

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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April 3, 2015 No. 1

Welcome to the 2015 Kansas Insect Newsletter Season!

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Spring Has Sprung (Article prepared March 23, 2015)

The March Equinox officially kicking off the 2015 Spring season for Kansas was at 5:45 PM CDT Friday, March 20. Earlier that day, when returning home from work, I checked the Eastern tent caterpillar egg masses that I placed in my flowering crab: no hatch. Saturday morning, **March 21**, before heading out for the day, I observed newly emerged larvae were clustered on the egg mass. Coincidence? Yes, definitely so. **Eastern tent caterpillars** don't always first appear so close to the exact first day of Spring as seen below on the compilation of dates of their first appearances. Thus using ETC egg hatch as an indicator, our current Spring is 2 ½ weeks ahead of last year.

First-of-the-Year Appearances – Eastern Tent Caterpillar – Manhattan, KS

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Mar. 20	Mar. 26	Mar. 21	Mar. 29	Mar. 30	Mar. 16	Mar. 28	Mar. 23	Mar. 31	Mar. 23	Mar. 14	Mar. 30	April 7

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In years where ETC hatch was on the early side, larvae have had to content themselves by nibbling on swollen leaf buds. (Right)

This year, budbreak occurred March 12 --- well ahead of egg hatch. Thus the “current salad bar” is filled with young tender foliage for larvae to feast upon.



What does this mean for homeowners with landscape interests? If they have experienced ETC in past years, their biggest objection likely will be the eventual appearance of web masses (“tents”) restricted to twig/branch crotches. Both the small size of their initial tents and minimal amount of foliar feeding attributable to small hatchling caterpillars (1 mm in length) are virtually undetectable.

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Update: Within 10 days, “tents” have become more readily visible. Those within finger’s reach may simply be pulled out. Do this during the day when the night-foraging caterpillars are clustered “at home” within their tent.



European Pine Sawflies (EPS) follow Eastern tent caterpillars (ETC)

In a majority of instances, one can expect the current-season appearance of European pine sawflies to lag behind that of Eastern tent caterpillars as can be seen by comparing First-of-Year appearance of EPS (below) and ETC (above previous)

First-of-the-Year Appearances – European Pine Sawfly – Manhattan, KS

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
April	April	Mar.	Mar.	April	Mar.	Mar.	Mar.	April	April	Mar.	April	April
1	1	26	30	2	23	16	19	7	3	15	6	9

The first indication that EPS hatch is imminent is the appearance/coloration of the eggs. As seen below, some eggs may be milky-white while others are in what is referred to as the blackhead stage. Actually, the shell of the egg is stretched to a very thin stage so that the dark larvae within the egg is visible. At this point, larval hatch/emergence is imminent (usually described as, “...to occur within 24 hours”). When checking eggs on Sunday, March 29, before heading out-of-town, hatch had not yet occurred. On Monday, March 30, several larvae had hatched. By week’s (as you read this), the hatch will be well underway.

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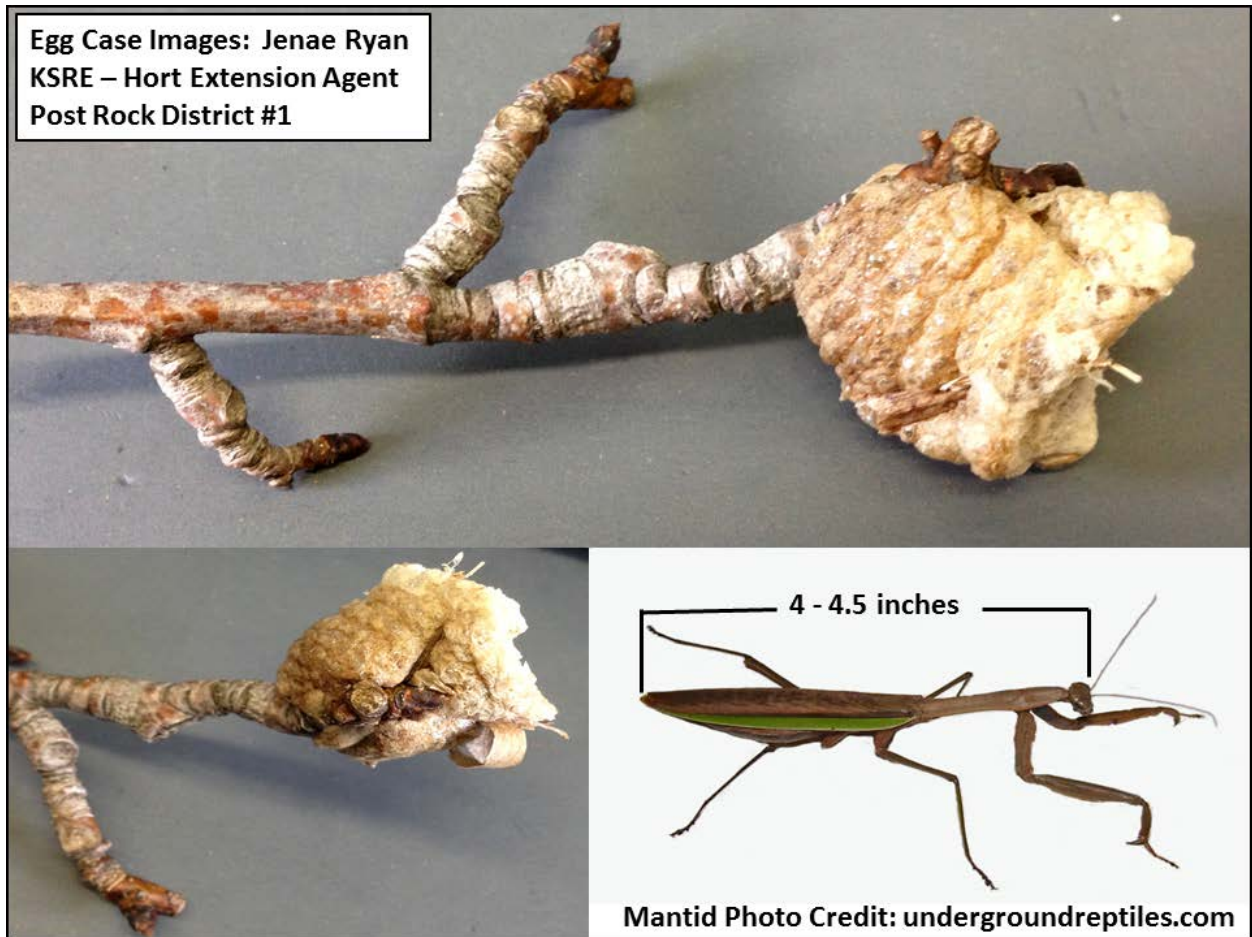
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There is no hurry to immediately spray larvae given their small size and nibbly feeding. Rather treatment application can wait for a week or two. But do not ignore much beyond that time as they may be forgotten (priority being given to other “yard/gardening chores”). Their feeding damage will proportionally increase as related to their rapid growth rate. Horticultural soaps and oils are very effective against the “soft-skinned” larvae.

Mysterious Foamy Mass

During early spring when people are out pruning trees and shrubs, they sometimes encounter strange looking “globby” objects attached to twigs. The texture/consistency is rather porous and “foamy”. These are the overwintering egg cases of Chinese mantids. The technical term for an egg case is ootheca (plural: oothecae).



Chinese mantids are not native to the United States. The cited first “accidental” introduction into the United States was in 1896. Subsequent range expansion has been facilitated through the commercial marketing of mantid egg cases to home gardeners. The egg cases are those of Chinese mantids. Over time, Chinese mantids have adapted to and become commonplace in Kansas. Especially given their large size (females up to 4 - 4 ½ inches long), they are easily seen even by the most casual observers.

As opposed to smaller male Chinese mantids, females also have noticeably distended “egg-filled” abdomens. In the fall of the year, females produce/deposit their oothecae each containing hundreds of eggs. Tree/shrub foliage provides camouflage, and thus egg cases remain hidden. After leaf drop in the fall, they become

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exposed. Observant people on fall or winter walks can easily detect the overwintering egg cases. And as previously stated, egg cases are more likely to be encountered in the Spring prior to the production of new-season foliage.

So how effective are praying mantids as biological control agents? NOT VERY! They are generalist feeders that sit and wait for whatever comes within “arms reach”. And mantids which survive perils and actually attain adulthood by mid-late summer are a little bit late in their appearance to effect control of “pests”.

In the realm of the vegetable garden: think about the pests that people so often complain about. Early-in-the-season cutworms. Colorado potato beetles and their larvae. Imported cabbageworms and cabbage loopers on cole crops. Bean leaf beetles especially on young bean plants. Tomato and tobacco hornworms. Squash bugs and squash vine borers. Corn earworms. Grasshoppers. Hordes of wandering blister beetles. Whatever else you want to add to the list. Aphids and mites not worth the effort even if mantids bothered to search-them-out.

At best, praying mantids are a source of amusement. Even the smaller Carolina mantids are fun-to-watch. Mantids will crank their heads as a person moves about ---- seemingly watching. They really are not seeing the details of your face or person, but rather are following the motion of your movements. This refers back to their predatory role: they detect the movement of prey which come within reach of their front legs which they use to reach out and capture their “meal”. You might try letting a mantid rest on your hand ---- dangle an insect in front of it ---- and delight as it reaches out to grasp and consume your offering.

What are those little black bugs on the side of my house? And they jump!

The tiny insects in question are psyllids. And the most commonly encountered psyllid in Kansas is the hackberry nipplegall psyllid. Hackberry nipplegall psyllids overwinter as adults.

The psyllids derives their name from lumpy/bumpy galls on hackberry leaves. Each gall serves as “home” to an individual small nymph developing within.



Photo Credit: Adapted from Whitney Cranshaw
Colorado State University

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Described as “cicada-like” in appearance (they hold their mottled wings “roof-like” over their abdomen), they are “wee ones” which measure just 2-3 mm in length. Their hind legs are modified so as to provide them with jumping capabilities -- hence psyllids are commonly referred to as jumping plant lice”.



The major objection to hackberry nipplegall psyllids is aesthetically driven. In of themselves, nipplegalls are not detrimental to overall tree health. In some instances, heavy galling may cause leaves to drop. However, being Springtime, trees will immediately produce a new flush of foliage ----- and the new leaves will be “perfect” because the overwintered nipplegall psyllids which initiated gall formation will have died after they completed their once-a-year egg-laying activities.

Despite this, some individuals will still be driven to spray an insecticide in an attempt to kill psyllids (thus minimizing/eliminating egg-laying) and exposed nymphs (before they become enclosed and protected within galls). If attempted, sprays need to be applied when hackberry buds open and leaves unfurl and expand. This “tree event” coincides with the hackberry nipplegall psyllid’s lifecycle. The psyllids emerge from overwintering sites (any protective cover which enabled them to survive the rigors of winter) to deposit eggs on previously mentioned newly forming foliage. It is incumbent on people to closely monitor their individual trees to correctly time the insecticide application. Because mating and egg-laying activities for hackberry nipplegall psyllids occurs for several weeks, repeated weekly treatments may be required when attempting to control the formation of hackberry nipplegalls. There currently are 27 products registered for use in Kansas against hackberry nipplegall psyllids (sometime referred to as hackberry nipplegall makers). People need to search-the-shelves at retail outlets to determine which product(s) is(are) locally available. Read the product label to ensure its proper and safe use.

If individuals are successful in suppressing gall formation on their tree(s), does this mean that they will not experience home invasions of nipplegall psyllids in the Fall? **NO!** Because of their mobility, abundant numbers of psyllids from other sources can move into/invoke homes.

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“Flying Spiders”?

Towards the end of yesterday (March 31), I noticed strands of gossamer against the setting sun. Gossamer is a fine, filmy silk produced by small spiders enabling an activity called “ballooning”. While the silk strands are noticeable, the small spiderlings are seldom observed.



As officially defined in The Torre-Bueno Glossary Of Entomology, ballooning is restricted to the aerial dispersal of spiderlings. Some species of spiders overwinter as eggs in silken sacks. While in late winter/early Spring newly hatched spiderlings remain in the egg sack, they eventually exit and proceed to initiate the ballooning process. Upon ascending to an elevated site, on raised legs, they point their abdomens skyward. They release silken strands which at a certain point exceed the weight of the spiderling. Thus caught by the breeze, the spiderling is lifted aloft and carried to a distant point at which it settles and begins its feeding and development.

Is there a likely explanation for this activity? Possibly ---- the survival of the individuals as well as the species. Maybe overly simplistic, but conceivably, if all spiderlings from a single egg case were to remain clustered, competition for food in the immediate vicinity might exceed the available supply of prey, to say nothing about the spiderlings attacking their siblings.

Bob Bauernfeind

Alfalfa – Weevils, Aphids, and Army Cutworms

Alfalfa weevils have been hatching from eggs in north central Kansas, since at least 13 March, when we first detected larvae. Since then, again in NC KS, the larvae are slowly growing and eggs continue to hatch. However, both alfalfa and larvae are growing slowly, so far. Alfalfa weevil development occurs at, or above,

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temperatures exceeding about 48⁰F. It is a different situation in south central Kansas however. They have been spraying pea aphids for a couple of weeks now and some fields have had to be treated for army cutworms (see photo). Keep in mind any fields treated with an insecticide will have the beneficials eliminated, thus as the alfalfa puts out new foliage it will not have any insecticide residue. As more aphids, or whatever pests, migrate into these fields there won't be any beneficials, i.e. lady beetles, lacewings, and parasitic wasps, to help control them and there may be new untreated foliage for pests to feed on. So, it will probably be good practice to resume sampling 2-3 weeks after application.

Army Cutworm



Wheat - Aphids and Mites

We started finding a variety of aphids in wheat this week in south central Kansas, as well as a few in north central Kansas. Aphids identified from samples brought in from SC KS included greenbugs, bird cherry oat, English grain, and corn leaf aphids. The colonies appear to just be getting started as there would be one winged adult with 3-4 small nymphs and only about 10% of the tillers were infested. No lady beetles were detected, yet. A few winter grain mites (see photos) were also observed but not in numbers to be concerned with.

Winter Grain Mite

actual size -0.5 to 0.75mm



Dorsal view



Ventral view

In western Kansas, greenbugs, russian wheat aphids and bird cherry oat aphids have been spotted in many wheat fields recently. Greenbugs seem to be the most prevalent, however in some lucky fields the parasitoids have been equally abundant and spraying has not been necessary. Ladybugs and their larvae have

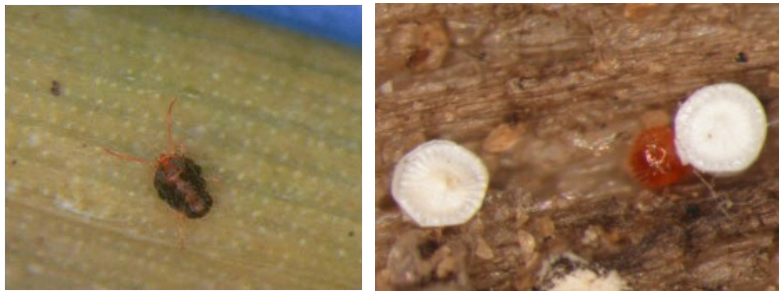
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been very abundant in wheat fields in SW KS. Brown wheat mites have been prevalent where rain has been scarce during warm spells since January. This has led to several outbreaks, especially in SW KS, where some fields have been devastated. So far, these mites have been continuously laying red eggs which will hatch in a few days' time. White eggs laid by brown wheat mites stay dormant until the fall and are an indication of declining spring populations (photo below).



Currently, feeding damage from greenbug aphid colonies in the SW counties has ranged from light (left) to severe (right). Reddish-brown dots on the wheat leaves indicate greenbug feeding sites. Note the presence of the parasitized aphids called mummies.



Brown wheat mites lay two kinds of eggs, red eggs hatch immediately and white eggs “diapause” during the hot summer months.

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Tamarisk Beetle Biocontrol Update

Folks in western and central KS will be happy to hear that the Tamarisk beetles have come out of winter dormancy and are now feeding on the budding tamarisk trees! In addition these great beetles, we have also spotted several other insects eating the tamarisk. The apple twig borer, the splendid weevil and the armored scales are all hard at work on the tamarisk trees. *If you spot these great insects on your tamarisk, we want to know about it!* Email snzukoff@ksu.edu



The larger tamarisk beetle (left) and armored scales (right) on tamarisk branches.



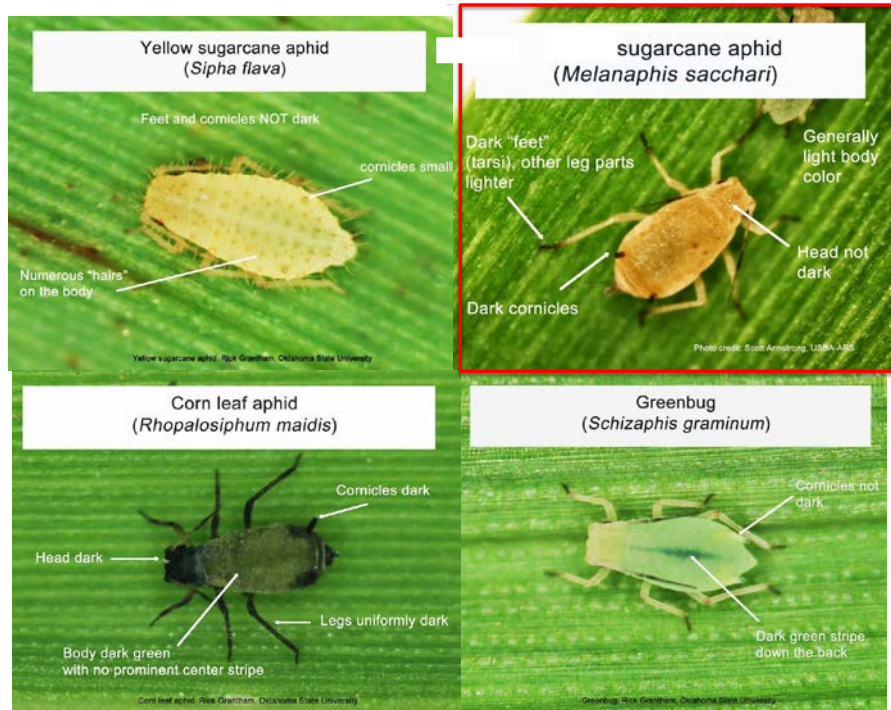
The tiny splendid weevil (left) and the apple twig borer (right) on tamarisk branches.

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Sorghum Sugarcane Aphid Control Update

The sugarcane aphid, which has caused devastating losses across the southern US, made it into Sedgwick and Sumner counties in KS late last summer. Now Kansas has two new chemical management options to combat this aphid, should it enter Kansas this summer. Silvanto (active ingredient flupyradifurone), Bayer CropScience's product, has been registers for Kansas crops including sorghum and will be available for the 2015 growing season. Also, thanks to the efforts of the KDA, KSU entomologists, the sorghum checkoff and many others, Kansas now has a Section 18 for the use of Transform, (active ingredient sulfoxaflor) from Dow Agrosciences. Prior to these, Kansas as well as many other states had little to no options available for chemical management of this new aphid pest in sorghum. If you spot this new pest in KS sorghum this summer, please contact your local extension agent immediately.



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Insect Diagnostic Laboratory Report

<http://entomology.k-state.edu/extension/diagnostician/recent-samples.html>

Eva Zurek

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