



PENNSYLVANIA'S CHRISTMAS TREE SCOUTING REPORT

WEDNESDAY, MAY 7, 2014

Weekly newsletter compiled by Sarah Pickel, PA Department of Agriculture. This week's scouting data contributors: Jay Bagley (PDA), Jim Fogarty (Halabura Tree Farm), Karen Najda (PDA), Sarah Pickel, and Brian Schildt (PDA).

GROWING DEGREE DAY TOTALS, 5/6/14:

LOCATION	GDD TOTAL
Indiana, Indiana Co.*	104
Montoursville, Lycoming Co.*	101
Mount Joy Twp, Elizabethtown (NE), Lancaster Co.	154
New Cumberland, York Co.	128
New Ringgold, Schuylkill Co.	155.5

* Figure courtesy of www.weather.com.

DOUGLAS-FIR BUD BREAK

Bud break is happening across much of the state.



Figure 1: Bud break of Douglas-fir [B. Schildt, PDA]

In Schuylkill County, some fields 10% of trees have broken bud, but in smaller trees, the percentage is greater than 50%. If the small trees have southern exposure, they were close to 100%. In Lancaster, Lebanon and York Counties, bud break ranged about 50%-

75%. In northern Dauphin County, the rate was a little slower with about 10-20% of trees breaking bud. Many farms have already begun to make fungicide applications for Rhabdocline and Swiss needle cast and insecticide applications for Douglas-fir needle midge.

DOUGLAS-FIR NEEDLE MIDGE

Douglas-fir needle midge adults had been seen flying around buds of Douglas-fir last Friday in Schuylkill County, and today they were found in emergence traps in northern York County. The midge are tiny, yellow-orange fly-like insects

which resemble gnats. They were emerging from overwintering sites underneath previously infected trees. Soon after emergence, they will mate and lay eggs inside the opening buds of Douglas-fir. The midge have a very long, thin ovipositor, so the buds only need to be open a tiny crack for the midge to lay eggs inside the bud. Often growers wait to mix their



Figure 2: Douglas-fir needle midge adult on the tip of an opening bud [S. Gardosik, PDA]

insecticide with their first fungicide application, but in some areas, that could be too late. Growers should be ready to apply an insecticide at the very first sign of midge emergence. One pesticide active ingredient, Acephate, allows for application up to two weeks prior to bud break, so growers who have had a major problem with this pest in past seasons may apply this product before they find midge. For more information on Douglas-fir needle midge, visit:

<http://extension.psu.edu/pests/ipm/program/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/Douglas-fir.pdf/view>

DOUGLAS-FIR NEEDLE CASTS



Figure 3: Swiss needle cast [S. Pickel, PDA]

Because Douglas-fir bud break has begun in many areas of the state, growers have likely begun protecting their foliage from Rhabdocline and Swiss needle casts with a fungicide product (chlorothalonil). In

areas where bud break is just beginning, growers should be ready to start their fungicide series. Traditionally, the recommended schedule of a 1st

spray, followed by a 2nd one week later, followed by a 3rd spray two weeks after the 2nd, followed by a 4th spray three weeks after the 3rd.

However, in the face of the recently more difficult to control Swiss needle cast, grower and former extension agent Paul Shealer recommends a series of 5 sprays beginning when buds break, and following with repeated applications, with 7-10 days between applications. For more information on these diseases, visit:

<http://extension.psu.edu/pests/ipm/program/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/rhabdocline-needle-cast.pdf/view> or <http://extension.psu.edu/pests/ipm/program/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/swiss-needle-cast.pdf/view>

SPRUCE SPIDER MITE

As of last Friday in Columbia County, spruce spider mite eggs had not yet hatched from the red, overwintering eggs. That same Friday in Schuylkill County, spider mites were nearly 100% hatched on Arborvitae. Yesterday in York County, spider mites were nearly 100% hatched on Fraser fir. The preferred hosts of these orange and brown mites are spruces; Fraser, Canaan and



Figure 4: Spruce spider mites [S. Pickel, PDA]

Balsam firs; juniper and arborvitae. Look for these mites on the undersides of twigs with needle browning or yellowing close to the stems. This is the symptom of mite feeding. Another scouting method would be to hold a solid white surface (clipboard, paper plate, etc.) underneath a limb showing symptoms and tap the upper surface with your hand. The mites dislodge and will appear as dark, moving specks on the white surface. If 10 or more mites are found per branch, growers should definitely consider making an application of miticide, insecticide or horticultural oil after the majority of eggs have hatched. (Warning - Horticultural oil could remove the blue bloom from Colorado blue spruce.) For more information on this pest, visit: <http://extension.psu.edu/pests/ipm/program/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/swiss-needle-cast.pdf/view>

[tmas-tree/pest-fact-sheets/needle-discoloration-and-injury/spruce-spider-mite.pdf/view](http://extension.psu.edu/pests/ipm/program/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/spruce-spider-mite.pdf/view).

PINE BARK ADELGID

Underneath the waxy coverings of pine bark adelgids found at the bases of white pine buds in Dauphin, Lancaster, Schuylkill and York Counties eggs were beginning to hatch and the first few nymphs could be found on the candles. By far the most common host is Eastern white pine, but they may be found on Austrian or Scotch pine. The nymphs on the candles had not yet begun to develop wax. The adelgid nymphs that have settled on the candles will eventually develop a protective waxy covering like that found at the base of the candles. In severe infestations, these adelgids can be found clustered along the main trunk of hosts. For growers who have a problem with this pest, an insecticide may be applied when the majority of eggs have hatched, but before the nymphs have waxed over. For more information on this pest, visit:



Figure 5: Pine bark adelgid nymphs on white pine candle [S. Pickel, PDA]

<http://extension.psu.edu/pests/ipm/program/christmas-tree/pest-fact-sheets/shoot-and-branch-injury/pine-bark-adelgid.jpg/view>.

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BALSAM TWIG APHID

In northern York County yesterday, a very small percentage of Canaan fir buds began to break. Concolor fir in Lebanon and York Counties were beginning to break bud. Once the firs break bud, the Balsam twig aphid nymphs will be able to get into those buds and begin feeding on the new needles. This is what causes the needles to twist. Making an application before bud break in fields where stem mothers were found will prevent this damage to the new growth. Control can be achieved with one application of horticultural oil or of a traditional insecticide. For more information, visit:

<http://extension.psu.edu/pests/ipm/program/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/balsam-twig-aphid.pdf/view>.

ERIOPHYID MITES

In Columbia County last week, Eriophyid mites were active on Colorado blue spruce. We have seen 100% hatch on spruces, pines and firs in Dauphin, Lancaster, and York Counties. Once the majority of the mites have hatched, control applications can be applied. Making control applications prior to bud break will deter damage to the new growth. One application of a miticide (which specifies Eriophyid or rust mites on the label), insecticide or horticultural oil could be effective. (Warning - Horticultural oil could remove the blue bloom from Colorado blue spruce.) For more information on this pest, visit: <http://extension.psu.edu/pests/ipm/program/christmas-tree/pest-fact-sheets/needle-discoloration-and-injury/eriophyid-rust-sheath-mites.pdf/view>

HELPFUL RESOURCES

A list of Pennsylvania's registered miticides and insecticides (*2013 Insecticides and Miticides for Christmas Tree Pests*) can be found on Penn State's Christmas Tree Website, <http://ento.psu.edu/extension/christmas-trees>.

The PA IPM Program publication, *Integrated Pest Management for Christmas Tree Production: A Guide for Pennsylvania Growers* is available as a free PDF download at <http://pubs.cas.psu.edu/FreePubs/pdfs/agrs117.pdf>. To purchase this publication (# AGRS-117), call the PSU College of Ag Publications office at 814-865-6713, fax them at 814-863-5560, or send an e-mail to AgPubsDist@psu.edu.

The next scouting report will be available May 14, 2014.