South Dakota State University Extension

Tree Pest Alert

October 7-14, 2026 (bi-weekly for October-March) **Volume 24, Number 34**

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Samples

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Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of 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.

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 listing of a product shall not be taken as an endorsement or the exclusion a criticism regarding effectiveness. Please read and follow all label instructions as 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.

Reviewed by Master Gardeners: Carrie Moore and Dawnee Lebeau

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

Plant development for the growing season

October weather has been typical fall weather – cool to warm with some rain and sunny days. Most of the state has escaped hard frost so the tomatoes are still safe.

The growing degree days (GDD-base 50) accumulation. Is up about 130 to 190 GDDs during the past two weeks. Here are the total GDDs for communities across the state.

Aberdeen	3,033
Beresford	3,637
Chamberlain	3,657
Rapid City	3,298
Sioux Falls	3,621

The crisp sunny weather during October has resulted in some nice fall foliage colors on trees. But It is not a great year for fall color. The drought resulted in some trees dropping their leaves in September. The lack of frost has caused some trees to keep their green leaves.

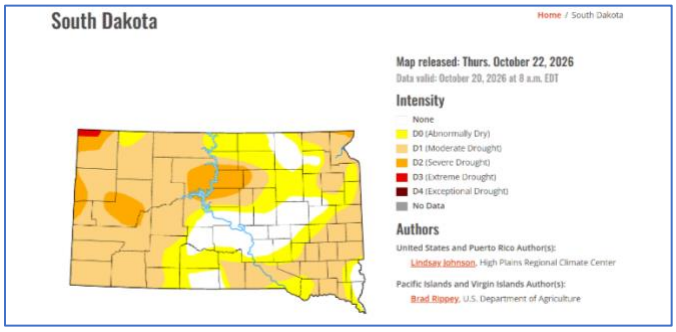
Still, there are ribbons of bright yellow aspens (*Populus tremuloides*) along hillsides in the Black Hills. The Autumn Blaze maples (*Acer* x *freemanii* 'jeffersred') have turned a brilliant red in the Brookings area. While Freeman maples have been overplanted, the fall foliage display can be spectacular.



Drought monitor

The precipitation we have received during the past two weeks has not made much of a dent in the drought. We have about 16% of the state as drought-free, not much of a change from late September. The area under extreme drought is still less than 1%. About three quarters of the state is classified as either “Abnormally Dry” or “Moderate Drought.”

Here is the current map from the National Drought Mitigation Center at the University of Nebraska-Lincoln.



Treatments to Start Soon

Wrapping tree trunks for the winter

As the temperatures cool next week, it may be time to start wrapping young thin-barked trees, such as maples, to protect them from animals. Rabbits and voles like to chew on the tender bark and a barrier can reduce or prevent this injury.



Better than wrapping the trunk is placing a drain tile around the trunk (slit the tube and then fit around the trunk). There should be an air gap between the trunk and the tile. The tile should be flush with the soil and extend four or five feet high. Not only will this tile protect the trunk from browsing, but it can also protect young maples from “southwest disease.”

This disorder is common among young trees with smooth bark, i.e., Freeman, red and silver maples, as they have fewer cork cells which provide the insulations. The mature tree bark is thicker and has more cork than young trees. The thicker bark protects the trunk from rapid temperature changes.

The name southwest disease comes from the occurrence of bark cracks or splits mostly on the southwest side of the tree. The winter sun, which is lower on the horizon, causes the bark to warm above the surrounding air temperatures. But once the sun sets, the bark temperature can rapidly drop to the air temperature and the change from the exterior to the interior of the bark can cause it to split.

Timely Topics

Emerald ash borer update

We are beginning to see more 4th instar larvae within the sampled branches but there are still a few 3rd instars present (picture). All are still feeding. I have not seen any EAB larvae burrowing into the outer sapwood to their overwinter chamber.



Boxelder bugs are bouncing off windows

The warm, sunny weather has really brought out the swarms of boxelder bugs (*Boisea trivittatus*). The adults are about 1/2-inch long, black with orange to red markings and three yellow stripes just beneath their head. The wings are folded over the back and form an X.

These insects can become a nuisance in the fall as they try to enter homes and buildings to find a warm place to spend the winter – think of them as unwanted relatives. Once in a home the only effective treatment is the same for unwanted relatives – physical removal.

Some years we see very few boxelder bugs and other years – such as this year – they are swarming over the south sides of homes on warm, sunny days. They are

most abundant during years with hot, dry summers which describe this past season.



While they feed on the boxelder seeds, you do not need a seed-bearing boxelder in the yard to have beetles during the fall. They can fly throughout the neighborhood in their search for a winter home.

Spotted lanternfly – not here (yet)

I had the opportunity to see spotted lanternfly (*Lycorma delicatula*) during a recent trip to New York. The adults are still flying in large numbers. They are not flies or moths, but plant hoppers. The adults are about one inch long and a half inch wide with a dark head, gray-brown forewings with black dots and crimson hind wings with a yellow banded abdomen – they look pretty.



One is pretty, a million is a mess. That is the problem with spotted lanternflies, they mass in large number. Adults can cover the trunks of trees or even buildings. You step on them everywhere. They are annoying.

Spotted lanternflies injury woody plants by sucking the sap but it is usually in quantities that do not harm the host. The honeydew the insect excretes as they feed is also an annoyance. The fluid drips down from the trees covering everything below with a thin sticky film.

The overwintering stage is the eggs. These cluster on trunks and other vertical surfaces such as wood beams, vehicles, and outdoor furniture. Any eggs masses on trees that look like this should be reported.

This Chinese insect was first found in Pennsylvania in 2014. It is now found as far west as Chicago. It will eventually reach South Dakota. The southern half of the state – south of I-90 – has a suitable climate and preferred host trees such as tree-of-heaven (*Ailanthus altissima*).

E-samples

Dryad saddle fungus on oak

This is a picture of the bracket-shaped caps of a fungus growing out of a oak tree. These are the fruiting bodies, sometimes called conks, of a tree heart rot fungus called Dryad's Saddle mushrooms (*Cerioporus*). These conks are shelf-like, about two to eight inches wide. They have concentric brown fibrous on the upper surface. There are no gills on the underside but instead they are white with a network of pores. The fresh conks smell like watermelon rinds.



The fungus enters the tree through a wound that exposes the wood. Bark, much like skin for us, protects the tree from infection. Once the spores enter the wood they germinate. The expanding strands of the fungus break down the wood causing decay.

The bracket-shaped fruiting bodies are most seen from May to August, but they can be found in October.

Normal fall color changes in pine

The concern was that the yellowing needles in this pine were due to a disease. But it is not a disease but a normal process in pines. Evergreen does not mean forever green. Pines shed their third year needles every fall. The picture at the top of the next page is of a young Scotch pine (Pinus sylvestris) presenting the color change to the older needles. The bright yellow is a contrast to the younger bluish-green needles.



If the weather is sunny and warm – as we have experiences during the past two weeks – the needles will turn a bright yellow before falling. The color change can be alarming, but it is normal.

Bunny damage on Hot Wings Tatarian maple

They knew what girdled the tree last winter - bunnies. The question was whether the tree could recover. The odds are not too good for recovery.



The tree is young so given a decade or longer this wound will be enclosed. But the wound will always be there. Trees do not heal, they seal. The decay can also expand outward.

Considering the tree is young, it may be best just to remove the tree and plant a new one. But this time remember to wrap or tube the trunk during the winter to keep the bunnies from chewing on the bark. .

Samples received/Site visits

Minnehaha County, Discolored arborvitae – normal fall color chance

The scale-like foliage in arborvitae (*Thuja occidentalis*) is turning yellow in ribbons through these evergreen trees and shrubs. This can be alarming for those unaware of this normal fall phenomenon.



While all evergreens have their oldest foliage turn color and shed each fall, the pattern on arborvitae appears different. Pines and spruce have their oldest foliage turn color and fall so it is in the interior of the plant. While the oldest foliage on arborvitae also turns yellow, the fanlike spray of foliage makes it appear as ribbons of yellow rather than just the interior foliage.

Roberts County, Phomopsis galls on bur oak

Galls on bur oak usually means a small cynipid wasp has been at work. Horned oak gall, oak-apple gall, and

many others are a result of the feeding by the larvae of these insects.

But not all galls are due to insects, some are due to a fungal infection. These woody galls are one of them. They are caused by *Phomopsis*, a fungus infection.



The fungus enters the tree through small wounds. The infection results in abnormal, woody swelling on the branches. The gall surface is rougher than those caused by the wasps.

The active Phomposis galls are green to brown, while the inactive galls are black. Regardless of active or inactive, the galls cause little harm to their host.

Yankton County, Powdery mildew on Chinese lilac

Powdery mildew (*Erysiphe syringae*) always appears on lilac. It does not matter if the weather is dry or wet. This is an unusual disease in that mildew does not require wet weather for infection. What it needs is hot, humid weather and we have had plenty of that this past summer.



The disease is characterized by a powdery, almost cloudy, appearance to the leaf surface. Sometimes you can find small black dots in this powder, and these are the cleistothecium (fruiting structures) for the fungi.

There are many different species of powdery mildew fungi, almost one hundred, and they cover several different genera of host plants. These fungi are very specialized and usually a powdery mildew species is limited to a specific plant genus. The one that infects lilacs is different from the ones that infect ninebarks or snowberries.

The simplest management of powdery mildew is to alter the growing environment, making it less favorable for the development of the disease. This requires pruning to open planting beds to decrease night humidity and improve air flow. Fungicides that contain chlorothalonil or propiconazole may be used to manage the disease but are best applied before the problem appears.

There is also a difference in susceptibility among lilac species. Chinese lilac (*Syringa* x *chinensis*) is one of the most susceptible, so I see it on this species every year. Miss Kim lilac (*Syringa pubescens* subsp. *patula* 'Miss Kim') is one of the least. The Sensation common lilac (*Syringa vuglaris* 'Sensation') is also rarely affected by the disease though most other common lilac cultivars are susceptible to mildew.