwinter.



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For the aforementioned do-it-yourself individuals, there are two tactics when contending with grubs: applying preventative treatments, or, waiting to see the need for curative insecticide applications. The preventative tactic is further divided, and contingent upon the type of insecticide to be used: a long-residual systemic insecticide or short-residual contact insecticide. Currently, systemic insecticides are those under consideration. After systemic insecticides have been applied, they must be watered into the soil/grub zone (via a timely rain, or an immediate post-treatment irrigation) to assure availability for uptake by grass roots. Thus small grubs (when they emerge from eggs) will be killed when they ingest root tissues and the insecticides contained within.

Four active ingredients (chlorantraniliprole, clothianidin, imidacloprid and thiamethoxam) are used in systemic products registered for use as grubicides. Most commonly recognized trade names are Acelepryn, Arena, Merit and Meridian, respectfully. For each of the AI's, there are 33, 26, 412 and 47 products (respectively) registered in Kansas, of which 25, 17, 257 and 24 (respectively) are specifically registered against white grubs. Certain products available for purchase and use by professionals are not available for homeowner purchase/use. The point of listing these numbers is simply to serve as a basis for the inability to answer the specific query, “What product do you recommend that I use to control grubs in my lawn?” Rather, it is incumbent upon the private citizen to investigate what products are locally available for sale to and use by homeowners. All work if proper dosages are applied and watered in.

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Another question for which there is no precise answer is, “Should I be treating my lawn for grubs?” If a particular lawn or turf area has a known history of recurrent grub problems, perhaps then, preventative insecticide applications targeting grubs might be warranted. However, lacking such information, it should be understood that grubs could be present in all lawns/turf. Yet their numbers may be low and thus pose no threat to turf appearance. Healthy vigorous thick lawns have the ability to withstand feeding activities of grubs, and not display visible evidence to suggest their presence. If one were to do a wheelie while mowing a lawn and expose a grub, should the first reaction be, “I need to treat for grubs?” to which the answer would be, “This question would not even be asked had the accidental detection not occurred”. If further concerned, a person could conduct a soil sampling survey to try and evaluate/determine numbers of grubs and their distribution ----- but this would be labor intensive and impractical. In the end, to treat or not to treat becomes an individual’s choice.

Green June Beetles Soon To Be Creating A Buzz

Just like Old Faithful erupts “on schedule” (well, on average, every 91 minutes), green June beetle flights suddenly erupt towards the end of June, beginning of July ---- usually after a soaking rain. In the Manhattan area (after last Sunday/Monday’s 1+ inch soaker), I did note the appearance of an occasional green June beetle. My gut feeling is that they are awaiting another rain, after which the floodgates will open. **(addendum: 9:20 P.M. ---- just received a 1.75” deluge ---- may be the trigger, at least here in the Manhattan area).**

So why are they worthy of comment? Because when confronted with swarms of these large buzzing klutzy fliers bumping into them, people mistakenly associate the buzzing with that of bumble bees. Furthermore, people mistakenly interpret “accidental bumps” as personal attacks. People fear being stung. Despite all of the concerns associated with the “buzzing antics” green June beetles, the comments explaining their presence never change.

They are amazing fliers. Yet because of their large size and the very audible buzz created by their wing beats, people often times automatically become leery of their presence. Their rapid and erratic flights may result in accidental collisions which will cause people to flee the area.

However, green June beetles are harmless ---- neither capable of biting nor delivering a sting. Rather than reacting “in fear of”, take the opportunity to capture a few beetles and admire them for their beauty from top to bottom.



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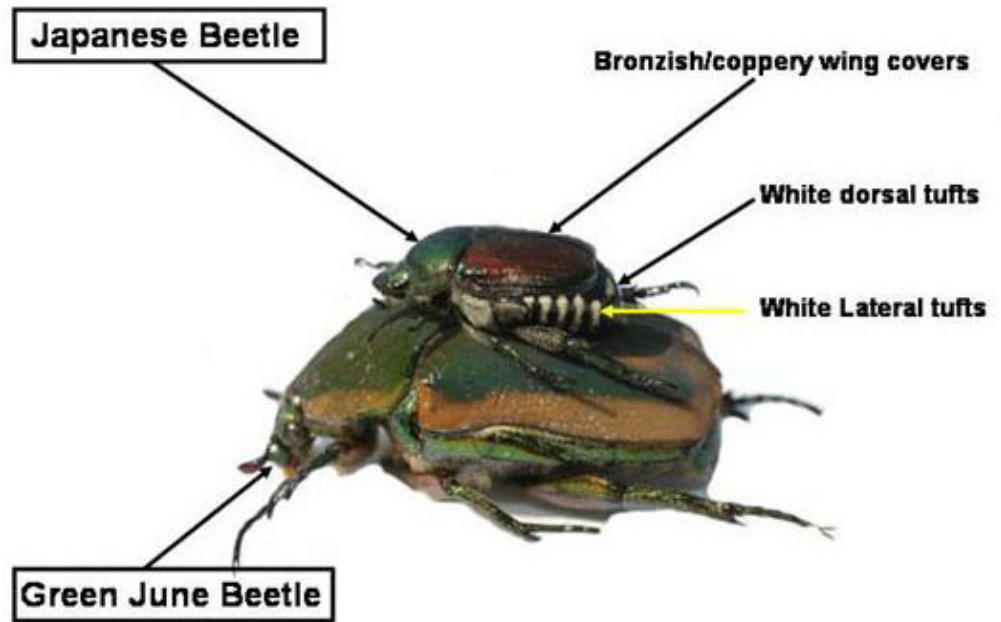
Green June beetles sometimes are victims of mistaken identity ---- that of being Japanese beetles.

Size-wise, green June beetles are “Goliaths” compared to Japanese beetle “Davids”.

There are distinct differences in color/color patterns as well as the presence or absence of white setal tufts.

Lastly, green June beetles do not damage flowers or foliage as do Japanese beetles.

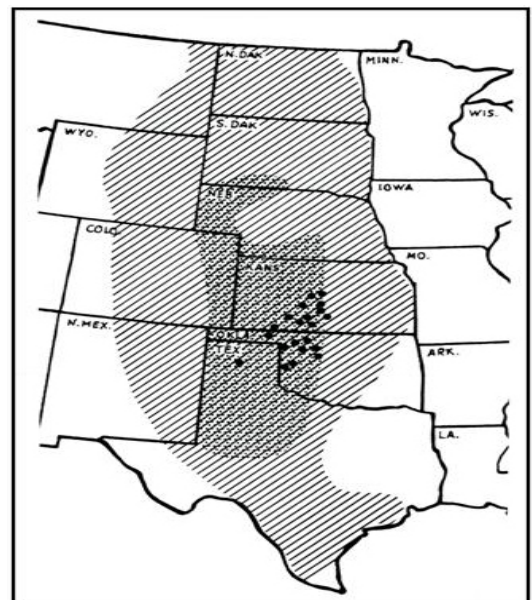
Probably the only legitimate complaint against green June beetles is that they may cluster on ripened/over-ripe fruit, notably peaches and grapes. Timely picking/harvesting of those commodities will help to avoid this situation.



Buffalograss webworms

A last minute phone call from Glenn Newdigger, Stafford County CEA-ANR, prompted me to revive/recycle a previously used article regarding a very sporadic (in occurrence) turf pest ---- the **buffalograss webworm**. Kansas State University is “home” to the premier research on this insect first identified/described as a turf pest by Dr. K. A. Sorensen in his 1968 M. S. dissertation entitled, The Habits and Life History of a Pyralid Moth, *Surattha identella* Kearfott, Attacking Buffalograss in Kansas. (Lepidoptera: Pyralidae).

This insect has a restricted distribution in comparison to the more familiar sod webworm species (in the genus *Crambus*) which are distributed throughout Kansas and the United States. In an initial distribution survey which included 36 counties, buffalograss webworms were documented from Barber, Barton, Edwards, Ellsworth, Kingman, Meade, Pawnee, Pratt, Rice and Stafford Counties. It is most certain that they occur in additional counties not included in the initial survey. Despite its name, buffalograss webworms also feed on bermudagrass, and (as reported by Sorensen) will damage bentgrass greens.



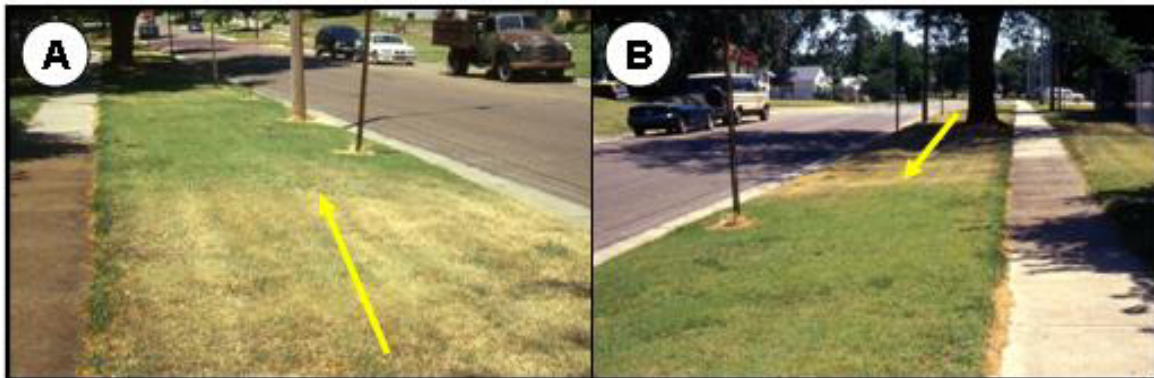
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As do common “typical/traditional” sod webworms, buffalograss sod webworms construct silken surface tubes (Panel A) which are encrusted with particles of dirt/frass/grass blades/stems and other surface debris. However, if one scrapes away the tubes, holes will appear in the soil surface (Panel B). These are the entryways to silk-lined vertical tubes in the soil in which buffalograss webworms (during the daytime) feed on grass that they harvested and stored during the previous night’s foraging foray. This is in contrast to other sodworm species which **do not** create vertical tubes but remain in and feed within their surface tubes.



Buffalograss webworms are often first detected at the beginning of summer when something appears amiss. Typically a site will have visibly green grass bordered by an off-colored area. The yellow arrows point to the direction of the movement of the webworms.



Individuals who do not detect early problem areas are jolted into reality when BARE GROUND captures their attention.



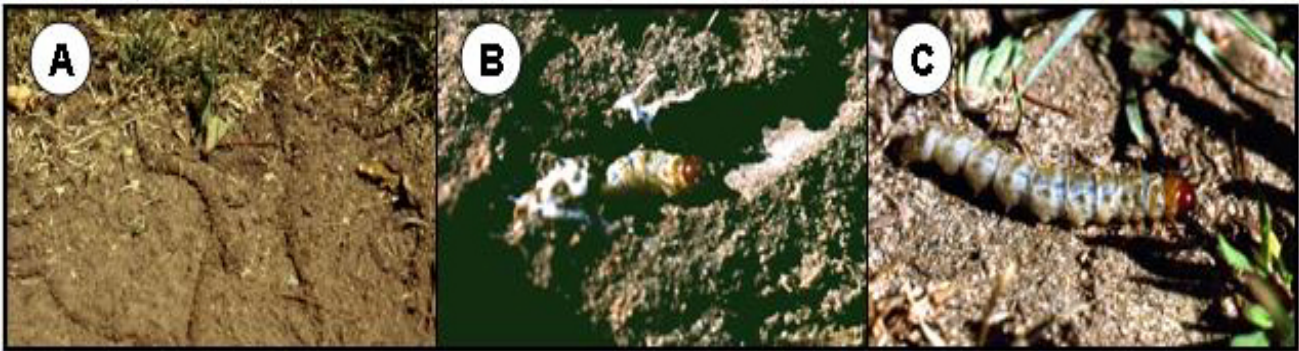
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Buffalograss webworms produce a single generation per year. As per Sorensen: Moths appear from August through September. Eggs are individually deposited in barren areas. The female moth thrusts her stout ovipositor $\frac{1}{4}$ to $\frac{1}{2}$ inch into the soil and deposits a single egg. The number of eggs per female averaged 83. After an incubation period averaging 12 days, larvae emerge but do not feed. Rather, they construct hibernaculums in which to overwinter. Larvae initiate feeding activities the following mid- to late April, a time which coincides with the initiation of growth for warm-season grass hosts. Larvae feed and develop throughout summer. Pupation begins in late July and extends to the end of September. Moths (again) begin appearing in August to repeat the cycle.

Buffalograss webworms likely have a yearly presence. However, only when sporadic outbreaks occur is their presence noted and reported. High populations coupled with hot and dry conditions result in the appearance of bare areas which will then require renovations/restoration of grassy areas.

Although there are no specific control recommendations on-the-books, measures can be taken to stop the advance of buffalograss webworms. As seen in Panels A and B, larvae are well protected (from direct contact with insecticides) within their silk-lined tubes. While they are never fully exposed (as manipulated for Panel C), they poke their heads out to clip grass blades as they forage during the night. Knowing this, a person can apply an insecticide treatment to the “healthy” grass which abuts damaged areas as that grass is next-in-line to be harvested during the ensuing night’s foraging period. Mortality/kill results from direct contact with insecticides as they forage, and/or the eventual consumption of treated foliage.



While there are no insecticidal products specifically registered for use against buffalograss webworms, there currently are 512 products registered for use against sod webworms in general. Individuals must visit local retail outlets to check on product availability.

Bob Bauernfeind

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Insect Diagnostic Lab Report for June 21 – 27, 2013

Psocoptera – Death watch (*Trogium pulsatorium*) on swine facility ID cards \ KSVet



Wharf borer submitted by pesticide company \ Southwind district



Southern corn leaf beetle larvae damaging corn roots \ Southeast Kansas



Jumping Oak galls on the ground below a porch \ Potawatomie



Phylloxera galls and Minute pirate bugs on hackberry leaves \ Sherman



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Braconid wasp adults and pupae (*Microplitis* sp.) in bromegrass field \ Jackson



Argus tortoise beetle larvae (*Chrysomelidae*) on lilies \ Riley

Lone star tick adult male \ Sedgwick

Brown recluse spider in a house \ Riley

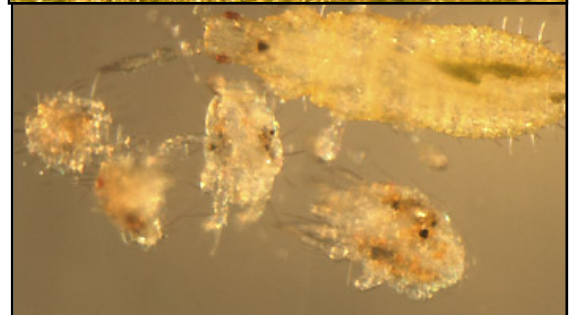
Argus tortoise pupae attached to chili peppers \ Riley



Soft bat tick in a house \ Riley



White flies, aphids, western flower thrips and possibly Two spotted mites on greenhouse tomato and rice leaf \ Riley



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Flea beetle (Alticini spp.) in a house \ Cheyenne



Eva Zurek

Sincerely,

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From the gotbugs:

Burrowing bugs in soybeans \ unknown county

Flea beetles in soybeans \ unknown county

Orangespotted assassin bug \ Johnson

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