

# Pest Update (January 1-8, 2020)

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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 for the growing season

The days are getting longer and with that hope for spring (which we need during the sub-zero weather we are experiencing). Now I get the question "What will this -15°F plus weather do to our trees and shrubs (and their pests)?"

The short answer is, very little. This may be cold to us, but it is not deadly to our plants or pests. During January is when they have reached their greatest cold tolerance and can survive temperatures within the range of -30 to -40°F. Its

extremely cold weather during the fall as they are acclimating to the cold or spring when they are deacclimating that we see mortality.

## Timely Topics



**Squirrels at work.** Squirrels are busy chewing away on tree branches during these winter days as can be seen in this picture sent in by Rick, one of the SD Department of Agriculture urban foresters. Squirrel damage appears to be worse in eastern South Dakota and adjacent Minnesota then western South Dakota and the most likely culprit is the eastern gray squirrel. This small rodent can strip the bark completely around the branches in a few days. Oftentimes these injured branches will flag in the spring (yellow, wilting leaves) and then die. I have seen these small critters kill mature trees over a few years of feeding.

Why squirrels feed on branches is not known for certain but they do tend to feed most when the sugars are concentrated in the soft inner bark during the winter and spring. They will also chew their way into attics to build nests and between these two activities you can understand why many homeowners consider them a pest.

There is not much that can be done to discourage them from feeding on a specific tree – they seem to prefer some to others, even of the same species. If the tree is isolated from surrounding tree, a metal barrier, the cones often sold to keep squirrels from reaching bird feeders, can prevent squirrels from reaching the branches (but remove in the spring to keep from girdling the stem).

As an interesting trivia point, the eastern gray squirrel, a North American native, is a pest we exported to Great Britain back in the 1870s. There it has become a pest and is responsible for the destruction of oak and beech forests.

## E-samples



Pine needle scale (two species *Chionaspis pinifoliae* and *C. heterophyllae*) also called white scale, is an armored scale, one that forms a hard, waxy covering over their body. The eggs overwinter beneath their dead mom's shell and hatch will occur about the time common lilacs are in bloom. The mobile immature, called crawlers, move out to the new needles, settle down, insert a "beak" into the needle and begin to suck out sap. The crawlers lose their legs and develop a hard shell (at least the females, the males develop wings and fly). The

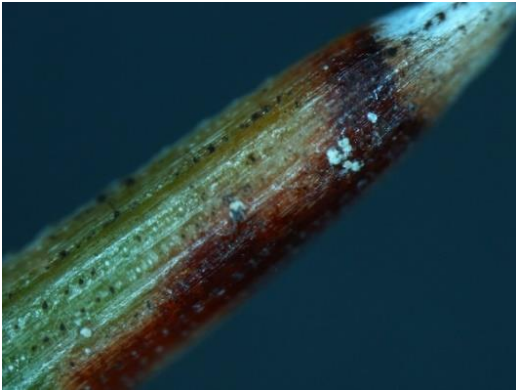
eggs are laid under mom and then she dies. This is completed by mid to late July and we usually see a second generation in late summer.

The female's dried shell remains on the needle for years, so it always looks like a bigger problem than what it really is. The natural enemies of the scale generally keep the scale population in check, so treatments are not always needed. If treatment is necessary use 2% horticultural oil or insecticidal soap as these do not harm to the natural enemies of scales (however, read and follow label directions and precautions carefully as a misapplication can cause needle discoloration. Insecticides containing acephate are also effective, but harm natural enemies. Applications should be made in late May with a second application mid-July.

## Samples received/site visits

Custer County

**Is this dothistroma or diplodia on this ponderosa pine?**



From the December 5-12 *Update* "It may be neither. While these are the two most common foliage or shoot tip diseases of ponderosa pine, they are not the only ones. There were some possible fruiting structures coming from the stomatal bands that we are going to investigate. Further details will be in a future *Update*"

This took a while, but the fruiting structure and spores turned about to be diplodia, not dothistroma. The symptoms with the banding appeared closer to diplodia tip blight rather than dothistroma needle blight, but only diplodia was present in the tissue. This is another good reminder that basing treatment recommendations solely on symptoms can sometimes lead to errors.

Hughes County

**Why are my Austrian pines turning color?**



Several weeks ago, I received several pictures of discolored pine in windbreaks. Needle discoloration is common on Scotch pines at this time of year – they naturally turned a yellowish-green – but not Austrian or ponderosa pine. This picture is a 20-year old grove of Austrian pines outside of Pierre. The note mentions the color changed started in August. This most likely is pine wilt disease. We are seeing more instances of Austrian pine taking two years

to decline from this disease.

We followed up with a site visit and this may be pinewood nematode so samples were collected (increment cores) and we will try to extract any nematodes next week.

The pine wood nematode has four larval stages and reproduces within the sapwood if food is available. The nematodes feed on the living cells surround the resin ducts in the sapwood and as the tree begins to die shift to the blue stain fungi that colonizes the wood with them. If food is limited, the nematode molts into a specialize stage and awaits the presence of the vector, the sawyer beetles (like the zombie stage we all enter while waiting at the gate for a flight). Once the flight arrives, i.e. the sawyer beetle, the larva molts to a dispersal stage to board the emerging beetle (either under the wing covers or trachea). The sawyer beetle adult now flies to a new host and food source.

The extraction method pf sampling works about 2/3's of the time so there can be trees that are infected that the sampling misses. The odds of collecting samples with nematodes improves if the increment cores are taken near the base of the trunk by a whorl of branches. Populations of the nematode are usually higher in the trunk than the branches. The population is also higher later in the season (fall/winter) then earlier (late spring/summer) as the number of nematodes increase as colonize the tree.

The importance of determining whether the discoloration of the Austrian pines is pine wilt is that if these trees are infected with pine wood nematode, they should be cut to ground level and the wood burned to prevent the sawyer beetles from leaving. This action should be done by April 1.



We will report what we find next week from the sampling, but the decline might be due to another agent. The base of the trees had the fabric cut around the bases, but it almost appeared that there was some fabric that was imbedded in the trunks. The ground was too frozen to tell for sure, but fabric girdling is a common killer of young, established conifers, those about 10 to 20 years old.

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