

PENNSYLVANIA'S CHRISTMAS TREE SCOUTING REPORT

JUNE 6, 2013

Weekly newsletter compiled by Sarah Pickel, PA
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GROWING DEGREE DAY TOTALS, 6/5/13:

LOCATION	GDD TOTAL
Conoy Twp, Elizabethtown (SW), Lancaster Co.	670.5
Mount Joy Twp, Elizabethtown (NE), Lancaster Co.	927
Hallstead, Susquehanna Co.	445
Indiana, Indiana Co.*	614.5
New Cumberland, York Co.	649
New Ringgold, Schuylkill Co.	638.5

* Figure courtesy of www.weather.com.

BAGWORM

Newly emerged bagworm larvae were found on foliage of several tree varieties in Dauphin, York and Schuylkill Counties this week. The larvae had



Figure 1: Bagworm juveniles feeding
[S. Gardosik, PDA]

already begun to construct their protective coverings out of needle tissue. Look for tiny brown cone-shaped structures coming off of the needles. The larvae begin feeding on needles, leaving behind hollowed-out needles. As the larvae mature and grow, their feeding damage will become more intense. Larvae will eat entire needles, potentially stripping

entire twigs of their foliage. A single insecticide application should be efficient to control this pest, if the application is made while the bagworms are still small. For more bagworm information, visit: <http://extension.psu.edu/ipm/program/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/bagworm.pdf/view>

ELONGATE HEMLOCK SCALE

In Dauphin, Schuylkill and York Counties, elongate hemlock scale crawlers were found moving on the foliage of Fraser and Canaan firs and Douglas-fir this week.

These bright yellow crawlers, which closely resemble the crawlers of Cryptomeria scale, were found on the undersides of needles, around brown female and white male scales. This armored scale has two generations each year. Because the



Figure 2: Adult female elongate hemlock scales with crawler [C. Thomas, PDA]

scales overwinter in several stages and reproduction is staggered throughout the spring and summer, crawlers will be present throughout much of the growing season. Control can be difficult because of this staggering of growth stages. Penn State research recommends that insecticide applications start when crawler emergence begins in the spring. A series of applications is required – either 3 applications with 4 weeks between each application, or 4 applications with 3 weeks between each application (trials suggest Dimethoate). Another

option suggested from research done at Connecticut's Ag Experiment Station is a **pre-bud break** basal trunk application of Safari. For more information on Elongate Hemlock Scale visit: <http://extension.psu.edu/ipm/program/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/elongate-hemlock-scale.pdf/view>.

CRYPTOMERIA SCALE

Eggs were present under a greater percentage of Cryptomeria scale coverings this week in Lancaster, York and Schuylkill Counties. In these



Figure 3: *Cryptomeria scale damage*
[C. Thomas, PDA]

as northern Dauphin County, approximately 90% or more of female scales had eggs underneath the coverings. Crawlers were not yet found underneath the scale coverings or moving along the needles. Growers in these counties or areas further south may expect to possibly see Cryptomeria scale crawlers within the next week or two. The accepted GDD range where crawler emergence will take place is 600-800. When the yellow, oval-shaped crawlers do emerge from under the white scale coverings, they will move along the needle for a short time before they find an open place to settle permanently. The crawler will settle and will begin to build up a white scale covering.

Look for scale infestations on interior twigs on the lower branches of true fir trees (their preferred hosts). They may also be found on spruce varieties (and potentially, but rarely, Douglas-fir). Symptomatic twigs will show a chlorotic speckling on the upper surface of the needles. Scales will be located on the undersides of these symptomatic needles. An insecticide application should be made soon after the moving crawlers are detected. It's recommended to make a second application 7-10 days after the first, and, in heavily infested areas, a third application 7-10 days after the second. For more information on Cryptomeria scale, visit: <http://extension.psu.edu/ipm/program/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/cryptomeria-scale.pdf/view>.

[tree/pest-fact-sheets/needle-discoloration-and-injury/cryptomeria-scale.pdf/view](http://extension.psu.edu/ipm/program/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/cryptomeria-scale.pdf/view).

PINE NEEDLE SCALE

In Cumberland, Lancaster and York Counties, there were more Pine needle scale crawlers out on the needles of Eastern white pine this week. Underneath the adult scales covers there continued to be eggs found in York and Cumberland Counties, however in Lancaster County, there were very few eggs found under the covers. If only a small population of this pest is found, control action may not be necessary, however if the population is considerable, 1-2 insecticide applications could be made. Growers may find that this pest is a more serious issue on Scotch pine than on Eastern white pine. For more information on this pine needle scale, visit: <http://extension.psu.edu/ipm/program/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/pine-needle-scale.pdf/view>.

BENEFICIAL INSECTS

At this time in the season, many beneficial insects are active in the Christmas tree farms. These are natural predators to many pests common to Christmas tree farms in the Northeast. Some of the beneficial insects that were seen this week are



Figure 4: *Twice-stabbed lady beetle larva*
[S. Pickel, PDA]

larvae of the twice-stabbed lady beetle (see picture), adult hover flies and newly hatched praying mantid nymphs. Both larvae and adults of the twice-stabbed lady beetle are voracious predators of armored scales, the larvae of hover flies are very effective predators of aphids, and the nymphal and adult stages of praying mantids are hunters of a wide variety of insects. These insects can have a real impact on a pest population. To conserve these predators on your farm, try to avoid the use of broad-spectrum insecticide products. Incorporate the use of more host specific, reduced-risk products

that will be compatible with many of these beneficial insects.

HELPFUL RESOURCES

A list of Pennsylvania's registered miticides and insecticides, entitled *2011 Insecticides and Miticides for Christmas Tree Pests*, can be found at the Penn State Christmas tree Website, <http://ento.psu.edu/extension/christmas-trees>.

A great source for in-depth pest information and scouting suggestions is the PA IPM Program publication, *Integrated Pest Management for Christmas Tree Production: A Guide for Pennsylvania Growers*, available for free download (<http://pubs.cas.psu.edu/FreePubs/pdfs/agrs117.pdf>) or for purchase from the PSU College of Ag Publications office (phone: 814-865-6713, fax: 814-863-5560, e-mail: AgPubsDist@psu.edu). Ask for publication item # AGRS-117.

The next scouting report will be available June 13, 2013.