



# PA CHRISTMAS TREE SCOUTING REPORT

- May 11, 2018

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

## GROWING DEGREE DAY TOTALS FROM 5/10/18:

LOCATION	GDD TOTAL
Elizabethtown, Lancaster Co.	255.5
Indiana, Indiana Co.	192
Montoursville, Lycoming Co.	206
New Cumberland, York Co.	289
New Ringgold, Schuylkill Co.	292

\* Calculation via [www.accuweather.com](http://www.accuweather.com) began March 1.

## DOUGLAS-FIR NEEDLE MIDGE

In northern York County this week, nearly 100% of Douglas-fir were at some stage of bud break. Although



Early Damage



Later Damage

Douglas-fir needle midge were not trapped in that location, farms in that area are past the lower GDD range for that pest to appear. That expected emergence range is 200 – 400 GDD. The midge were found in traps in Schuylkill County at 214 GDD.

Growers who have had damage from this pest in the past, should be making an application when Douglas-fir Needle Midge are first found in traps, or when early Douglas-fir bud break occurs. The damage from this pest occurs when the female midge is able to lay eggs inside the opened buds. Larvae hatch from the eggs and move inside the needles, where they

will feed and grow for the next several months. The needles form galls, or swollen, discolored areas around the feeding larvae. These infected needles

become more noticeable as the season progresses because the swelling increase and the color changes from light green to yellow to brown. At the end of the year, the larvae will chew their way out of the needles and drop to the ground to pupate and overwinter. At that point, the damaged needles are cast from the twigs, leaving bare areas of the trees. One or two insecticide applications timed when the midge adults come out can help to prevent the damage from occurring.

## NEEDLE CASTS OF DOUGLAS-FIR

At this point in Southcentral Pennsylvania, many growers have gotten their first application of fungicide (generally some formulation of chlorothalonil) on their Douglas-fir. The purpose of these applications is to get even layer of

coverage over the newly developing needles that will prevent the spores of needle cast diseases from infecting this needle tissue. Both Rhabdocline and Swiss needle casts are serious diseases of Douglas-fir (the only host). These fungal diseases cannot be cured, only prevented, so



Swiss needle cast [Tracey Olson]

early fungicide coverage is important to avoid needle loss then next season. Growers have been finding that to get complete coverage, an application should be made every 7-10 days for at least 5 applications (Recommendation made by Christmas tree grower and retired PSU extension agent Paul Shealer.) The older recommendations for management of these diseases suggested the following application schedule that was more spread out:

- 1st application at the early signs of bud break
- 2nd application 1 week after 1st
- 3rd application 2 weeks after the 2nd
- 4th application 3 weeks after the 3<sup>rd</sup>.

## SPRUCE NEEDLE RUST & NEEDLE CASTS

This Thursday in northern York County, the yellow bands of spruce needle rust on Serbian spruce were found to be sporulating. This means the orange fruiting structures, or telia, had broken through the surface of the needles. In Schuylkill County, however,

the lesions were swollen and almost ready to sporulate, but were not yet ruptured. This fungal disease also affects Colorado blue spruce. Fruiting



structures on last season's infected needles release spores to infect this season's new growth. The time to apply controls for this disease is when susceptible spruce have begun to break bud. In both York and Schuylkill Counties, bud break on Serbian spruce is just limited to a small percentage of limbs, mostly on the lower parts of

the tree. Bud break of blue spruce is farther along in York County, with at least 50% or more of blue spruce breaking. For farms where this rust has been found, fungicide applications should begin at bud break and be repeated weekly until the needles harden off or until the diseased needles have been cast.

This is also the time to begin treatments for needle cast diseases of spruce – *Rhizosphaera* and *Stigmina*.

Unlike the symptoms of spruce needle rust which are exclusively found on the most recent season's needles, the damage from needle cast diseases is typically found on the lower, interior needles of the blue spruce or white spruce hosts. Infected needles will have tiny black fruiting bodies poking through the rows of stomates of



*Rhizosphaera* needle cast [Paul Bachi, University of Kentucky Research and Education Center, Bugwood.org]

the undersides of the needles (visible with a hand lens) and may turn brown. Fungicide control of these needle diseases should also be applied at the start of bud break with several repeated applications.

## BALSAM TWIG APHIDS



In Dauphin County this week, buds of Fraser fir were swelling and today, the first few buds were breaking. This is a sign that the time to avoid damage from Balsam twig aphid is drawing to a close. Once the aphids are able to move into the opening buds, they will be protected from insecticide applications and their feeding will begin to twist and stunt the needles. An insecticide application made to Fraser, Canaan or

other true fir species before buds break can prevent this damage.