PENNSYLVANIA'S CHRISTMAS TREE SCOUTING REPORT

THURSDAY, APRIL 16, 2015

Weekly newsletter compiled by Sarah Pickel, PA Department of Agriculture. This week's scouting data contributors: Andy Alpaugh (Evergreen Valley Christmas Tree Farm), Jim Fogarty (Halabura Tree Farm), Sarah Pickel, Brian Schildt (PDA), and Cathy Thomas (PDA).

GROWING DEGREE DAY TOTALS, 4/15/15:

LOCATION	GDD TOTAL
Indiana, Indiana Co.*	55.5
Montoursville, Lycoming Co.*	28.5
Mount Joy Twp, Elizabethtown (NE), Lancaster Co.	62.5
New Cumberland, York Co.	52
New Ringgold, Schuylkill Co.	62

** Figure courtesy of www.weather.com.*

WEEVIL TRAPPING

Although **white pine weevils** have been emerging for several weeks now in south central PA, there are areas that just saw their first weevil activity this week. In traps being monitored in Schuylkill County, the first white pine weevils were caught yesterday. In traps in Warren County, NJ, white pine weevils were first caught on Sunday and Pales weevils were just caught today. In other traps monitored in Dauphin, Lancaster and York Counties, weevils continued to be found. The best timing for applying an insecticide for control is within a week of finding weevils in the traps, as white pine weevils can begin laying eggs within a week of emergence. Once eggs are laid inside the leader, larvae will hatch soon after that and begin feeding on the vascular tissue of the leader. If weevils are observed in traps a few days after the first application, growers may want to make a second application 7-10 days after the first.

Figure 1: Pales weevil (top) and White pine weevil (bottom) [S. Pickel, PDA]

When comparing weevils found inside weevil traps, white pine weevils will be about ¼in. and brown with a line of rust and white colored spots crossing the lower portion of the wing covers (elytra). The **Pales weevil** is a larger weevil at ½ inch and is a mottled brown all over. Pales weevils feed on lateral branches of Eastern white pine and Scotch pine, gnawing away at the bark and causing a noticeable flagging of the branches. Because Pales weevils lay their eggs in the fresh stumps of Scotch pines, removal of the Scotch pine stumps or treatment of stumps with an insecticide before the weevils can lay their eggs (7-21 GDD) will prevent further damage.

BALSAM TWIG APHID

A common pest of true firs was observed this week. Stem mothers of balsam twig aphid were active on Canaan fir in York and Dauphin Counties and on Fraser fir in Lebanon County. This hatch typically occurs within the range of 30-100 GDD. These aphids have hatched from the overwintering eggs and will feed on last season's needles. This feeding doesn't cause much damage, but when bud break of firs begins, these stem mothers will give birth to nymphs that will enter the opening buds and begin feeding on the newly expanding needles. This feeding will cause the needles to curl and this damage is not reversible.

Figure 2: Balsam twig aphid stem mother [S. Pickel, PDA]

When scouting for the balsam twig aphid, a hand lens is necessary. The overwintering eggs will be found on the twigs, tucked in at the bases of needles. They will most commonly be found on the outer two inches of growth and on undamaged twigs located next to twigs with damage. The eggs are football shaped and covered in fine silver filaments. The

stem mothers which hatch from these eggs are pale green, wingless and waxy. They often will have a clear bubble of 'honey dew' or excrement at their posterior. If growers are having difficulty finding aphids on the foliage, an easy scouting technique is to hold a paper plate under symptomatic foliage and tap the foliage to dislodge any hatched aphids onto the plate. A hand lens will be helpful to see aphids moving on the plate.

To prevent damage from this pest, growers who have had damage in the past should apply a horticultural oil or insecticide after most of the eggs have hatched, but before bud break.

Eriophyid Mites

In most areas observed in south central PA, Eriophyid mites were active and all eggs were hatched. In Schuylkill County, some unhatched eggs were still found. These tiny mites can be found on spruces, firs, pines and hemlocks. When scouting for this pest, the very tiny round eggs will be found in clusters on the lower portion of the needles, closest to the twig. Narrow, triangular shaped mites will be found roaming the needles. On spruce, both the eggs and mites are peach or salmon colored. On firs and hemlocks, the eggs and mites are white/translucent. Eggs that have hatched are clear.

Figure 3: Rust mites, eggs and cast skins on spruce [S. Pickel, PDA]

Once the majority of eggs hatched, growers who had damage last year or have found a heavy population this year (found on 80% of twigs samples), growers may want to consider treating with horticultural oil or an insecticide. (Warning: using horticultural oil on Colorado blue spruce or Concolor fir can cause the blue color to fade.) If mites are still present after 1-2 weeks, consider making a second application.

Spruce Spider Mites

Growers who have had problems with spruce spider mite in the past on firs or spruces should be scouting now for mites to begin hatching. This typically occurs within a range of 50-121 GDD. So far, mite hatch has not been observed in any of the areas being monitored in south-central PA or Schuylkill County. Spruce spider mite eggs will be found along the stems or at the bases of needles. They will be smooth, round and rusty orange in color. The mites that hatch from these eggs will be found moving along the needles and will start out as bright orange, but their bodies will darken to dark brown as they mature. Damage from spruce spider mites will be found on the interior of the trees foliage. Look for tan or yellow stippling near the base of the needles along the twigs. In heavy infestation, fine webbing will also be observed. Applications of horticultural oil or miticide should not be made until the majority of the eggs have hatched.

Figure 4: Spruce spider mite eggs [S. Gardosik, PDA]

Douglas-fir Needle Midge Trapping

At this time in the season, I would recommend that growers who have had issues with Douglas-fir needle midge, should be putting emergence traps at the base of damaged trees. Douglas-fir bud break is drawing closer and so does emergence of these damaging midges. Adults typically emerge from under the trees during a range of 200-400 GDD. The emergence traps are simply constructed from a box (cardboard or wooden) or a bucket with a clear jar protruding from the side. (For more info on trap construction, visit:

Figure 5: Douglas-fir needle midge emergence trap [S. Gardosik, PDA]

http://extension.psu.edu/pests/ipm/agriculture/christmas-tree/appendixes/insect-traps.pdf). Adults will emerge from the soil into the trap and will be drawn to the sunlight in the jar. Traps should be checked daily as the time of bud break draws near. This emergence typically coincides with Douglas-fir bud break. The adult midges (small orange gnat-like insects) emerge to mate and lay eggs inside the newly opening buds. Growers will want to make an insecticide application at the very beginning of midge emergence or just at the first site of bud break. More information on midge will be found in next week's report.

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, April 23, 2015.