Pest Update (April 1, 2020)

Vol. 18, no. 8

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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, 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/

Plant development for the growing season

We are continuing our trend into spring as day temperatures stay above freezing and even many evening stay as warm. We are probably still due for a snowstorm or two, but let's hope winter is mostly behind us.

More signs of spring are appearing. I took a picture of a weeping pussy willow shrub (*Salix caprea* 'Kilmarnock') with the silver tufts – like little cat paws – beginning to expand. These furry tufts are covering the male catkins, the flowers, with soft hairs to protect the early blooms from cold temperatures. Once the flowers completely open, the hairs disappear.

Treatments to do now

Tent caterpillars can be treated right now by pruning. Tent caterpillars (there are three different species, eastern, forest and western), are common defoliators of mountainash, cherry, crabapples, apple, and plums. If you look at one of these trees right now you might find these globs of what appears to be molten glass around the twigs. These are the egg mass to the tent caterpillar. If these egg masses are pruned off and destroyed (don't just throw them on the ground, unless the mice eat them the eggs will still hatch) you'll save the tree from defoliation. The new egg masses do look like molten glass, very smooth and shiny. If the egg masses are a gray to white and have lots of holes in them, they are last season's egg masses and not a threat to your tree.

Pine wilt disease is a threat to Austrian and Scotch pines in southern two-thirds of the state. The disease is vectored by sawyer beetles that carry the nematode responsible for the disease from dead, infected trees to healthy ones. The sawyer beetle adults will begin emerging this next week so now is the time to cut down any Austrian or Scotch pine that died last fall. The wood, branches and trunk, should be burned (assume allowed in your county) to destroy the sawyer beetles. The wood should not be stored as firewood as the adults can still emerge from logs. The tree should also be cut flush to the ground.

Timely Topics

What is an ash replacement for windbreaks in the northeast-central part of South Dakota?

Spring also means time for planting and bare-root seedlings will starting going in the ground in a month or so. The question of what to plant is a common one. Everyone knows our reliance on ash as the "go-to" windbreak tree is over. While it will take decades before we lose almost all our ash trees across the state to emerald ash borer (sooner in the southeast, later in the northwest), few are planting this tree anymore.

So what to plant? First, where you live in the state makes a big difference. The trees adapted to Perkins County are not the same ones for Clay county. Equally important is where you live *in* a county. Towns and cities provide a modified climate, they are a little warmer in winter and more sheltered by the wind. There are trees you can grow in communitiesy that do not perform well in the country.

I had a request for a list of windbreak trees for the northeastern part of the state (north of Hwy 14, west of I-29, and east of the Missouri River). Nathan Kafer is an Agroforester with the South Dakota Department of Agriculture and works with landowners and conservation districts on windbreaks. We combined our lists of recommended trees for windbreak plantings in this region. This list is different, and shorter, compared to list for trees to plant in communities. You can grow ginkgo (*Ginkgo biloba*) in Aberdeen and Mobridge, but not likely to have much success with this tree in a windbreak!

Note: This list is for medium and tall trees that may be used as an ash substitute. There are no perfect trees. Each have some issues ranging from chlorosis on alkaline soils with silver maple, to slow growth rate with Ohio buckeye.

Common name	Windbreak suitability group	pH	Drought tolerance
Black cherry	1,3	5-7	Intermediate
Black walnut	1,1K,3	6-8	Intolerant
Boxelder	1,1k,3,5	6-8	Tolerant
Bur oak	1,1K,3,4,5	5-8	Tolerant
Hackberry	1,1K,3,4,5	6-8	Tolerant
Honeylocust	1,1K,3,5	5-8	Tolerant
Japanese elm	1,1K,3,4,5	5-8	Intermediate
Kentucky coffeetree	1,1K,3	5-7.5	Intermediate
Ohio buckeye	1,3,4	5-7.5	Intermediate
Siberian larch	1,3,5	5-7.5	Tolerant
Silver maple	1,3	5-7	Intolerant
Ussarian pear	1,3,5	5-7.5	Intermediate

E-samples

I received a picture of an Austrian pine with a "borer" problem. The tree does not appear very healthy as evident by the canopy thinning. It has lost most of its older needles and that usually points to a problem. I will be following up this week with what this might be. However, the reason for the borer concern was the oval shape holes that form horizonal patterns – like repeated dash lines going across the trunk.

These are not borers, but birds (and I am amazed by how many pine tree owners in the eastern half of our state still believe their tree is infested by mountain pine beetle). The holes are drill holes caused by the yellow-bellied sapsucker (*Sphyrapicus varius*), a woodpecker that drills for sap, not insects. They make two different types of holes. Some are round (and larger) and these are drilled deeper into the wood and may be singular rather than in a pattern, while the oval-rectangular holes are shallow and are spaced around a section of the trunk. The birds lap the sap from these holes.

The sap loss is not enough to harm the tree but the drill holes do provide a potential entry into the tree by harmful fungi. Still the risk is low and the presence of sapsuckers should not be a concern to the tree owner. Regardless, there is little that can be done to discourage the birds from continually drilling into a tree (and some trees are apparently sweeter than others as they keep returning to these). Smearing Tanglefoot in a layer over the highest rows of holes makes a sticky surface the birds do not like to touch with their feet. Shooting is a no-no, not only doesn't the tree injury calls for such an extreme action, the birds are protected by state and federal laws.

Samples received/site visits

Beadle County **Pines turning color last year**

Ponderosa pines turning color was the call for these trees. I drove out to the site and met with the owner (maintaining at least six feet separation and forgoing the customary hand shake and cup of coffee). The first thing I noticed was these were not ponderosa pine (*Pinus ponderosa*), but Austrian pines (*P. nigra*). Ponderosa pine has long (4-9 inches) flexible, green needles that are in clusters of 2's and 3's while Austrian pines have slightly shorter needles (4-6 inches), that are stiff and dark green. They are also only in clusters of 2's.

I inspected several of the trees that the owner noticed had started turning color last year and I also brought needles back to campus. The problem is dothistroma needle blight (*Dothistroma septospora*). Infected needles may initially present only with some dark spots but this is quickly replaced by brown or reddish-brown lesions and then banding. Often the base of the needles will remain green. This is overshadowed by the reddish-brown tips so the entire tree often has a brownish cast. These infected needles will fall prematurely so an infected tree will appear thin.

Dothistroma cannot be cured, but can be managed. Copper or mancozeb fungicides applied as the new growth expands (usually mid-May) and repeated in

late June. Austrian pines should also receive a third application in mid-July if the weather is wet (as the case for the last two years). Treatments should be repeated for at least two years in a row to reduce the infection and allow the tree to retain more needles.

Davison County **What is wrong with the cedars?**

These are eastern redcedars that are discolored above the former snow line, classic symptoms of winter-burn. The branches are soft and flexible and I expect most of these trees will recover. However, on some of the branch tips, just above the melting snow, were felt-like mats. These appear to be mycelium of brown-felt disease (*Herpotrichia juniperi*). This is a fungus that has the ability to grow at near freezing temperatures and can be found just beneath the snow. The fungus is common in the Black Hills on pines. This is the first time I have seen it East River. This is a tentative diagnosis and will follow up with isolating the pathogen.

Hutchinson County **Declining spruce**

I received a e-sample (March 11-18 issue of the *Update*) of a spruce branch that showed discolored needles. I wrote this is probably a soil issue and I had it right. This was a young Colorado blue spruce (*Picea pungens*) that had two problems. First, it had been planted too deep. The first clue was I was able to pull dead branches out of the soil. As discussed in the *Update* earlier this year, planting too deep is not always a tree-killer, at least not a quick one, as trees can linger for a decade or more after being planted improperly.

But combine this with planting in a wet soil and you have a combination that will kill the tree quicker. The lower branches begin to die first. The sump pump hose ended near the base of this tree. While additional water might be a plus during a South Dakota dry summer, the last two years have been wet. Additional water from sump pump hose just added to the decline.

Since this is a young tree it may be possible to dig up and lift the soil ball (ball dug at least a foot radius out from the trunk) and reset the depth to the flare. Moving the outlet to the sump pump is also a good idea.

This publication made possible through a grant from the USDA Forest Service.