



PENNSYLVANIA CHRISTMAS TREE PEST SCOUTING UPDATE

- *Friday, June 7, 2019*

PA GROWING DEGREE DAY TOTALS TO DATE:

LOCATION	GDD TOTAL
Elizabethtown, Lancaster Co.	903.5
Indiana, Indiana Co.	645.5
Montoursville, Lycoming Co.	663
New Ringgold, Schuylkill Co.	625.5
York, York Co.	807

* Calculation via www.greencastonline.com/growing-degree-days/ beginning March 1.

For more information on tracking Growing Degree Days as a tool for management of tree pests, the following article on Penn State Extension's website is recommended:

<https://extension.psu.edu/using-natures-signals-to-manage-landscape-pests>.

ACTIVE PESTS THIS WEEK:

ELONGATE HEMLOCK SCALE

In central Dauphin County today, active crawlers, or the mobile first stage nymphs, of elongate hemlock scale (EHS) were seen on the undersides of interior foliage of Fraser fir and Douglas-fir. The tiny, bright yellow, oval-shaped



crawlers were found moving around the adult scales. A hand lens is necessary to see the crawlers! There are two distinct types of adult scales: brown oblong female scales and shorter, white, waxy male scales. Not long after emerging from underneath the female scales, the crawlers will settle in one place on the

needles and begin to develop into either male or female scales. Active crawlers are the stage which are most vulnerable to insecticide applications. The GDD

range for when crawler activity first begins is 360-700 GDD.

Elongate hemlock scale is a hard scale pest which can be found on several conifer hosts, including Douglas-fir, Hemlock, Spruce and True Firs. Infestations of this scale generally begin on the lower interior branches of host trees. Symptoms include subtle yellow spotting on the upper surface of the needles, as well as waxy, light gray flocking on some needles. As the scale population increases, needles could be cast and tree vigor will decline.

The generations for this pest are staggered throughout the growing season, so a control strategy should either involve a few insecticide applications over the active period, or utilize an insecticide with systemic activity that will continue to work through that active period (i.e. – spirotetramat [Movento, Kontos] or dinotefuran [Safari]).

CRYPTOMERIA SCALE

Also in central Dauphin County, a few very early crawlers of Cryptomeria scale were found to be coming out from under the adult female scales.

However, there were few hatched crawlers found among the many eggs underneath the scale coverings of the female scales. This is the start of the



first generation of this pest, which typically occurs in a GDD range of approximately 600-800. The crawler stage of Cryptomeria scale looks very similar to the tiny, yellow, oval-shaped crawlers of EHS. However, both female and male adult Cryptomeria scales have the same oval-shaped, white scale covering, with a yellowish center.

This scale has the potential to be very damaging. Each female scale can lay approximately 40 eggs, which after hatching will each spread out to new areas of foliage to mature and feed. The feeding

damage causes a bright yellow speckling on the upper surface of the needles. Once made, this yellow damage will not go away, however, with the help of a good control program, it can be covered up by healthy foliage growth in future seasons.

Unlike the staggered generations of EHS, *Cryptomeria* scale has two distinct generations during a growing season. The second generation typically occurs in early-mid August during a GDD range of 1,750-2,130. During each generation, the crawler emergence, which can be expected two weeks after eggs are first laid, may be staggered over a period of approximately 2-3 weeks. If growers make an insecticide application during the first week of crawler emergence, they will want scout for crawler activity a week later to see if a second application may be necessary.

BAGWORM

At this point in the season, the larvae of evergreen bagworm should be hatched and exiting the pinecone



shaped casings of last year's female bagworms. This caterpillar pest, which can be found feeding on any species of conifer, typically hatch during a GDD range of 650-700. This pest has one generation per year. The larvae, or bagworms, will feed on needles throughout the summer. As they increase in size, they continue to build up their protective cases from needle pieces. Newly emerged larvae will only partially eat needles, causing brown, ragged areas of the needles. As the bagworms grow, however, they will consume whole needles and are capable of

stripping whole twigs. To prevent feeding damage from this pest, an insecticide can be applied when larvae are still small, but when the majority have exited the cases. In smaller populations, bagworms may be picked by hand later in the season if control is not achieved at this time.