

Pest Update (January 29-February 5, 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.

Plant Development.....	1
Timely topic	
Deer, rabbit and vole damage.....	2
E-samples	
A honeylocust and cottonwood – young love but can it last?.....	3
Samples received/site visit	
Hughes County (possible pine wilt).....	4
Lake County (discolored pines).....	5

Plant development for the growing season

We had our usually January thaw and now we are back to winter. The forecast is showing a short period of -20°F followed by temperatures near 40°F – almost shorts weather! I am not too worry about our trees and shrubs being injured by this cold. They have acclimated to mid-winter temperatures this low. The emerald ash borer can also tolerate mid-winter temperatures this low so don't expect the ash problem to go away!

Timely Topics

Killer Kritters from Outer Space

Okay, not outer space but most of South Dakota. This past week I have received calls about deer, rabbit, and vole damage so let's review the problem.

Deer damage



During the winter deer will often yard up, sometimes in large populations, and heavily browse vegetation in the confined area. I had several farmers in the northeastern part of the state call to say deer herds were moving between their corn (which is still standing) and adjacent windbreaks. The favorite woody plants for deer are arborvitae (*Thuja occidentalis*), dogwood (*Cornus*), and maple (*Acer*). They will also feed on soft-needled pines such as white pine (*Pinus strobus*) but I can also see browsing on ponderosa pines (*P. ponderosa*)

when there are limited food choices in the belt. Deer usually avoid spruce but the softer needled Meyer spruce (*Picea meyeri*) seems to be a preferred browse for deer. I have seen small Meyer spruce maintained as beach-ball size shrubs by continual deer browsing (picture to right). Deer tend to tear or break shoots and this separates it from rabbit damage



Rabbit damage



We are also seeing some shrub and small tree rabbit damage this winter. You can find browsing on some of their favorite woody plants; apple (*Malus*), burning bush (*Euonymus*), cotoneaster (*Cotoneaster*), and maple (*Acer*). If they browse off a shoot, rabbits make a clean, angled (almost a 45° angle) bites, rather than tear the tissue. Rabbits also chew at or above the snow line where voles (field mice) feed closer to the soil line. Finally,

the coco-puff size droppings around the plant are another sign the culprit is a bunny!

Vole damage



We are seeing an increase in vole damage on juniper seedlings and saplings in windbreaks across the state. Vole damage can be separated from rabbit both by the position of the gnawing above the ground and the size of the bite marks. Voles have very small teeth and leave small irregular gnaw marks at various angles in the wood whereas rabbits leave wider marks (about 1/4-inch) as they have wider teeth.

Control

Trapping is not effective for rabbits and voles when trying to protect a long windbreak. If the problem is limited to a short length to a belt or a few small trees, bait stations can be used for voles (see last issue of the *Update*). Live trapping rabbits is not always a good option. While it may seem humane to catch and release, no one else wants the rabbit and releasing them in unfamiliar territory will shorten their already short (less than a year) life span.

The best means of managing voles and even rabbits is to modify the habitat by eliminating ground cover. Do not allow grasses and forbs to come up in the fabric slit around the seedlings and mow the strips between the fabric. Eliminate as much hiding cover as possible.

E-samples



As we approach Valentine Day, a picture of two trees embracing. This picture of a honeylocust and a cottonwood was sent by Shane down at Lewis and Clark. While this may appear to be picture of tenderness, it's more a scene of combat (like some marriages) where one is trying to invade the other's space. Inosculation, where two trees of the same species grow together, is a common occurrence and there are famous examples of "husband and wife" (or partner) trees in various parts of the world. But this natural phenomenon does not occur between unrelated species such as honeylocust and cottonwood which do not even share a common family. It's a relationship where one will outgrow and strangle the other. Happy Valentine Day!

Samples received/site visits

Hughes County
January 1-8, 2020 *Update*.

Follow up to the Austrian pines in the



The first issue of the *Update* had pictures of an Austrian pine windbreak where some of the trees had yellowing and browning foliage. We suspected pine wilt, but this might also be a problem with fabric girdling the trunks since we found tight fabric.

Austrian pine does not present the same symptom pattern for pine wilt as Scotch pine. Scotch pines are usually the first to begin declining from the disease and the

nearby Austrian pines do not show symptoms until many of the neighboring Scotch pines are dead. This is most likely due to the preferences of the vector, sawyer beetles, then host capability to tolerant the disease.

However, Austrian pine often decline slower than Scotch pine once they do present symptoms. Scotch pines often begin showing yellowing then wilting foliage in mid-summer and by fall the tree is dead. Austrian pine may have only a limb or two presenting symptoms the first year and the tree dying during the summer of the second year. This is not the pattern on every Austrian pine, some die as quickly as Scotch pine, but we are seeing some linger into the second season.



Since the trees are alive, we only took increment cores to sample for the pine wood nematode (*Bursaphelenchus xylophilus*). The samples were collected from a limb presenting symptoms and near a whorl of limbs on the lower bole. The nematode may not be present throughout the bole or limb so merely taking cores can miss them.

The cores did not show any blue-stain, a color change in the wood due to blue-stain fungi. The nematode feeds on this blue-stain fungus as the tree is declining and we often (but not always) find the nematodes in stained wood. The cores did not have any nematodes.

This does not mean the trees do not have pine wilt, it might just be we missed the nematodes. We are collecting one more time and will report the findings in the *Update*.



I stopped by to look at these trees and there were unrelated problems. First, there were Scotch pines in the row that were presenting yellowish-green needles. The needles were uniformly discolored rather than having just the tip yellowing. This is the normal color change for Scotch pine. The trees will turn yellow during the winter but green up as the temperatures turn warm in the spring. This does not occur with all Scotch pines but is common with seed sources from Siberian and Scandinavian, the sources best adapted to our state.

There were also some discolored ponderosa pines. Most of this discoloration was on the needles near the growing tips and these needles were also stunted. The most likely reason for these symptoms is diplodia tip blight, a fungal disease of shoot tips. There were only a few tips in the lower canopies presenting these symptoms, so it does not appear to be a serious problem.

There were some mature ponderosa pines farther down the row that did not have needles on the branches facing the road. Herbicides can cause needle yellowing and non-seasonal needle drop. I suspect herbicide based on the symptoms and the pattern but only testing can determine whether herbicide is the causal agent. Unfortunately, many herbicides are metabolized quickly, and residue testing done later than 30 days after application may show very low or undetectable levels.



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