

Pest Update (April 26, 2017)

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John Ball, Forest Health Specialist SD Department of Agriculture,
Extension Forester SD Cooperative Extension

Email: john.ball@sdsu.edu

Phone: office 605-688-4737, cell 605-695-2503

Samples sent to: John Ball

Agronomy, Horticulture and Plant Science Department

rm 230, Berg Agricultural Hall, Box 2207A

South Dakota State University

Brookings, SD 57007-0996

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 particular 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 still are warmer than most years but it looks like we are moving back to cool, moist weather (including snow) for the next week or two. Right now the American plum and Ussurian pears are in full bloom. The pears are not looking their best as the unusual warm weather in February followed by sub-zero temperatures in March resulted in some winter-injury.

Treatments to do now



Pine engraver beetle. The warm, dry spring has moved up the emergence of the pine engraver beetle (*Ips pini*). The adults spend the winter beneath the bark of standing or down trees or in the litter beneath the tree. When we start having consistent warm weather (temperatures in the 60°F) the adults begin flying. *This flight usually coincides with the leaves of apple trees beginning to open.*

These adults actually prefer fresh slash (the branches and limbs left on the ground from recently felled trees). If the needles attached to these branches are still green, most likely the beetles will attack the slash and not the standing trees. However, during periods of drought or if slash is not available or has dried out, the beetles may attack stressed trees. Treatment for the pine engraver beetle is a trunk application of an insecticide labeled for bark beetle control. Most of these will contain Carabryl or Permethrin as the active ingredient. The entire tree, from the top of the canopy to the base of the trunk, must be treated when treating for the engraver beetles. A single treatment made soon with coverage over the entire tree is sufficient to manage this insects.



Spruce spider mites become active as silver maple leaves are expanding. Spruce spider mites are cool season mites meaning they are active in the spring and fall, not during the summer heat. The mites will go dormant once the temperatures consistently reach into the mid 80's. While the mites will begin feeding soon, the damage to the needles, bronzing and browning, does not typically show until summer just as the mite populations begin to decline. Treatment options are very limited for homeowners, horticultural oils and insecticidal soaps being the two most common. These are really suppression treatments, not eradication, and the

mite webbing often prevents these pesticides, particularly the soap, from penetrating and reaching the mites.

If soaps or oils are used they should be applied within the next week and then another treatment in 7 to 10 days to kill mites that are hatching later. Be aware of the cautions to using these products, particularly for Colorado spruce, as applications of oils or soaps can result in the loss of blue or silvery color to the foliage. You can make a *blue* spruce, a *green* spruce, very quickly, so read and follow label directions very carefully.

The other common homeowner spider mite treatments have the active ingredient acephate but this kills more than mites and sometimes has limited effectiveness. There are a number of products that provide excellent management of mites and have minimal impact on non-target organisms but these are only commercially available. It is worth the money to have a commercial applicator provide these treatments considering the effectiveness of these products versus those available to homeowners. This is one pest it is far better to pay for a professional than attempt to do it yourself.



Zimmerman pine moth is not just a single insect, but a complex of three different species of closely related insects. The three species found in South Dakota are *Dioryctria ponderosae*, *D. tumicolella* and *D. zimmermani*. The first two are generally found West River, while the last is found only East River. All three insects are easily identified by the masses of reddish pitch created in response to the burrowing activity of the larvae. Typically the pitch masses will

be found near the branch whorls and infested trees will often have broken branches near these pitch masses as well as deformed tree tops. While the damage is the same, the treatment window differs among the three due to different life cycles. ***D. ponderosae* and *D. zimmermani* should be treated with a bark spray during the end of April, in another week or two, and again in mid-August.** *D. ponderosa* is treated the first week of June and again in early July. The most common insecticides for managing this insect contain Permethrin as the active ingredient. The application must be made with sufficient pressure to penetrate the foliage and cover the trunk and branch attachments.

Treatments to do soon



Clearwing ash borer treatment with an insecticide containing permethrin as an active ingredient can begin in a week or two. The bark must be sprayed to protect the tree as the insecticide will kill the adults as they are walking on the bark to lay their eggs. The insecticide will also kill the newly hatched larvae

before they burrow into the wood. Systemic treatments are generally ineffective so injecting a pesticide or pouring one around the soil are not practical means of managing this particular borer. The adults are usually out flying about a week or so after Vanhouttee spireas begin to bloom and the shrub is flowering now. You will know the adults are flying when you see the pupa skins sticking out of the emergent holes on infested trees.



Timely Topics



The problem with pollen. Every spring some unlucky people greet the warm weather with a sneeze rather than a sign of relief that the winter is over. The spring pollen problems are not the same as the summer when 'hayfever' becomes the issue. Hayfever is not related to hay, but ragweed, a common weed that flowers during late summer. This plant and many grasses are responsible for most of the plant pollen problems for people living on the Northern Plains.

What do grasses and ragweed have in common? First they are wind-pollinated. The pollen is light enough that it is easily carried by the wind.

Plants that have colorful flowers that are attractive to bees and other pollinators are rarely a pollen source for allergies. The pollen is too sticky to be carried by the wind; it's designed to be carried by an insect. So unless you are sticking your nose into these flowers, you are not likely to pick up much pollen.

There are lots of plants that are blamed for itchy noses and running eyes that are not a problem. The best known example is lilac (*Syringa*). The flowers on common lilac are very fragrant, but there is a low frequency of sensitive to the

pollen. Lilac, along with privet (*Ligustrum*), are insect-pollinated but not especially attractive to most insect so there is some transfer via wind. The pollen is relative heavy so can only travel a short distance. If a person is sensitive to lilacs, they almost need to be standing in the grove, rather than viewing from a distance.

The most common trees and shrubs that produce pollen that results in an allergic reaction for sensitive people are the wind pollinated plants:

- Ash (*Fraxinus*)
- Birch (*Betula*)
- Boxelder (*Acer negundo*)
- Cottonwood (*Populus deltoides*)
- Juniper (*Juniperus*)
- Oak (*Quercus*)
- Pine (*Pinus*)
- Poplar (*Populus*)
- Silver maple (*Acer saccharinum*)
- Walnut (*Juglans*)

And not all members of these genera or species are a problem. Many of these trees are dioecious, meaning they have either male or female flowers on a tree. Only the males produce pollen so it's the guys that are the problem.

And since we are talking about lilacs....

Mushroom hunting is fun but first know your mushrooms! Morels (*Morchella*) are one reason many folks cannot wait for spring because as soon as the lilacs are in bloom, morels are popping up in the forest. Morels are known as one of the "fool-proof" mushrooms, one that is not easily confused with other fungi. Morels have a unique nutty, meaty flavor that is made even better when cooks with a little butter. Morels are about 2 to 6 inches tall with a cap that fuses over the stem on the upper half or more of the mushroom. The hollow cap has irregular pits and ridges and this is one of the identifying features. The other is the light colored stem that is also hollow. Morel will be in season across much of the state in a week or two and can be found in woodlands, usually near old elm stumps or in prickly-ash patches. However, morels are also known as "mulch mushrooms" as they will sometimes appear the first spring that a shredded wood/bark mulch is put down. Usually they do not appear a second year on the mulch, but it is possible to pick 30 to 60 morels in the landscape beds of a typical home.



An update on sweating nursery stock



Dave Hettick, one of the service foresters with the SD Department of Agriculture brought to my attention that I neglected to mention hackberry last week on the list of trees that benefit from sweating. He is absolutely correct, hackberry sweating is essential for establishment.

Here is a more extensive list of trees identified as requiring sweating in various nursery guides and catalogs. I have broken them down into three categories; essential, beneficial and helpful. While the list below is developed from many sources, the categories are only my opinions based on personal experience over the last 40 years of tree planting.

Sweating is only used for bare-root trees, not container-grown or ball-and-burlapped. Sweating is most valuable during springs when the temperatures stay warm (above 75 to 85°F), the relative humidity is low and the soils are dry. During cool (50°F), humid, cloudy springs almost any tree will establish without sweating. Final note: sweating is not used for any conifer species

Sweating is essential for bud-break and subsequent root development.

- Bur oak
- Common hackberry
- River birch
- Swamp white oak

Sweating is beneficial for bud-break and subsequent root develop, particularly during warm, dry spring weather.

- Birch (other than River)
- Coffeetree
- Corktree
- Elm
- Hawthorn
- Hickory
- Ironwood
- Mulberry
- Oak (other than bur and swamp white)
- Pear
- Redbud
- Serviceberry

Sweating may be helpful in bud-break and root growth during very warm, dry spring weather

Apple
Ash
Chokecherry
Honeylocust
Lilac
Mountainash
Linden

E-samples



American plum identification. I received this picture with the question; what is this thorny plant? American plum (*Prunus americana*) is a native tree and often forms thickets along creeks and draws. The branches and twigs end with a long thorn so these are not pleasant trees to run into; you walk around plum thickets, not through them!

Browning boxwood. Another example of winter-browning can be seen with these pictures sent in of Korean boxwood in the Sioux Falls area. Korean boxwood is a semi-evergreen shrub so its winter foliage is subject to winter desiccation injury.

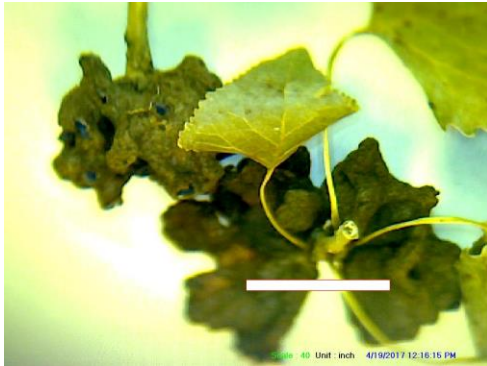


This past February was the perfect combination of weather for desiccation (drying) injury. The weather was warm and sunny and the soils were cold and dry. This resulted in trees drying out. The winter damage is often not as bad as it now appears so I recommend waiting a few weeks before carefully pruning any brown or dead foliage from shoots. There is also a fungal disease called boxwood blight that has not yet

been identified in South Dakota but it presents similar symptoms. The easiest way to separate winter desiccation injury from boxwood blight is to look at the pattern of the injury. Winter desiccation injury appears as browning on the top or front of the plant; a “snowline” cut when the lower portion of the plant was protected by snow. Boxwood blight will have patches of brown tissue appear more randomly around the plant.

Poplar vagabond aphid (*Mordwilkoja vagabunda*). This insect makes an interesting gall at the tip of cottonwoods. The infested tips form a dense and

irregular fan or bladder-like mass in which the aphids live. The galls dry and split in summer releasing the winged adult aphids which migrate to feed on other



hosts. They return in late summer to inhabit old galls and lay their eggs on the tips. The injury does not really harm the tree, really just restricts growth on a few shoots throughout the tree. Removing galls in the winter and destroying them will reduce the population. There is no effective pesticide treatment as the window for killing the aphid in the spring before it forms the sheltering gall it is very narrow.

Sawyer beetle in dead pine. This picture was sent in from the eastern part of the state. The dead trees were being cut for firewood and these insects were found. These are larvae to the sawyer beetle. There are several different species in the genus *Monochamus* that go by the name Sawyer beetle (aka longhorned or roundheaded wood borers). The name sawyer comes from the audible chewing sound the larvae make as they feed in the wood. Sawyers are secondary insects; they colonize declining trees and hasten their death rather than being the cause of decline. These are common insects in dead or dying pines and can even emerge from firewood that is brought into a warm home. Fortunately they cannot survival on or in finished wood so are no threat to the home, though the large adults with the long antennae may be a scary sight!



Samples received/site visits

Turner County

Why are the tips dying on this pine? There is also a lot of sap flowing from the shoots.



This is Diplodia shoot blight caused by the fungal pathogen, *Diplodia sapinea*. The disease is probably the most common problem on mature Austrian and ponderosa pines through the state from Brookings to Custer.

The first symptoms are short dead needles on wilted tips. There is also resin droplets on the stunted foliage. These infected tips can be scattered throughout the entire tree but usually appear first in the lower canopies. The disease also seems more

common in dense, mature plantings. The disease can be managed through the use of fungicides containing propiconazole, copper or chlorothalonil applied just as *the buds are opening* (usually early May) and repeat just before the needles completely emerge and again in 10 days.

Walworth County

Why are these needles turning brown?

This appears to be dothistroma needle blight caused by the fungal pathogen *Dothistroma pini*. This is a common disease of Austrian pine and ponderosa pine. While common, it is also one that is mistaken for a variety of stressor including deicing salt injury. The symptoms can be misleading.



The disease first appears yellow to tan spots on the needles bordered by resin-soaked dark green bands. The tips of these infected needles may turn brown and die, often withering to a thin, gray tip, almost like the tip of a cigarette. The base of the infested needles will remain green. Within a year or two, the infected needles die and are shed. Since pines will often retain their needles for three or more season, the loss of needles after two years leaves the tree more open in

the interior. The most common management is applications of copper-based fungicides as preventative measures. The first application is applied about the time the buds start to open (early May) with a second application about a month later. A third application in mid-July is needed during wet summers.

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