South Dakota State University Extension

Tree Pest Alert

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In This Issue

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

This past week's weather was warm to hot with a little humidity added in to make us wish for crisp, cool fall weather. It looks like we may see more fall-like weather in the week to come.

The growing degree days (GDD-base 50) accumulation was another 160 to 180 GDDs during the past week. Here are the total GDDs for communities across the state.

Aberdeen	2,651
Beresford	3,151
Chamberlain	3,188
Rapid City	2,876
Sioux Falls	3,144

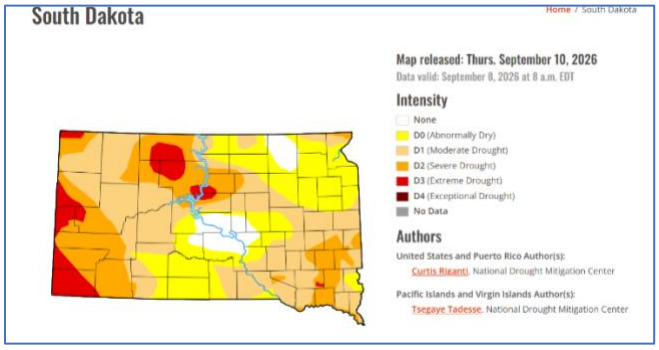
Wild plums (*Prunus americana*) started ripening back in August but there is still plenty of fruit hanging from the branches. The best time to pick fruit is just before it falls. The fruit is so ripe by this time of year that the slightest touch of a branch will result in the fruit falling.

While wild plum can be sour, the sweetest fruit is harvested now. But let the fruit ripen on the tree. If the fruit is pulled from the twig, it is not ready to pick. If it is so ripe it falls into your hand at a touch, you will be rewarded with a sweet, juicy plum.

Drought monitor

Only about 5% of the state is classified as drought free. The percentage of the state classified as drought-free has continued to shrink. It is down to Brown County and a donut hole in the center of the state – Stanley, Hughes, Lyman, Jones, Buffalo and Hyde counties.

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



Treatments to Start Now

Water

While we have seen some good rains recently in South Dakota, many are just dotting the landscape. One location will receive an inch but a half mile away nothing.

Water now is critical for winter survival of trees. Maples and birch are vulnerable to winter desiccation injury if they do not receive adequate water between August and October. Evergreens are prone to winter-burn if they do not receive water during this period.

Ideally trees receive an inch of precipitation a week during this period. Supplemental watering at once a week will be necessary in many areas of the state.

Timely Topics

Emerald ash borer update

The long, powder-filled galleries of emerald ash borers are visible beneath the bark of infested trees. There will be a flat cream-colored larva with bell-shaped segments at the end of these winding tunnels. Most of these EAB larvae are little less than inch long. These are the 3rd instars, the dominant stage of larva in mid-September.

There are a few 4th instar larvae present now. These are about 1 ¼ inch long. They are the final larval stage. These larvae feed until mid-October when they begin to burrow in the sapwood to survive the winter.

E-samples

Bark breaking away from the trunk after windstorm

We have been experiencing the usual summer storms. The high winds caused branches and tree failure. Some damaged trees are still standing but might need to be removed. This is one of them.

After a recent storm, the tree owner noticed the bark breaking off along one side of the trunk. The bark is falling away as the cambium beneath the trunk has died. How much of the wood is decayed beneath the strip cannot be determined from the pictures.

If the decay is significant, both in width and length along the trunk, the tree should be removed. This determination is best performed by an arborist.

Hackberry defoliation

This is a picture sent in of a row of hackberries (*Celtis occidentalis*) in a windbreak. The tree leaves were skeletonized – the soft leaf tissue eaten but not the veins. The question was what insect did this damage.

There are many insects that skeletonize tree leaves. One that does not cause this damage to hackberry is the Japanese beetle (see site visit for Yankton County in this issue). But our native June bugs (*Phyllophaga*) do, but I rarely see this extensive defoliation by this insect.

This may not even be due to an insect. Hackberry tatters are a common disorder in hackberries. The leaves open with a lacy appearance as the damage occurs at the bud stage.

The reason for the tattered appearance is not clearly known. The two most common suspects are herbicide drift and late winter cold injury. These two abiotic stressors can cause damage to the buds, so the leaves unfurl with holes and tatters.

This disorder seems to be more common cause considering the late winter extreme temperature fluctuations which we experienced this past winter. Also, the affected leaves are the lower leaves, the ones the expanded from the overwintering buds. The newer leaves – which formed this summer – are not affected.

Spruce gall midge

This is the spruce gall midge (*Mayetiola piceae*), a small insect that lives in the tips of spruce branches. The infested tips become swollen, often resembling miniature corn smut, and once the adults emerge the galls have numerous holes.

The problem is more common on white spruce aka Black Hills spruce (*Picea glauca*) than Colorado (blue) spruce (*Picea pungens*) but rarely covers every shoot on a tree or causes serious harm. Individual shoots, however, may die or exhibit unusual growth. There is no management other than pruning out the galls in the winter and destroying them to kill the enclosed adults.

Samples received/Site visits

Codington County, Dogwood sawfly

The first sign of the dogwood sawfly (*Macremphytus*) is notching on the lower foliage of a redosier dogwood (*Cornus sericea*). Most of the larvae are on the underside of the leaves. If a cane with notched leave is raised, the creamy white larvae with mottled black markings may be seen.

Larvae can be found up to about 3,000 GDD so they are just about done feeding. The larvae will soon be dropping to the ground to find a place to pupate for the winter. Unfortunately, they like to create a pupa chamber in logs or landscape timbers so they may bore a little into the wood.

Since the larvae are almost finished feeding there is not much value in spraying. However, next year if the larvae are noticed on the same plants (and they do not always appear on the same plant from year to year) in August, spraying with an insecticide containing carbaryl or malathion as the active ingredient and labelled for this

use will eliminate most of the insects before they do much damage.

Davidson County, Curled leaves at the tips of birchleaf spirea

This was a row of birchleaf spirea (*Spiraea betulifolia*) that had curled leaves on almost every tip – almost like sticks of cotton candy. If you peel back the curled leaves from a twig there is a lot of fine white webbing but it's not a treat but a problem. The webbing was the work of the fruittree leaf roller (*Archips argyospila*).

The fruittree leaf roller infests a wide range of hosts from ash to willow but seems to really like birchleaf spirea. The insect gets its name from the larval habit of feeding inside a protective shelter of rolled up leaves that are webbed together. If the webbing was peeled open back in the spring, there would have been a 1/2-inch greenish larva with a brown head.

It is gone now. The adult moths fly during the summer and have laid tiny overlapping rows of eggs on the twigs. These will hatch next spring at about 300 GDD as the leaves open.

Treating this insect on spirea is difficult as the larvae are protected by the webbed foliage. The plants must be sprayed with insecticide just as the insects are noticed. If the treatment is delayed, the insects will be protected by the leaves rolled around them. Systemic insecticides should not be used as they can be absorbed by the late spring flowers and kill pollinators.

Moody County, Bottlebrush appearance to mugo pine branches

This was a nice row of Tannenbaum mugo pines (*Pinus mugo* 'Tannenbaum'). This is a beautiful, small (8-feet) pine with a symmetrical, upright pyramidal shape – they look like a row of small Christmas trees. But the shoots had tufts of needles, rather than needles along the entire length.

This type of growth is usually in response to a stress – drought in this instance. The tree produces dense tufts of foliage. The gaps between the clusters of needles were where the cones formed. This were either the soft, spongy male cones that appear for a short time in the spring to release pollen, or the woody female cones that hold the seeds.

Turner County, Powdery mildew on Little Devil ninebark

Litte Devil ninebarks (*Physocarpus opulifolius* 'Donna May') have become popular shrubs. This small (3 to 4 feet) shrub has fine, burgundy foliage. It is also a tough plant, adapted to our soil and climate.

Unfortunately, this cultivar as well as many other dark-leaf ninebarks can become infected with powdery mildew (*Podosphaera physocarpi*). This fungal disease lives on the surface of the leaves and causes the infected leaves to have a whitish surface. This is very noticeable contrast to the dark leaves.

The infected leaves may become curled. Little Devil ninebark mildew infections are restricted to a few scattered shoots on a shrub. It does not occur throughout the plant. I have not seen severe infections that can lead to shoot dieback.

The disease requires high humidity but a dry leaf surface. The perfect environment is a dense planting of ninebark in the shade of a dense tree canopy. Ninebarks planted in sunny locations with spacing between adjacent plants rarely suffer from the disease.

The small size of Little Devil ninebark makes it easy to keep a little separation between plants. The burgundy color leaves also stand out best in sun.

Yankton County, Japanese beetle defoliation of paper birch

Japanese beetles (*Popillia japonica*) are now common insects in the southern half of the state. The adults are about 1/3 to 1/2 inch long, with copper-brown wing covers that shine in sunlight. There are also five white patches of hair on the side of the abdomen, just below the wing covers.

The adults feed on the leaves and flowers of many plants. Roses are their favorite – especially the flower petals – but hydrangea (*Hydrangea*), birch (*Betula*) and lindens (*Tilia*) are common woody plant hosts. The feeding rarely kills the host; the adult beetles are like kids that will not eat the crust on bread – they avoid the tough veins - but the lace-like pattern on the leaves is unsightly.

The adult Japanese beetles are gone now – they live most of their life as grubs feeding on grass roots. But the leaf damage remains. This paper birch (*Betula papyrifera*) was covered with lacy leaves. While no Japanese beetles were present, they are the most common birch defoliator to cause this type of leaf damage.

Trees, such as this birch, can be treated next summer when the adults first appear. Birch is wind-pollinated so the risk of insecticidal foliage sprays or soil drench applications to pollinators is low. Products containing cyfluthrin, lambda cyhalothrin or permethrin as active ingredients and labelled for this use can provide several weeks of control.