



PENNSYLVANIA'S CHRISTMAS TREE SCOUTING REPORT

FRIDAY, MARCH 31, 2017

Weekly newsletter compiled by Sarah Pickel, PA
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GROWING DEGREE DAY TOTALS FROM 3/31/17:

LOCATION	GDD TOTAL
Elizabethtown, Lancaster Co.	62.5
Indiana, Indiana Co.	74
Montoursville, Lycoming Co.	22
New Cumberland, York Co.	90
New Ringgold, Schuylkill Co.	28.5

* Figures courtesy of www.accuweather.com.

ERIOPHYID MITES

In northern York County, this week and last, hatched Eriophyid mites were found on the foliage



Eriophyid mites and eggs [S. Pickel, PDA]

of Colorado blue spruce. Since the GDD range for the start of egg hatch is 7-22 GDD, it's no surprise to find these mites moving on foliage. These mites are generally referred to as 'cool season mites', with their peak activity taking place in the spring and activity decreasing as the warmer temperatures of summer arrive.

The Eriophyids found on spruces are also called rust mites, and can be found on firs and hemlocks as well. Another type of Eriophyids that can be found now are sheath mites on pine species. When scouting for rust mites, look for twigs that have a rusty or gray discoloration. This damage is caused by the rust mites sucking on the plant fluids. Hatched mites are somewhat cone shaped and will be peach or off-white in color. A hand lens

is needed to see both the mites and the overwintering eggs, which are even smaller and will be clustered together on the undersides of needles, very close to the needle bases. Eggs are salmon colored or off-white. If mites are found on 80% of the twigs sampled, then a control action may be necessary. When most of eggs have hatched (hatched eggs will be transparent) and there is no risk of freezing temperatures, growers can apply a horticultural oil (prior to bud break) or a miticide with rust mites listed on the label. It isn't advisable to apply a horticultural oil to blue spruce because it can affect the blue coloration. For more information on this pest, visit:

<http://extension.psu.edu/pests/ipm/agriculture/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/eriphyid-rust-sheath-mites.pdf>.

MONITORING TOOLS

Many of the pests found on conifers and referred to in this report are very tiny. Spruce spider mite, balsam twig aphid, Elongate hemlock scale and others are all under 2 mm in size. Even tinier than that, the Eriophyid mites are less than 1/4 of a mm.

Because of the small size of conifer pests, a magnification tool of some sort is essential for scouting and evaluating these pest populations.

The simplest to use and most affordable tool is a hand lens or loupe. These can be



Doublet hand lens [Chal Landgren, Oregon State University]

found at numerous online sources, and are available in a variety of magnification levels. The most common is 10x, which is useful for seeing most small insects. I personally prefer to use a 16x hand lens for the slightly stronger magnification, which is useful when looking for extra small life stages such as Eriophyid mite eggs. For scouts who are looking for a clearer observation tool, they may

want to consider purchasing a dissecting microscope. This tool provides higher magnification and is less cumbersome to use than a hand lens in the field. While these are considerably more expensive than a hand lens, they do allow a scout to see more details, such as whether pest life



A dissecting microscope

stages are living or not living, a factor often determined by comparing slight variations of color. A microscope can make this just a little easier. With a little searching on the web, growers may be able to find a simple dissecting scope for under \$200. This is a costly expense, but

better observation of pest populations could make it easier to determine what insecticide applications are necessary or not. Cost savings from elimination of unneeded pesticides could potentially balance out the cost of the microscope.

WHITE PINE WEEVIL MONITORING

White pine weevil traps checked in southern and northern York County and Lancaster County this week were found to be empty, which would indicate that white pine weevils were not yet active in the areas being monitored. Adult weevils typically begin to be active and emerge from overwintering sites starting at a GDD range of 7-58 GDD, or when soil temperatures reach 50°F. As soil and air temperatures continue to warm



Top of white pine weevil trap baited with ethanol and turpentine. [S. Pickel, PDA]

over the next week, these pests should soon be found in traps or on trees.

White pine weevil is a wood boring beetle that kills the main leader (or upper, central branch) of its host trees. The beetle overwinters as an adult in the needle debris at the base of host trees, which are various species of Christmas trees (pines, spruces and Douglas-firs). It is approximately 1/4 inch long and is brown with white and rust colored spots. When they first emerge, they will begin to feed on leaders by making holes in the bark. After about a week or more of feeding at the tops of the trees, the weevils will mate. When eggs are ready, the female make holes in the bark tissue of the leader to lay her eggs. These eggs hatch into larvae inside the leader which will feed on the vascular tissue of the bark and cause the leader to wilt and die.

On farms that have seen previous damage from white pine weevil, growers may want to use emergence traps to determine if or when the weevils will emerge on their farms. Pyramidal traps sold as Whalon Modified Tedder's traps (available from www.greatlakesipm.com) and baited with separate vials of denatured alcohol and turpentine are an effective monitoring tool for white pine weevil. Place traps in susceptible blocks, and next to a tree which was damaged last season. Traps should be checked several times a week. When weevils are caught in the traps, it's recommended to make an insecticide application to the top third of the trees very soon after weevils are found. A second application (made 7-10 days later) may be advisable if weevils continue to be found in traps several days after the first application.

For more information on white pine weevil visit: <http://extension.psu.edu/pests/ipm/agriculture/christmas-tree/pest-fact-sheets/shoot-and-branch-injury/white-pine-weevil.jpg>.

ADDITIONAL RESOURCE

More information on Christmas tree pests and production is available at the PSU Department of Entomology's Christmas tree site: <http://ento.psu.edu/extension/christmas-trees>.

The next scouting report will be available Friday, April 7, 2017.