

Pest Update (January 15-22, 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

We had our usually January thaw last week. A time we can all scrap the ice and snow from the driveway, but it looks like cold weather is returning soon!

Timely Topics



I am sure that others are noticing rabbit feeding damage on their trees now that we had this mid-winter thaw. The most common question I am receiving is whether this damage is enough to kill the tree. The general rule-of-thumb is that if more than 2/3s of the bark has been removed from *around* the lower stem, that stem will probably will die later this year as food

produced by the leaves this summer will not reach the roots. Instead, the tree will sucker profusely around the base and become more a shrub than a tree.

If the damage is less than 1/3 the way around, most likely the tree will survive. Note the concern is not how far the damage goes up and down the stem but around the stem. We often experience most of our rabbit damage in March, so it is not too late to protect a tree that has escaped injury so far.

The best protection is a physical barrier, either fencing around the tree or shrubs or if it is just a single stem tree, a tube placed around the tree trunk. You might still have to remove some snow to insert the tube to the base of the stem. Do not remove this winter protection until the grass begins to green and other vegetation is available (such as your garden) for the rabbits. Young tree trunks can be relatively sweet to a rabbit in the spring, just before bud break, so don't remove protection just because the snow is gone. However, once the weather warms and plants begin to grow, the trunk tubes and wrap must be removed to prevent damaging the stems.

The other possibility is to spray the tree or shrub with a rabbit repellent. Repellents can contain predator urine or other sulfurous compounds to cause the rabbit to flee. Ones containing dried blood also strike fear into rabbits and they avoid plants treated with this material.

We also have repellents that work on gastrointestinal distress (give the bunny a tummy ache). These often contain ammonium soaps of fatty acids. The rabbits must eat some of this material before they figure out the stuff is making them sick so expect some damage after their application.

There are also repellents that cause some discomfort when consumed or touched. These are ones that contain capsaicin (the ingredient in hot peppers). Rabbits usually figure out this is not good to eat on the first try.

A recent study found that the best repellents were ones that contain dried blood meal which is traditionally one of the best at deterring bunnies. Repellents

containing putrescent eggs also work due to the sulfur odor (so you might not want to spray plants right next to the house). If you apply either of these products now, expect to reapply in mid-March.

E-samples



I also start getting calls now about the ground being covered with the tips of pine branches. At this time of year, we find squirrels biting the tips off from pine branches, the ground beneath some trees is littered with these tips. The bases of the tips lying on the ground will be cut at a sharp 45-degree angle, the cut a squirrel will make. Squirrels will do this sort of injury to pines from late fall to spring, sometime on the same tree from year to year but other times a tree will only be bothered for a single season. Why they do this no one knows. Squirrels will sometimes damage branches when they are trying to remove the cones, but this activity is not related to cone gathering.

Samples received/site visits

Faulk County
these Scotch pines?

What is causing the discoloration of



warming again.

First, these are not Scotch pines (*Pinus sylvestris*). Instead, they appear to be ponderosa pines (*P. ponderosa*) based on needle length, color and stiffness. We were not able to find any signs or symptoms of insects or pathogens so this may be winter injury. I have seen many pines this winter that were scorched by that cold snap in November. We had a mild and long fall until mid-November when the temperatures dip to near zero before

Hughes County FI2000001

What is wrong with my pine tree?

This is Diplodia tip blight (*Diplodia pinea*), one of the most common diseases affecting mature Austrian (*P. nigra*) and ponderosa pine. The disease is most common on mature pines, those more than 30 years old, and it is near impossible to find an over-mature (60 years plus) Austrian pine without the disease. The disease is equally common on over-mature ponderosa pines in the east side of the state.

The disease was first confirmed in native ponderosa pines in the Black Hills in 1985 (Johnson and others 1985. *Plant Disease* 69:136-137), though the authors

of the publication noted the presence of the disease in 1979. We see this disease throughout the Black Hills now, usually on mature trees or those in stressed locations.



Infection begins through the needle fascicles to the branch and eventually can be found throughout the entire tree. A tree can be infected without presenting any symptoms. These trees will generally “suddenly” present with stunted and wilted needles after a stress episode, either mechanical injury (ice and hail) or environmental (drought).

Treatment of the disease depends on foliage applications of a fungicide containing chlorothalonil, mancozeb or thiphanate-methyl at three periods, 1) as the buds begin to swell in the spring and 2) about 10-days later and 3) repeated in 10 days. These applications reduce new infections but do not manage previous infections so they do not cure the tree but can reduce the symptoms for several years.

Recently there has been interest in trunk injections of a fungicide. Pines do not readily take up products injected into their trunks due to resins. These resins, used as a defense against insects, can prevent products from being absorbed into the sapwood and translocated throughout the tree.

However, a recent study in Michigan (Doccola and others. 2020. *Arboriculture & Urban Forestry* 46:44-50) found that late fall injections are effective (resin production is low then) and injections with propiconazole can significantly reduce infection.

Pennington County

What is wrong with this pine? We

wonder if it is compaction damage.



We cannot rule this out but based on the sample I suspect this may be ponderosa pine needleminer (*Coleotechnite*). The needles had been tunneled through most of their length with a single small, round exit hole in each needle. This needleminer has rarely been reported in South Dakota so will follow up on this with a site visit.

Pennington County

What is wrong with this pine?

This was *Diplodia* tip blight (see information under Hughes County). However, we also found sooty mold on the needles. The most likely cause for the mold was honeydew from a sap-sucking insect. We were not able to find pine tortoise scales (*Tourneyella*) on the sample but suspect this insect is also present on the tree.

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