

Pest Update (December 26, 2018)

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Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of dying plants or insects from other states. If you live outside of South Dakota and have a question, instead please send a digital picture of the pest or problem.

Available on the net at:

<http://sdda.sd.gov/conservation-forestry/forest-health/tree-pest-alerts/>

Any treatment recommendations, including those identifying specific pesticides, are for the convenience of the reader. Pesticides mentioned in this publication are generally those that are most commonly available to the public in South Dakota and the inclusion of a product shall not be taken as an endorsement or the exclusion a criticism regarding effectiveness. Please read and follow all label instructions and the label is the final authority for a product's use on a pest or plant. Products requiring a commercial pesticide license are occasionally mentioned if there are limited options available. These products will be identified as such, but it is the reader's responsibility to determine if they can legally apply any products identified in this publication.

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Plant Development

We are finally receiving some cold weather with temperatures dipping into the minus for a day or two this coming weekend. Unfortunately, this is not cold enough for the emerald ash borer. We will need a string of -30°F days to kill them.

Timely Topics

The insect that stole Christmas

We may have a new pest among us thanks to a hitch-hiker on our holiday wreaths. The elongate hemlock scale (*Fiorinia externa*) was found on wreaths and other evergreen decorations sold at Home Depot, Kmart, and Menards in the Twin Cities of Minneapolis-St Paul and neighboring Wisconsin this December.

The scales were attached to wreaths, boughs and arrangements of evergreens in baskets. The source for this material appears to be North Carolina. It has not been found on Christmas trees sold in the region.

The insect was introduced into New York from Asia probably around 1900 and has since spread to much of New England, west to Ohio and south to the Carolinas. The insect has not been found on conifers in the Upper Midwest, just this recent discovery in wreaths.



Adult female scale on needles. Photo credit: Joe Boggs Ohio State University Extension.

The adult scales are about 1/16-inch long and have a light yellow-brown waxy coating. The adult scale does not move so will appear as small bumps on the underside of the needles. The scales do secrete waxy strands, so the underside of the needles may have almost a white, fluffy appearance.

The principal host for this insect is eastern hemlock (*Tsuga canadensis*), a tree that is not reliable hardy to South Dakota and only a few trees are found in the state. However, it will also infest fir (*Abies*) and spruce (*Picea*) and spruce is one of the most common conifers in the state.

The insect overwinters as fertilized adults or eggs (beneath the female shell). The eggs hatch in the spring and the young crawlers, the mobile stage, migrate to new foliage. Once there they will insert their piercing mouthparts into the underside of the needles and begin sucking sap. Excessive loss of sap can reduce the growth and health of the infested trees.

While the insect has not been detected in South Dakota, it has the potential to infest spruce, a very common tree here. Just to be safe, wreaths and other evergreen decorations purchased from chain-stores should not be placed in compost piles or used as mulch. If these materials are infested, the eggs will still hatch this spring and the crawlers move to nearby spruces and firs.

Instead, place any wreaths or evergreen decorations that were purchased from chain stores in bags and dispose in the landfill.

E-samples



Infested limber pine.

This is a e-sample of the pine bark adelgid (*Pineus strobi*) on limber pine (*Pinus flexilis*). The insects overwinter as immature females and, in the spring, produce a thick coat of woolly wax as they mature. The adult female lays about 25 eggs under this woolly mass and after they hatch the young move to a new whorl of branches along the trunk to feed. There are several generations per year and some mature to winged adults which can fly to nearby trees while others become stationary adults on the same tree upon which they developed (insect couch-potatoes).

The adelgids, which resemble aphids, can suck up enough sap that the trees become stunted with a yellow cast to the needles. If not treated, young trees can decline and die. While natural enemies, lady beetles and other insects, are the best control, sometime infestations do require insecticides. The best treatment is a dormant oil as these have little impact on the natural enemies. The horticultural oil should be sprayed in early spring, once the day temperatures are above freezing, to kill the immature females.



Adelgids on trunk.

Samples received/Site visits

Brookings County

What are this pine cones doing on this tree?



Well, they are not pine cones and the tree they are on is a willow. This is the willow pinecone gall and it is the result of feeding by a small fly, a midge (*Rhabdophaga strobiloides*). While the galls do resemble pine cones with closed scales, these are formed from the terminals of willow shoots. The adult midge lays an egg on the expanding tip in the spring and, once hatched, the young larvae begins feeding and the distorted tissue forms around it.

The gall does not harm the willow shrub or tree – think of it as a natural Christmas ornament!

Happy New Year to all!

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