PENNSYLVANIA'S CHRISTMAS TREE SCOUTING REPORT

2010, Report 2: March 31, 2010

Weekly newsletter compiled by Sarah Pickel, PA Department of Agriculture.

This week's report includes scouting information from: Jay Bagley (PDA), Jim Fogarty (Halabura Tree Farm), Karen Najda (PDA), Brian Schildt (PDA), Linda Signarovitz (scouting consultant) and Cathy Thomas (PDA).

Growing degree day accumulations as of Tuesday, March 30th were 46.5 in Elizabethtown, Lancaster County, 45.5 in New Cumberland, Cumberland County, and 21.5 in New Ringgold, Schuylkill County.

Eriophyid mites, or rust mites have been hatching on spruce this week in Columbia, Dauphin, Northumberland, and York counties. Rust mite feeding causes the foliage to become washed out or bronzed in color. [Fig. 1] Also, cast mite skins can give the needles a dusty appearance. Heavy infestations will affect tree vigor and may cause needle drop. These tiny, pale, triangular-shaped mites will be found on the most recent growth of spruce or fir. [Fig. 2] They hatch from tan or peach colored eggs found in clusters on the lower portion of needles. To observe mites and eggs, use a hand lens of 16X or greater magnification. Scouting for this pest on a cloudy day will make it easier to find symptomatic trees. When mites have hatched, a registered miticide (products which specify Rust Mites) or horticultural oil can be applied for control. On Colorado blue spruce or other trees with glaucous foliage, horticultural oil will remove the silvery-blue bloom.

Figure 1: Bronzed foliage of Norway Spruce (Right) caused by rust mites [Sandy Gardosik, PDA]

Figure 2: Rust mites on fir foliage [Sandy Gardosik, PDA]

Yesterday, in northern York County, spruce spider mite nymphs were found on Norway spruce. [Fig. 3] This is slightly earlier than the typical date of spruce spider mite hatch, and just below the lower end of their 50 – 121 GDD hatch range (derived from observations in PA). Eggs found this week in Dauphin and Schuylkill counties were still not hatched. Feeding from this red-brown, hairy mite causes yellow stippling at the bases of needles. [Fig. 4] In heavier infestations, foliage may be covered with a gray-white webbing from the silk threads these mites produce. Using a hand lens, look for the mites and the round, red eggs they will hatch from on the undersides of twigs, found on the inner and lower portions of the tree.

Figure 3: Nymph and adult spider mites on fir foliage. [Sandy Gardosik, PDA]

Figure 4: Spruce spider mite feeding damage. [Erick Day, Virginia Tech]

In last week's report, it was mentioned that white pine weevils had been caught in Teddars traps in Schuylkill and York counties. [Fig. 5] There were no reports of weevils found in traps this week. Cold temperatures likely forced the weevils back into the duff (needle litter) underneath trees. The weevils should become active again as air temperatures rise today and throughout the end of the week. Soil temperatures may also dictate when these insects emerge from their overwintering sites. Several years of observation from a grower project in Schuylkill County have found that weevils emerge as soil temperatures, collected with a soil probe inserted 2" into soil at the base of previously infected trees, reach 50°F. If growers have found white pine weevils in Teddars traps or on leaders of host trees, they should consider treating the block of host trees with a registered insecticide, aiming the spray at the top 1/3 of the trees.

Figure 6: Weevils found in the top of a baited Teddars trap. [Rayanne Lehman, PDA]

The first report of balsam twig aphid nymphs came from western Lancaster County on Monday. Silver-black, football shaped eggs found today in Dauphin County were still not hatched. [Fig. 6] The GDD range for the hatch of balsam twig aphid is 30 – 100 GDD. This pest, found only on true firs, causes a twisting or kinking of the needles. [Fig. 7] Eggs wil be found along the underside of twigs at the base of needles. Pale-green, wingless nymphs or stem mothers hatch from the eggs and will begin to feed on the underside of the needles. At the start of bud break, these stem mothers will move toward the buds and give birth to live nymps, which will move inside the buds to feed on the developing needles. To prevent needle damage from occuring, growers must control the stem mothers before they give birth to the nymphs. To achieve control, apply a registered insecticide or horticultural oil after egg hatch, but before bud break. Oil will control the hatched nymphs, but will have limited effect on the eggs, so egg hatch should be close to completion if using oil.

Figure 7: Balsam twig aphid egg [Sandy Gardosik, PDA]

Figure 5: Feeding damage from Balsam twig aphid [Sandy Gardosik, PDA]

Cooley spruce gall adelgids and Eastern spruce gall adelgids are continuing to mature this week. The control period for Eastern spruce gall adelgids in Cumberland and Schuylkill counties has passed, as they are now 100% covered with the protective white, waxy filaments. Cooley spruce gall adelgids on Douglas fir in Schuylkill County are not yet covered with wax, so an application of a registered insecticide or horticultural oil may still achieve effective control. [Fig. 8] In Cumberland County however, the control window is closing, as the Cooleys are starting to develop wax over the tops of their bodies. Colorado blue spruce is the other host of this insect. [Fig. 9] The best time to achieve control for this pest is in the fall after the overwintering nymphs have settled on the twigs and foliage.

Figure 8: Cooley spruce gall adelgid on Douglas fir [Sandy Gardosik, PDA]

Figure 9: Old Cooley spruce gall damage on Colorado blue spruce [Whitney Cranshaw, CSU]

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 7, 2010.