



PENNSYLVANIA'S CHRISTMAS TREE SCOUTING REPORT

THURSDAY, MAY 14, 2015

Weekly newsletter compiled by Sarah Pickel, PA Department of Agriculture. This week's scouting data contributors: Jim Fogarty (Halabura Tree Farm), Roger Freed (Pinecrest Tree Farm), Karen Najda (PDA), Sarah Pickel, Brian Schildt (PDA), and Cathy Thomas (PDA).

GROWING DEGREE DAY TOTALS, 5/14/15:

LOCATION	GDD TOTAL
Indiana, Indiana Co.*	301
Montoursville, Lycoming Co.*	301
Mount Joy Twp, Elizabethtown (NE), Lancaster Co.	372.5
New Cumberland, York Co.	365.5
New Ringgold, Schuylkill Co.	394

* Figure courtesy of www.weather.com.

BUD BREAK

In Schuylkill County this week, the buds of Colorado Blue spruce and Serbian spruce are approximately 50% broken, although on Serbian spruce, buds may only be broken at the bottom of the trees. In Lancaster, Lebanon and York counties, Colorado blue spruce is 100% open.

As for Fraser and Canaan fir, trees blocks in Lancaster, Lebanon and York range from 50%-90% bud break. In Schuylkill County, about 30% of Fraser fir has broken bud.

On Eastern white pine, the candles continue to elongate in Cumberland, Lancaster, Lebanon, and York County.

PINE BARK ADELGID

This week in Schuylkill County, eggs of Pine bark adelgid began to hatch and nymphs were seen moving up the new growth on Eastern white pine. In Lancaster and York Counties, the nymphs were beginning to wax over on the new growth. A pest that can be found on Eastern white pine (most common host), Scotch pine and Austrian pine, these small, sucking insects which form white, cottony clusters of wax at the bases of twigs are not typically a pest of concern.

The adelgids can be found on Austrian, Scotch and Eastern white pine (the most common host). With heavy populations, however, adelgids can be found clustered on the main stem of the tree. This can hinder the growth of a tree. For growers who wish to control this pest, the appropriate time to apply an insecticide is after most of the eggs in the waxy covering have hatched, but before the nymphs on the new growth have waxed over. A single application of an insecticide should be sufficient.



Figure 1: Pine bark adelgid waxed over on new growth of Eastern white pine [S. Pickel, PDA]

NEEDLE CASTS AND RUST OF SPRUCE

On Serbian and Colorado blue spruce in Schuylkill County, the lesions of spruce needle rust have ruptured and the telia (spore producing mass) have pushed out and are capable of spreading the disease to the new needles of Colorado blue and Serbian spruce, which should be ready to receive the protective fungicide treatments. In York County, where the buds are farther along, growers have already begun to make fungicide applications. For this disease, the yellow and orange lesions, which wrap around the needles, will release spores throughout the late spring season. When they are done releasing spores, the telia will dry up and turn brown and the needles will break at the lesion or be cast from the twigs completely. Fungicides should be applied when the buds are broken and re-applied at intervals of 2 weeks (or shorter intervals if season is rainy) for 3 or more applications, until the telia dry up, or the new needles harden off.

This is also the time for growers dealing with *Rhizosphaera* and *Stigmina* needle casts to make their fungicide applications. These diseases will also infect the new needles of Colorado Blue and Serbian spruces. Symptomatic needles will be found at the base of the tree and are typically brown, or partially brown, and exhibit black fruiting bodies on the undersides of the needles, pushed out through the stomates.



Figure 2: Browning caused by *Stigmina* needle cast at the base of Serbian spruce [PDA]

With *Rhizosphaera*, the fruiting bodies are smooth and round, and with *Stigmina*, the fruiting bodies are fuzzy or hairy. The fruiting bodies will release spores, which will infect the new growth. Follow the same fungicide program for Spruce needle rust until the new needles are hardened off.

NEEDLE CASTS OF DOUGLAS-FIR

Most growers in central PA have seen bud break of Douglas-fir and have already begun their fungicide program for *Rhabdocline* or Swiss needle cast disease. Although these two diseases have different symptoms, they both release fungal spores which infect the new, tender growth of Douglas-fir under moist conditions. The purpose of the fungicide is to coat the surface of the new needles and preventing the spores from penetrating the needle. For this reason, it is important to get good spray coverage on needles. The standard recommendations for a fungicide program are as follows:

- 1st application at the early signs of bud break
- 2nd application made a week later
- 3rd application made 2 weeks after the 2nd
- 4th application made 3 weeks after the 3rd

Some growers who have had problems needle cast diseases have found that they need to shorten the intervals between the sprays, in some cases to 1 week. This may mean adding an additional one or two sprays depending on how wet and cool the season continues to be. Growers may also need to adjust their application intervals based on rain forecasts.

SPRUCE SPIDER MITES

As fir and spruce trees have begun to break bud in much of PA, untreated populations of spruce spider mites may begin to move into the new growth of these trees where they can begin to damage the new needles. Look for brown-orange mites on new growth using a hand lens. For growers who have not had a chance to make horticultural oil or miticide applications for the pest, they can still gain some feeding damage to new growth can be expected. Growers should be warned that the new needles are tender and may be more likely to experience phytotoxic (burn) damage from horticultural oil.



Figure 4: Spruce spider mites [Petr Kapitola, Central Institute for Supervising and Testing in Ag, Bugwood.org]

BALSAM TWIG APHID

In areas where Canaan, Fraser and other firs have broken buds, damage from Balsam twig aphid may already be appearing. The new buds will appear twisted and perhaps stunted. There is no way to reverse this damage. If a fir block has seen damage in past seasons and aphids have been found (look for pale green aphids on twigs next to damaged twigs)



Figure 3: Balsam twig aphid damage to new buds of Canaan fir [S. Pickel, PDA]

controls will still be effective if fir buds have not opened. A horticultural oil or insecticide application will control the aphids and can prevent damage to new buds.

LOOKING FORWARD

A few pests that we can expect to see activity from in the next few weeks are Elongate Hemlock Scale, Bagworm and Pine Needle Scale. For elongate

hemlock scale, the armored scale pest of Douglas-fir, firs, hemlock and spruce, growers will be monitoring trees for crawler (mobile nymphs) emergence. For bagworm, the case-forming caterpillar pest of any conifer pest, growers will be monitoring for the emergence of tiny larvae from the cases. For pine needle scale, the armored scale pest of pine species, growers will again be monitoring for crawler emergence.

ADDITIONAL RESOURCE

For a list of control options for insect and mite pests, the most recently updated list of Insecticides & Miticides for PA Christmas Tree Pests can be found at the following link:

<http://ento.psu.edu/extension/christmas-trees/publications/2013%20Christmas%20Tree%20Insecticides-Miticides.pdf>.

The next scouting report will be available Thursday, May 21, 2015.