

PENNSYLVANIA'S CHRISTMAS TREE SCOUTING REPORT

2010, Report 4: April 14, 2010

Weekly newsletter compiled by Sarah Pickel, PA
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This week's report includes scouting information from: Jim Fogarty (Halabura Tree Farm), Karen Najda (PDA), Susan Newhart (Arcadia Trees) Brian Schildt (PDA), Linda Signarovitz (scouting consultant) and Cathy Thomas (PDA).

Growing degree day totals as of Tuesday, April 13 were 113.5 in New Ringgold, Schuylkill County, 180 in Elizabethtown, Lancaster County, and 185 GDD in New Cumberland, Cumberland County. As of Monday, April 12, there were 90 GDD in Montrose, Susquehanna County.

Last week, bud break began on Douglas-fir in Cumberland, Schuylkill and York Counties and Rhabdocline needle cast has been sporulating, or releasing infectious spores, this week. This disease will only infect the new growth of Douglas-fir. The needles which were infected last season will be spotted with rusty-orange lesions. [Fig. 1] At the time of bud break, lesions on the underside of the needles will swell and break open to release the spores. To protect this year's new needles, growers should apply a fungicide at the first sign of bud break. A series of three fungicide sprays is recommended to gain control, with the second spray applied one week after the first, and the third spray applied two weeks after the second. If growers are experiencing an extra wet, cool spring, or if Swiss needle cast is also present, a fourth fungicide spray should be applied three weeks after the third application.



Figure 1: Lesions of Rhabdocline needle cast on Douglas-fir [Tracey Olson, PDA]

Swiss needle cast infection causes the needles of Douglas-fir to brown from the tips down. [Fig. 2] On the underside of needles infected with Swiss, there will be rows of tiny black fruiting bodies, which may look like black powder if viewed without a hand lens. For more information on both Swiss and Rhabdocline needle casts, see last week's report, found at PSU's Christmas tree scouting report page:

<http://ento.psu.edu/extension/christmas-trees/scouting-reports>, to find the supplemental Needle Cast fact sheet written by PDA Plant Pathologist, Tracey Olson.



Figure 2: Swiss needle cast on Douglas-fir [Tracey Olson, PDA]

The first Douglas-fir needle midge adults were spotted this week in Cumberland County. As the name suggests, Douglas-fir is the only host of these tiny, orange, fly-like insects, which overwinter as adults in the soil beneath previously infected trees. [Fig. 3] Trees infected last year



Figure 3: Douglas-fir needle midge [USDA Forest Service Archive, USDA Forest Service, Bugwood.org]

will exhibit dropped or broken needles. The insects emerge as Douglas-fir buds begin to break and will soon mate and lay eggs inside the newly expanding buds. Midge can be found flying around and landing on buds. Placing traps underneath previously infected trees may make detection of midge easier. Traps are simply made by putting a

clear jar in the side of a card board box and placing the box on the ground with the open side down. Rocks or bricks placed on the box flaps can serve as weights for the trap. For many areas which are currently experiencing Douglas-fir bud break, now is the time to make insecticide applications. Make a second application in two weeks if midges are still emerging.

In Schuylkill County, spruce needle rust is beginning to sporulate on Colorado blue spruce and Serbian spruce. Yellowed bands surrounding the needles with an orange spot in the middle of the band are a sign of this disease. As spruce bud break approaches, these orange spots, which are the telia or fruiting structures, will swell and rupture the surface of the needles, releasing spores to infect the new needles. [Fig. 4] When sporulation is finished, the previous season's infected needles will be cast. When buds begin to break, it is suggested that growers make a fungicide application and then repeat the application weekly until the needles have hardened off. This could be between 3 and 5 sprays.



Figure 4: Spruce needle rust on Colorado blue spruce [Tracey Olson, PDA]

Starting last week, growers had begun to see Cinara aphids feeding on the bark of pine and fir trees. These large aphids are visible on twigs without the use of a hand lens. They are black or dark brown and may be mistaken for spiders or ticks, although the aphids have six legs, not eight. Hosts include several species of conifer including Eastern white pine, Fraser fir, and Scotch pine. This sucking insect feeds on fluid from the bark tissue. The aphids will secrete a sugary excrement, known as honeydew, which can build up and lead to the development of black sooty mold. In heavier cases, their feeding can lead to stunted growth of the needles. Another problem with this pest is that because they can survive cold temperatures, they may survive until harvest time and will become active when trees are brought into

the warm homes of customers. This pest may be controlled with a single insecticide application if coverage is adequate.



Figure 5: *Cinara* aphids on Eastern white pine [Lacy L. Hyche, Auburn University, Bugwood.org]

Balsam Twig Aphid stem mothers were still active in Schuylkill and York Counties. The time to treat for this needle-feeding pest of true firs is now, before the buds are breaking. When buds break, the second generation nymphs will make their way inside the buds and begin feeding on the needles while protected by the bud coat. Even before the buds begin to break, the second generation nymphs may find protection in the developing cones, which will also make control difficult. One application of an insecticide should be sufficient for control.



Figure 6: Balsam twig aphid nymphs in Fraser fir cone [Sandy Gardosik, PDA]

Spruce Spider Mite and Eriophyid mites continue to feed this week in Cumberland, Dauphin, Schuylkill, and York Counties. It is easiest to control these pests at the start of the growing season before their numbers increase.

Because they have such short life cycles, their populations are capable of exploding rapidly.

The *2010 Insecticides and Miticides for Christmas Tree Pests* is available on the Scouting Report Page on the Penn State Christmas tree Website, found at <http://ento.psu.edu/extension/christmas-trees/scouting-reports>.

The next scouting report will be available April 21, 2010.