



PA CHRISTMAS TREE SCOUTING REPORT

- **Monday, April 23, 2018**

Weekly newsletter compiled by Sarah Pickel, PA Department of Agriculture. This week's scouting data contributors: Donna Bortner (Springfield Tree Farm), Jim Fogarty (Halabura Tree Farm) and Cathy Thomas (PDA).

GROWING DEGREE DAY TOTALS FROM 4/22/18:

LOCATION	GDD TOTAL
Elizabethtown, Lancaster Co.	53.5
Indiana, Indiana Co.	48.5
Montoursville, Lycoming Co.	32.5
New Cumberland, York Co.	62.5
New Ringgold, Schuylkill Co.	48

* Calculation via www.accuweather.com began March 1.

After a weekend of very warm temperatures which caused the GDD totals to jump, the rest of the week in Pennsylvania has stayed cool and none of my monitored locations gained a single GDD. There was, however, some notable pest activity that has been noticed since the last report.

WHITE PINE WEEVILS



*White pine weevils found in emergence trap
[S. Pickel, PDA]*

Last Tuesday in central York County, white pine weevils were found in emergence traps (along with less serious pests Eastern pine weevils and Pales weevils). White pine and Pales weevils were also found in Schuylkill County last week and over the weekend. The white pine weevils are $< \frac{1}{4}$ in and are mottled brown with two white spots. These adult weevils probably emerged after

the previous week's high temperatures, which in some locations topped 90°F. The typical emergence range for this wood boring beetle pest is 7-58 GDD. Growers can also check ground temperatures to determine weevil

emergence time. The adults tend to emerge from overwintering sites under host trees as ground temperatures stay above 50°F. This pest will feed on and lay eggs inside the leaders of Pines, Spruces and Douglas-fir trees. Serbian spruce and Eastern white pine are preferred hosts. Insecticide should be applied to the upper 1/3 of the tree within two weeks of early trap catches to prevent egg laying. Once the eggs are inside the leader, it is difficult to avoid noticeable leader damage, which is caused by the larvae feeding throughout the season.



BALSAM TWIG APHIDS

On Fraser and Canaan fir in York County this week, hatched Balsam twig aphids were found. The soft bodied, pair shaped pests are pale green in color and typically hatch



from their overwintering eggs within a range of 30-100 GDD. This pest feeds exclusively on *Abies*, or True Fir varieties. To scout for this pest, look for twisted or curled needles of last season's growth and view the undersides of those twigs or nearby twigs. The hatched aphids will be feeding on the undersides of needles. The unhatched eggs can be found on the twigs at the base of the needles. They are silvery, football shaped eggs. Another way

to scout for aphids is to tap the branches over a white surface. The feeding the aphids do when first hatch does not cause damage to the tree, however, if the aphids are able to get inside the opening fir buds, their feeding will cause the newly developing needles to become twisted and stunted. A horticultural oil or insecticide treatment made before the new buds begin to open can control this

pest and prevent damage. It is important to also try to time this application before the cone buds open. If cone buds are too far along, the aphids will be able to move under those developing cone scales and be protected from applications.

SPRUCE SPIDER MITES

So far, in my scouting in south central PA, I have not yet seen hatched spruce spider mites. This may this week as



Spruce spider mite and eggs [Ward Strong, BC Ministry of Forests, Bugwood.org]

the expected range for hatch of spider mites is 50-121 GDD. Growers can expect to find the tiny orange and brown mites on the undersides of twigs not long after the balsam twig aphids have hatched. The spider mites hatch from very small, red, sphere-shaped eggs, which are typically spread along the undersides of twigs of several species of hosts. Hosts may

potentially include all conifers; however, spruce species, true firs and arborvitae are the most common hosts. Look for these eggs on stems that exhibit some damage on last season's growth. Feeding from spruce spider mites causes a fine, yellow stippling. This is generally concentrated more toward the base of the needles. With heavy infestations, spider mites can also produce fine, gray webbing over the foliage and their feeding may also lead to needle loss. If timed right, an insecticide application made after hatch but before bud break could potentially get good control of both spruce spider mites and aphids. Please note though, that a miticide will not be formulated to control aphids, so it is important to use an insecticide if targeting both pests.

THRIPS

Another pest that may potentially affect the new growth of true fir species is a species of thrips (genus *Scirtothrips*). Thrips are small (<1mm long), slender insects that are bright yellow, which scar the needle tissue with their piercing mouthparts. These insects have multiple generations with a rapid reproduction rate. Thrips have been found to damage the new buds of Nordmann, Fraser and Canaan fir, and other

true fir varieties may also be susceptible to this damage. Thrips feeding causes a stunting of the new needles, browning and if left unchecked even casting of needles. The small, yellow insects can be seen in the buds and on the foliage with the aid of a hand lens. The thrips can be dislodged and detected by tapping foliage over a white surface. If thrips are found just prior to or at the time of bud, insecticide applications may be recommended. Possible chemicals that may be effective include:

bifenthrin, acephate, spinosad or abamectin. In heavy infestations, multiple applications may be necessary.



ADMES MITES

Damage from Admes Mites, a species of spider mite which is less common than spruce spider mites, was found on Blue spruce, white spruce and Serbian

spruce on different farms this past season. Damage appears as yellow stippling or bleaching of foliage and can be heavy at times. Its preferred hosts in Pennsylvania are Blue, Norway and White spruces. Larger and rounder than spruce spider



Admes mite and empty egg [Sandy Gardosik, PDA]

mites, Admes mites are reddish-brown with tan legs. Eggs are rust red, round and found on the bases of

needles. The life cycle and suggested control of this pest is similar to that of spruce spider mites, with two miticide applications made 7 – 10 days apart.

DOUGLAS-FIR NEEDLE MIDGE

As the time for Douglas-fir bud break draws closer, it is time to be placing Douglas-fir needle midge emergence traps at the bases of last season's damaged trees. These tiny,



orange, fly-like pests, which lay their eggs on the new needles as soon as the buds begin to crack, emerge from underneath the trees as adults during a range of 200-400 GDD. Once the eggs are laid inside the buds, it is difficult to stop the larvae from moving inside the needles and leading to a swollen gall in each infested needle. The galls turn yellow and then brown as the season progresses. Eventually, these infested needles will be cast at the end of the season after the midge leave the needles. To avoid this damage, simple box traps help to pinpoint the time of emergence, so that control applications can be made within a few days of emergence. Sometimes these



applications can be made at the same time of the first fungicide application for needle cast diseases, however, sometimes the midge timing comes before then.

INVASIVE PEST ALERT: SPOTTED LANTERNFLY

For tree growers who haven't yet heard of Pennsylvania's invasive pest of concern, *Lycorma delicatula* (White) or **Spotted Lanternfly**, it is important that they learn to recognize this insect pest of numerous Pennsylvania host plants. This plant hopper pest, which was introduced from Asia, feeds on grapes, hops, numerous fruit trees and hardwood species. In addition to concern about the

damage that is caused by the feeding from multiple stages of lanternfly nymphs and the adults, PDA is extremely concerned with containment of this pest. Stopping the spread of this pest is very challenging due to the fact that eggs may be laid on any smooth surface, including tree trunks, fence posts, landscaping materials and vehicles. Currently, 13 counties in eastern PA are under a Spotted Lanternfly quarantine to attempt to limit the spread of this pest. Christmas tree farms



Adult spotted lanternfly [Lawrence Barringer, PDA]

or nurseries within the quarantine zone should contact their regional PDA plant inspector to obtain a permit or compliance agreements for their farms, which will allow growers to move plant material from their farms with inspections of shipments and phytosanitary certificates. Growers inside and outside of the quarantine areas should all familiarize themselves with the life stages and symptoms of this pest, so that they can be on the alert to prevent lanternfly from becoming a problem for their farms. There was an incident last year in which a cut-your-own tree farm did not see an egg mass and the instars hatched in the home of the NJ customer. It will be important to add this insect to your IPM program for scouting and control. Information on the life cycle, potential control methods and quarantine details can be found on PDA's website at the following link:

http://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/Entomology/spotted_lanternfly/.

Next week's scouting report will be available on Monday, April 30.