



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

Tree Pest Alert



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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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Plant development for the growing season

We had a scorcher of a weekend with temperatures in the triple digits in much of the state. The humidity was in the 80s, which was the perfect combination to find an excuse to stay inside. Fortunately, much of the week was cooler with temperatures in the 70s more common.

The GDD increased by another 160 or more during the past week. Here is the current GDD accumulation for communities across the state.

Aberdeen	1710
Beresford	2091
Chamberlain	2053
Rapid City	1650
Sioux Falls	2057

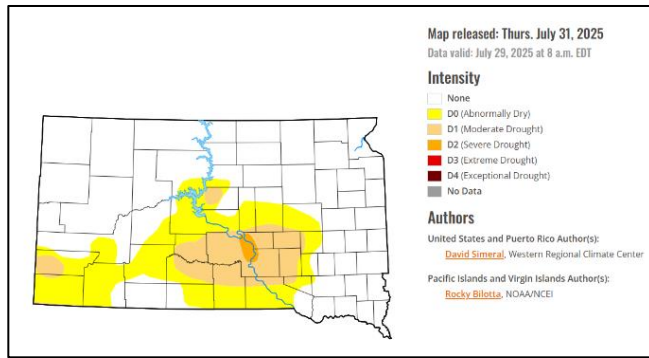
The weather during the past week generated many thunderstorms and a few tornadoes. The southeastern part of the state was impacted the most with fallen trees littering some communities.



Drought monitoring

The rain has been continuing during the past week. Now almost 70 percent of the state is drought free. Another 2 percent of the state is classified as 'Abnormally Dry.' About 10 percent of South Dakota is classified as 'Moderate Drought' and less than 1 percent of the state, a small stretch of the river between Lyman and Buffalo-Brulé Counties classified as 'Severe Drought.'

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



Treatments to Continue

Apple maggot

This small fly continues to emerge from the soil. The peak emergence is between 1,400 and 1,700 GDD so we are at or just beyond this peak throughout the state. Treatments for this pest should be continuing. See the June 18th issue of *Tree Pest Alert* for treatment options.

Timely Topics

Emerald ash borer updates

Emerald ash borers (EABs) that are burrowing through the inner bark of ash trees are mostly in their 3rd instar (molt). They will be winding serpentine galleries just beneath the bark for another month before becoming the fourth and final larval instar.

Dog day cicadas are buzzing in tree tops

Cicadas are buzzing in the trees across South Dakota. I am sure there are some that will disagree, but I like the sound of cicadas synchronizing their shrill buzzes on a warm summer evening. This is an insect more often heard than seen so some folks are surprised to find large (usually dead) stout bodied insects lying on their sidewalk or driveway in the morning.



These are the annual or 'dog-day' cicadas (*Neotribicen canicularis*). The adults become a little more than 2-inches long, usually with a brown to gray body and clear

wings that fold over the abdomen like a tent. These are different from the periodical cicadas (*Magiciada*) that emerge every 13 or 17 years. Dog-day cicadas emerge from the ground every summer and spend the months of July and August buzzing away in trees (it is the males that are making all that noise).

While some annual cicadas emerge from the soil every year, the life cycle of an individual can take several years or more. The adults lay eggs in slits made in the twigs of trees, maples and cottonwoods being some of their favorites. This is usually not harmful to the tree, but some young trees can have a substantial number of slit twigs break off.

Once the eggs hatch the nymph drops to the soil to spend the next several years feeding on tree roots. Eventually the nymph crawls out of the soil and climbs a tree to molt forming an adult. The 'cast skin' from this molt often remains hanging from the trunks and lower branches of trees.

E-samples

Bird's nest fungus

The name bird's nest fungus comes from the resemblance of small eggs in a bird's nest. This is a group of fungi (Gasteromycetes) that feed decomposing organic matter in the soil.



These cup-like fruiting structures (with the spore-containing 'eggs') were coming up on the soil where a tree was standing last year. Old rotting tree roots are an excellent source of organic matter and can feed the fungus for years to come.

Premature fall foliage color on maples



Pictures are coming in of maples with reddish leaves. Sometimes it is the entire trees but other trees where the color is restricted to a few branches. So far, all these trees have sunscald injury on the southwestern side of the trunk. The cracking and drying on this side of the trunk is believed to be from the winter sun warming the thin bark of young maples stimulating cell activity which is killed when the bark temperature drops at sun set.



This may be causing the premature fall foliage color as this is a general stress response in maple trees.

Leaf spot on lilac

Leaf spot diseases, pseudocercospora and septoria among others, caused discoloration and defoliation of common lilac in a few spots in the southeast part of the state during late summer. The disease requires warm, humid conditions to flourish, and much of the state has been wet and humid this year.



The symptoms of these fungal diseases differ from bacterial blight in that only the foliage is affected. Usually, lilacs infected with the bacterial blight will present with blackened shoots that curl at the tip. The leaf symptoms also differ. Bacterial blight causes the leaves to wilt and blacken, while leaf spot disease presents as brown spots starting at the margins and progressing to blotches.

These leaf spot diseases are not a threat to otherwise healthy shrubs. Lilacs can withstand a year of defoliation, so no control is always necessary. If the lilacs were affected last year and this year, a fungicide application of Chlorothalonil (labeled for this use) can be made just as the leaves are opening next spring to reduce the severity of the disease.

Samples received/Site visits

Aurora County, Dogwood sawfly

This is a dogwood (*Cornus*) with some leaf chewer injury (which is going to get worse if they do not treat). The agent is the dogwood sawfly (*Macremphytus*). This is a complex of three different species, but they are similar in appearance and life cycles.



The larvae look like caterpillars but do not become butterflies and moths. They become wasps. The adult wasps are not a concern to us as they do not sting. Instead, they use their ovipositor to saw small slits in the leaf veins to lay eggs.

Once the eggs hatch the larvae feed through a leaf right down to the veins before moving to the next leaf. They can reduce the foliage in a dogwood shrub to lace over a week or two. Treatment is when the larvae are first beginning to feed. They are still small enough to be treated. The treatment is an application of an insecticide containing Carbaryl when the larvae are first noticed on the shrubs.



The larvae go through color changes as they develop. In the first stage they are amber and almost transparent. This is the stage we find now. The second stage they are covered with a white powder – like a donut. The third, and final, stage the larvae are creamy yellow with black patches. This stage will overwinter in the soil, usually in rotted wood such as old landscape timbers if near the dogwoods.

Brown County, Leaf galls on bur oak

This is in a bur oak leaf with a gall formed by the feeding of a cynipid wasp (*Callirhytis flavipes*). The irregular spindle-shaped green galls form along the midvein of the leaves. The galls do not harm the tree as most leaves will not be affected.



The problem with this wasp is the overwintering generation lives and feeds in the twigs of the oak. These also do not cause serious harm to the host, but the tiny wasp larvae are food for the downy woodpecker. The mechanic injury to the branches by the drilling of the woodpecker causes extensive branch dieback in infested trees.

Davison County, Dog vomit fungus

'Dog Vomit' fungus (*Fuligo septica*) is beginning to show up in mulch beds. Despite the name, it is not a fungus but a slime mold. However, the 'vomit' part of the name is very descriptive. It does look like Fido coughed up his dinner all over the mulch bed.



The mold shows up every year, usually in early July, when the temperatures and humidity are high. The mold forms in fresh mulch so most of the calls come in on mulches that have been placed this last spring or fall. The only control is to break up the mass with a rake to dry it out – it rarely reappears unless you add fresh mulch.

Do not spray water to break it up, this just allows the swimming spores to disperse easier. The best management is to just leave it alone. It will dry out and degrade on its own.

Lake County, Tree tubes done right

This stop was to look at some minor tree problem – more a check up as the producer was taking care of the trees. I was impressed by the tubing. All the trees still had their tubes in place – as they should be.

Removing the tubes just as the tree becomes taller than the tube will result in floppy trees. The trunk has not been swaying since the leaves are also in the tube. Swaying is what strengthens the trunk. If the trees remain in the tubes until the canopies are above and the trees can sway with the wind– this makes for a strong trunk.

The tubes can be removed from these trees next spring.



Minnehaha County, Aspen serpentine leafminer

This stop was not to address a concern but just a question. The question was why are the cottonwood leaves fill with these winding lines?



This is the work of the larvae of the aspen serpentine leafminer (*Phyllocnistis populiella*). The tunnels separate the upper and lower layers of the leaf, so the windings appear silvery with a black line (the tunnel) running through the center.

This was only affecting a few leaves so no concern to the tree.

Roberts County, Oak rosette gall

This leafy gall is formed by one of the *Andricus* wasp species. There are several that form this type of galls but on different oak hosts. The developing larvae causes oak buds in the spring to produce a dense thicket of tiny leaves. The galls will remain attached to the shoots all summer and winter (with the developing insect inside). The wasp pupates in the gall come spring and emerge as an adult.

The galls do not harm the tree, always plenty of normal leaves on the host. It is just a curiosity,



Roberts County, Oak flake gall on bur oak

This is something we do not see every year in the *Pest Alert*. This is the oak flake gall created by a tiny wasp (*Neuroterus quercusverrucarum*). The small, white, fuzzy galls form on the underside of the leaves during the spring. Each is a home to a single wasp larva.



The galls turn brown in late summer. Light green blister-like bumps also appear on the upper surface of the leaves, opposite the white galls. Infestations can result in distorted leaves by September, but this is the extent of the injury. They do not harm the tree. No treatment is necessary.