Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel

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April 18, 2014 No 3

Cold Weather and Insects

Every year we get questions relative to the effect the winter's cold weather (or sometimes lack thereof) might have on the impending summer's insect populations. Generally, the insects we have in Kansas are well adapted to survive inclement weather. Sometimes a 'freak' cold spell, like the one we just experienced, may catch a few insects exposed and thus kill some. In a field in north central KS, we sampled the 15th of April, which is after the night (13 April) when the temperature dipped to 30°F and the night, (14 April) when the temperature dipped to 22°F. As you can see from Photo 1, the grub, which was under a rock, was just fine (note the ice crystals on the soil around the grub). In addition, a woolly bear cocoon collected in the same field is alive (see Photo 2). The woolly bear overwinters as a larva, which in this particular case we have been watching to see if it would survive this cold winter. After the recent warm weather it actually pupated and has survived the late, hard freeze. As we suspect, most KS insects will have survived the winter and the recent hard spring freeze.

Photo1

Photo 2

Alfalfa Weevil Update

We sampled alfalfa 15 April, and found the alfalfa to be seriously wilted and a few of the alfalfa weevil larvae killed (see left on Photo 1). There are probably still some eggs (which are an overwintering stage) which were not affected, and will soon be hatching. Thus, continued monitoring is recommended. The several fields we sampled on 11 April had infestation rates of 10-50%. We again sampled the same alfalfa field on 16 April and found many live alfalfa weevil larvae of all sizes (see Photo 2), plus a few dead ones (see the blackened larva on the right of Photo 2). Much of the alfalfa that appeared wilted the day after the 22°F night had recovered. There is some dead foliage (see right on Photo 1), but no dead plants, as far as we could determine.

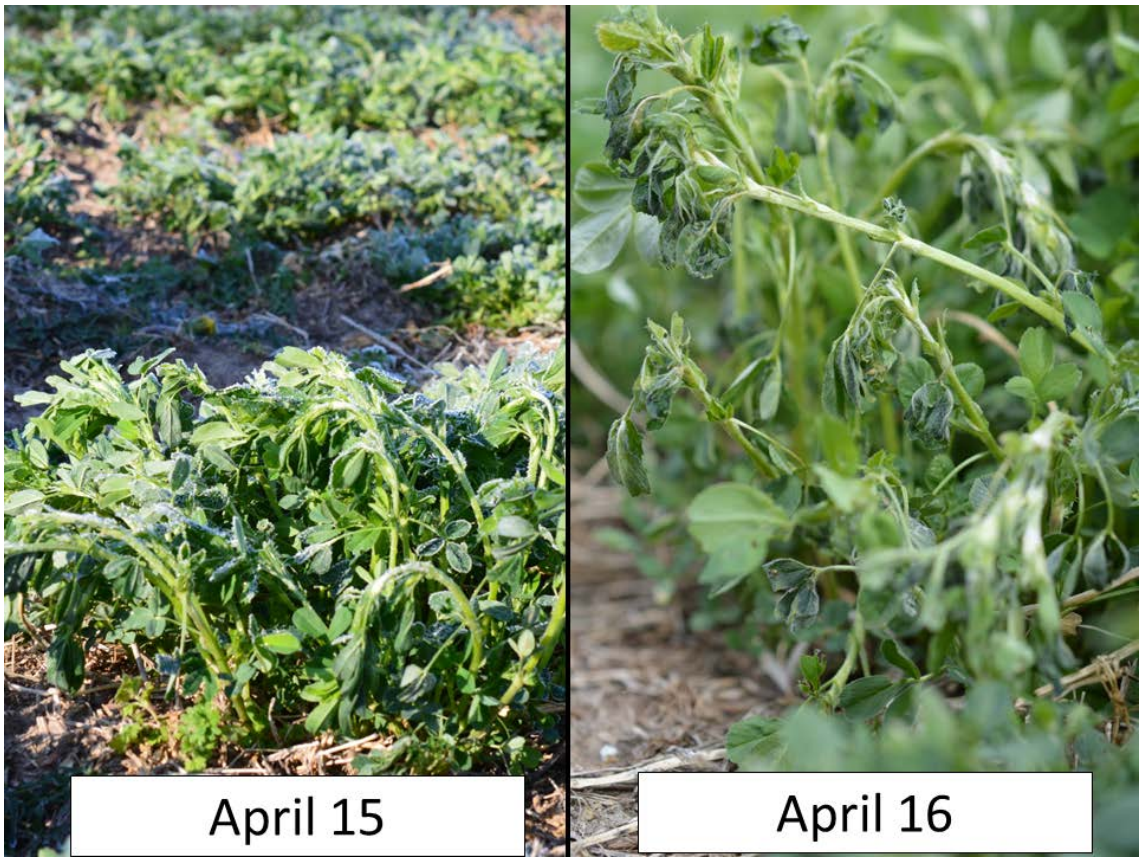
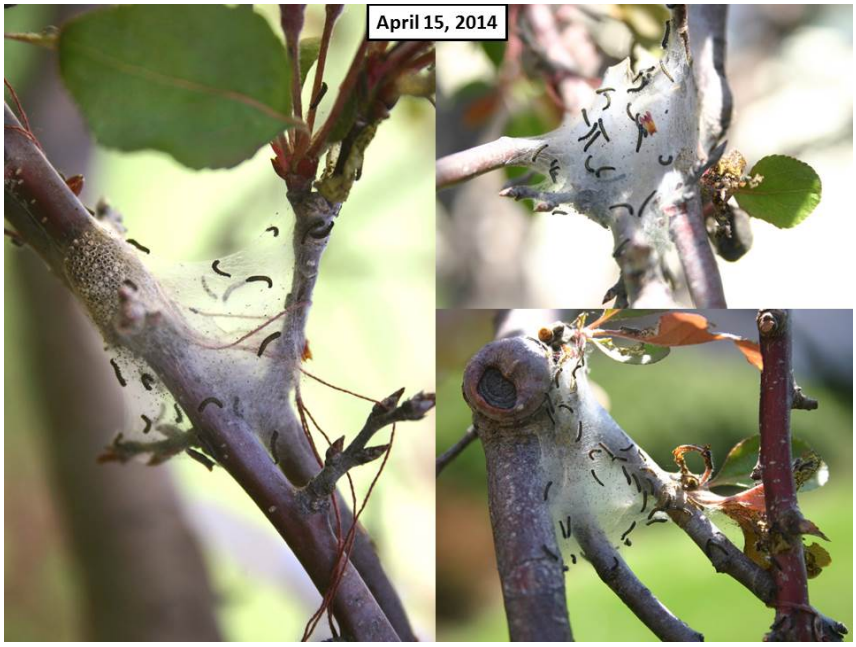


Photo 1

Photo 2

Jeff Whitworth Holly Davis

Just a Tad Late --- Eastern Tent Caterpillar (ETC) and European Pine Sawfly (EPS)



Having monitored the overwintered eggs of these two early-season insects since 2002, I gauge the type of Spring (early or late) based upon when their eggs hatch. My rather rough/loose "midpoint-in-time" for ETC hatch has been March 25-26.

Despite many seemingly pleasant daytime temperatures in March, cool evenings countered and slowed down developmental rates. Thus, for the first time (in 14 years), ETC larval hatch was delayed into April (April 7).

Given their current small size (and that of their tents) and rapid unfurling of leaves and flowers, detection of ETC is not a simple-glance activity. Rather, a person must be patient when thoroughly inspecting (primarily) flowering crab trees for the presence of ETC. The usual situation is that only lower branches are accessible for such

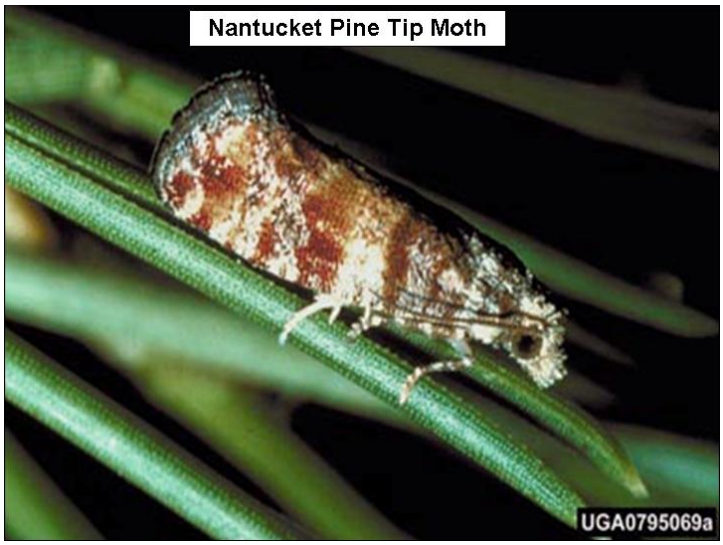
inspections. If found, merely use your fingers to "comb out"/remove and dispose of the web mass. Do this during the daytime when most caterpillars are "snoozing-the-day-away" in their tents.

My "midpoint-in-time" for EPS hatch has been April 1. A precise date for this year's EPS was not determined due to my being out-of-state. However, on the morning of my departure (April 8), EPS eggs were in the blackhead stage. When the blackhead stage is observed, egg hatch is imminent (within 24 hours). That fact, in addition to the 80+ degree temperature on April 9 makes it fairly certain that larvae emerged that day. Due to their current small size, again, patience and diligence are required when inspecting pine plantings for EPS. During cooler weather (especially cool mornings), larvae tend to be hidden as they snuggle at the base of needles. Larvae will become more readily visible during the day when temperatures rise and they move upwards on the needles. Physically removing larvae (especially when many terminals are infested) is impractical. Rather, a horticultural soap or horticultural oil will effectively eliminate EPS larvae.

But on Schedule --- Nantucket Pine Tip Moth (NPTM)

Historically, first generation NPTM emerge from overwintered pupae in early April (earliest that I have recorded in past years, April 2, and the latest April 17). As of the morning of aforementioned April 8 departure, there were no moths in the two NPTM pheromone traps (set out on March 1). Upon my April 14 return, 15 moths were in the trap at one trapping site.

As of yet, no moths have been trapped in the second trap. This serves to illustrate the need to trap individual sites for the purpose of applying insecticide treatments in a timely manner.



Such tiny moths (wingspread < ½ inch) and larvae (when mature, approaching ¼ inch in length) …. what harm could they do?

Larvae feed within terminal shoots. Shoots are killed. For Christmas tree producers, new diffuse growth produces multiple new leaders resulting in poorly shaped and unmarketable trees. In a landscape situation, years of cumulative damage causes branch dieback --- the resultant trees being aesthetically unacceptable and thus requiring their removal.

The following sequence is a prime example of neglect. At the beginning of the sequence in 2010, there were 11 Austrian pine trees (and 1 redbud front left). At some point in 2010, 4 of the most damaged pine trees (and the redbud) were removed. Most of the remaining 7 (in April of 2011) were sparse in appearance, resulting in the elimination of 4 more during 2011. The remaining 3 have remained in place during the last two years. Time will tell what is in store for them in 2014.

Ash Tree Dilemma

With the recovery of a single Emerald ash borer (EAB) larva from Wyandotte County in 2012 (putting Kansas on the map as having EAB), and in 2013, larvae being recovered from 3 trap trees in Wyandotte County, and 5 beetles trapped on purple prism traps (3 sites in Wyandotte County and 1 site in Johnson County), one might think that the ash tree dilemma in this issue of the Kansas Insect Newsletter is in reference to EAB. We will save an EAB update as additional "current information" becomes available.

But no, the current ash tree dilemma is in reference to brownheaded ash sawflies. While this is a native species in Kansas, at least for myself, I first became aware of them in 2012 when I received a report (through Dennis Patton – CEA HORT, JO Co.) of a neighborhood in Desoto where ash trees were defoliated past midway in April. Our visit to the neighborhood was after-the-fact: we found only a couple of straggler sawfly larvae. While we hoped for a repeat (but earlier) report in 2013, we were disappointed (at least I was) that none were forth coming.

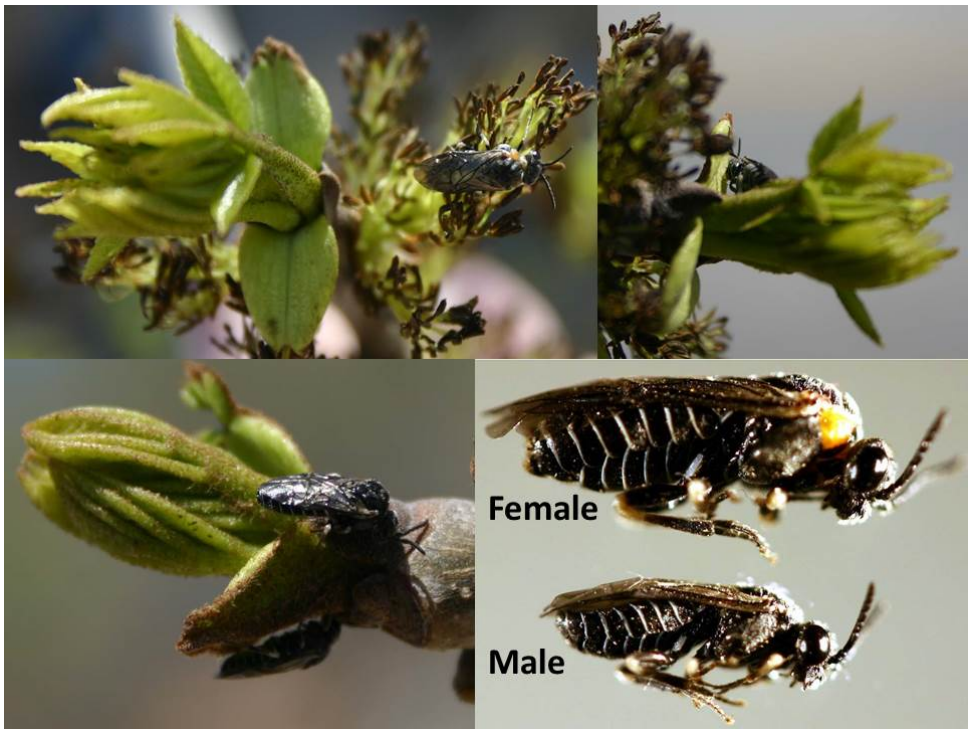
However, in mid-May, a site in Manhattan, KS, revived hope for becoming more familiar with brownheaded ash sawfly. By the time that the 2013 report was made, the feeding cycle of the sawfly larvae had been completed, and mature larvae were preparing cocoons in which to spend their summer, fall and winter in what might best be described as a prolonged quiescent "rest" before actively pupating in early Spring of this year.

The seasonal developmental cycle for some insects coincides with the production of Spring foliage.

As seen here, the wasp- like sawflies are currently active.

Females use their saw-like ovipositors to create slits into which they deposit eggs.

Newly emerged larvae feed within the leaf. But they soon become large enough that they outgrow the confines of the inner leaf, thus necessitating their exit and their becoming external feeders.



Being forewarned as to the current activities of brownheaded ash sawflies, and if having had prior experiences with them, people might inspect branches and newly forming leaves for the presence of adult sawflies. It might be easiest to tap branches with a stick. This will startle adults sending them into flight. They would appear as small black flying insects. They quickly settle down to resume mating and egg-laying activities. If adults are detected, people will be put "on alert" to monitor foliage for the presence of larvae when they become exposed and begin feeding externally, but before they strip trees of foliage. As was previously stated for European pine sawfly larvae, a horticultural soap or horticultural oil will effectively eliminate sawfly larvae.

Bob Bauernfeind

Insect Diagnostic Laboratory Report

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

Eva Zurek

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