Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel

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Update on Eastern Tent Caterpillar and European Pine Sawfly

In last week's newsletter, I reported that eastern tent caterpillars had hatched from 5 of 12 egg masses on March 14. By the next day, larvae emerged from 3 other egg masses (Figure 1), and on the day that the KIN was sent out, larvae emerged from another 2. There has been no activity (yet) from the last two egg masses being observed.

Figure 1

Also in last week's newsletter, I stated that while European pine sawfly larvae had not yet emerged, egg hatch would likely occur within a week. In actuality, they emerged the day after I wrote my copy for last week's newsletter. It is interesting to note that again, EPS lagged that of ETC, albeit only by **1 day**. For both species, this is the earliest recorded hatch for the 11-year stretch of observations in the Manhattan area.

One might say, "See. This winter was so mild that insects emerged early!" However, in last Sunday's Manhattan Mercury, Mary Knapp (K-State Climatologist) presented data for the 10 mildest winters (measured from December through February for her purposes) on record for the Manhattan ----- and 2012 **(in red)** (Table 1) did not make the Top 10. While 2002 and 2006 **(in blue)** were the 2nd and 8th most mild winters, respectively, emergences occurred a week to 2 weeks later than this year. This illustrates the uncertainty of correlating events on the basis of prevailing temperatures ----- other factors must come into play. In the end, for ETC and EPS, it does substantiate their role as early-season-pests ---- yet they likely will finish their current-season feeding cycle pretty much on schedule (early to mid-May).

Table 1

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
ETC	**March 20**	**March 26**	**March 21**	**March 29**	**March 30**	**March 16**	**March 28**	**March 23**	**March 31**	**March 23**	**March 14**
EPS	**April 1** (12)	**April 1 (6)**	**March 26 (5)**	**March 30 (1)**	**April 2** (3)	**March 23 (7)**	**March 16 (-12)**	**March 19 (-4)**	**April 7 (7)**	**April 3 (11)**	**March 15 (1)**

Countdown: 11, 10, 9, 8, 7, 6, 5, 4, 3 and holding ------ Nantucket Pine Tip Moth

Short of a New Year's Eve countdown, gone are the countdowns which kept many people of an older generation glued-to-the-tube. Beginning with the Mercury Program and Alan Shepard's 1961 suborbital flight, through both the Gemini and Apollo space programs (1965 – 1972), launches were newsworthy and televised. After a nine-year hiatus, resumption of televising manned flights (and countdowns) again captured public interest with the initiation of the Space Transportation System (STS) program (1981-2011) (commonly known as space shuttle missions). However, after the novelty of those flights became routine/ passé, and public interest waned, for the most part, television coverage of launches became but 30-second clips on evening news programs. So much for my trip down memory lane. Now on to today's countdown and Nantucket Pine Tip Moth (NPTM).

A landscape planting of 11 Austrian pine trees was subjected to unchecked NPTM attacks. Their deteriorated conditions are already evident in 2010 (Figure 2).

Figure 2

At some point during 2010, grounds maintenance personnel removed trees 1, 3, 4 and 6 as well as the scrawny redbud tree. Thus Figure 3.

Figure 3

During 2011, trees 2, 5, 7 and 10 were removed. So the count is holding at 3: trees 8, 9 and 11 (Figure 4).

Figure 4

As a refresher: NPTM are reported to produce 3 generations per year in Kansas (although in trapping, I have never picked up 3rd generation moths). Moths are small (only 4 – 7 mm in length) colorful (Figure 5).

NPTM overwinter as pupae in terminal shoots of pine trees. Traditionally, first generation moth emergence begins in early April and peaks the 2nd and 3rd week of April. After mating, eggs are primarily deposited on needles. Larvae emerge in 7 – 8 days and immediately bore into needles upon which the find themselves. Mining toward the base of the needle, a larva eventually exit the needle and spin a web around itself and the needle fascicle. The larvae then bores into terminal shoot to complete its feeding and pupation phase. Second generation moth emergence begins in early June, peaks by the last week of June and is completed the first week of July. Reported 3rd generation moth emergence begins at the end of July, peaks towards mid-August and is completed by the end of August (again, in the Manhattan area, I have never been able to substantiate/detect third generation moths via pheromone trapping).

It is the tunneling activities of NPTM larvae which are responsible for damage to tree hosts. If ignored and allowed to run rampant, the result will be unsightly clusters of dead needles and dead terminals. Eventual branch dieback happens. Continuous damage from repeated attacks renders infested trees unsightly and (in the instance of Christmas trees) unmarketable (Figure 6).

Figure 6

When and where NPTM will appear is unpredictable. Case in point was what I experienced in 2008. From 1993 through 2007, my two Mugo pine were trouble free --- never a hint of NPTM. In August of 2008, one my Mugos was "clean" while a second Mugo (only 20 feet away) (Figure 7A) was heavily infested by (given the timing) second generation NPTM -- I was not observant prior to this to note any first generation activity. After damaged terminals (B) were removed, the appearance was not so dramatic (C).

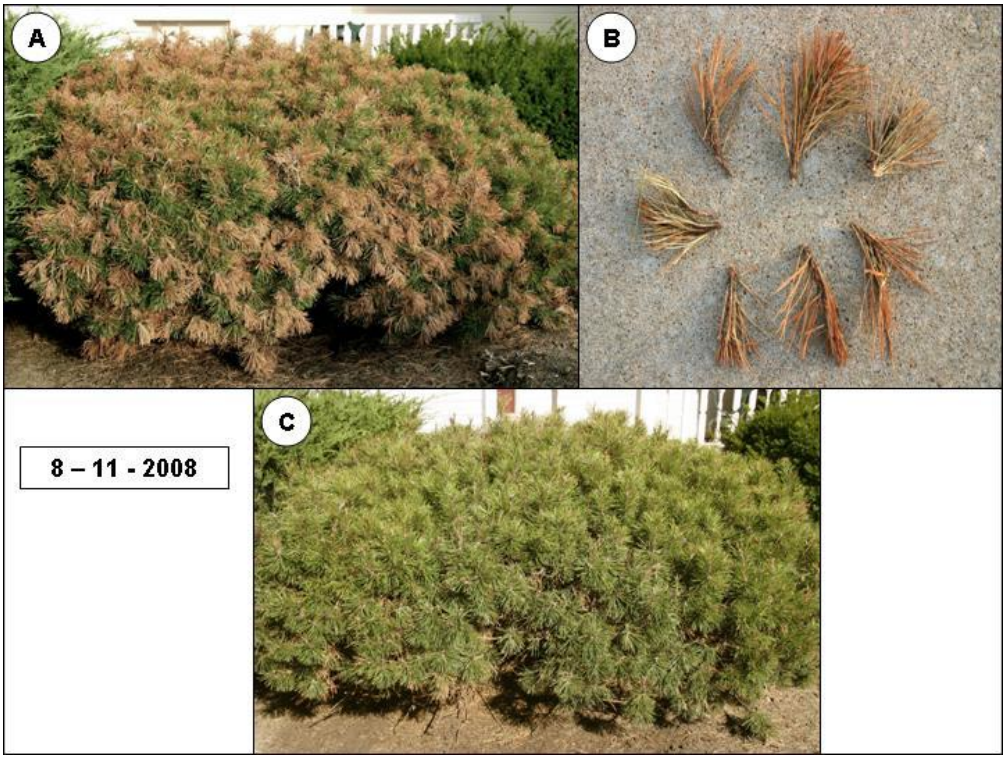

Figure 7

Utilizing a pheromone trap 2009, I was able to detect NPTM activities and apply a timely insecticide treatment against the first generation. Because second generation moths were not detected, there was not need for an additional treatment. And because the pheromone trap was "clean" in 2010, I did not trap at that site in 2011, nor will I this year.

Homeowners may never encounter problems with NPTM, or, one day out of the blue, experience NPTM such as occurred in my situation. At that time, then, they would benefit from the purchase of NPTM pheromone lures and sticky traps to monitor moth activities. Thusly guided, they would be able to apply timely insecticide treatments against NPTM. Given their vested interest in producing marketable stock, Christmas tree producers already regularly deploy pheromone traps to monitor the onset of NPTM activities within their respective plantations. Thus they (Christmas tree producers) are in control of the situation.

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Sincerely,

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