



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 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 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 are in another stretch of extremely hot weather. Temperatures have been soaring into 100°F for several days. The humidity is not as high as the last episode of hot weather, but we are still under heat advisories.

Here are the accumulated growing degree days (GDD-base 50) for communities across the state.

Aberdeen	2,320
Beresford	2,730
Chamberlain	2,750
Rapid City	2,240
Sioux Falls	2,740

The drought intensity map from the US Drought Monitor has not changed much for several weeks. The southeastern quarter of the state – south of Hwy 14 and east of the Missouri – is still classified as “Abnormally Dry,” “Moderate Drought” or “Severe Drought.” The counties along or east of I-29 to the North Dakota border are also included in the drought.

Trees and shrubs are not growing, they are wilting. The extreme heat is resulting in water loss from the plants faster than they can replace it.

The hot weather is also resulting in premature autumn foliage color in drought-stressed trees. There are ash and cottonwood trees that already have bright yellow leaves or in some ash trees the leaves have already dropped and all that remains are the hanging seeds.

Treatments to Begin Now

Water

As mentioned in previous *Pest Alerts*, now is the time to water your trees and shrubs to improve winter survival. The desiccation injury we saw on birches and maples last spring – dead tops – was due to these trees going into the 22-23 winter dry.

Timely Topics

Emerald ash borer updates

Larval development

Emerald ash borer sampling continues in Sioux Falls and Canton. Most of the larvae are in their third instar, but there are a few fourth instars burrowing through the trees. The fourth instar is the last stage of larval development. These mature larvae are also more than one inch long.



Adult beetles are no longer flying

The adults are gone now. The last adults emerged in late July and lived out their short life feeding on ash leaves and laying eggs. All these eggs have hatched, and the first instars burrowed through the bark to become the 2nd, 3rd, and 4th instars we see now. All the emerald ash borers are tucked securely in the tree now until next year, about Memorial Day, when they begin emerging from their long winter naps.

The no flight zone for emerald ash borer begins on Labor Day, just to be on the safe side. Starting Labor Day in Sioux Falls and Canton, ash trees can be felled, and the wood moved without the concern of adults exiting from the wood *this* year. If this infested wood is cut and stacked for firewood, however, the borers can still complete their development and emerge next year. This means the wood cannot be moved out of the quarantine counties.

Emerald ash borer city restrictions and State quarantine are not the same!

Since emerald ash borer can survive in firewood split from recently felled trees, ash firewood, along with any other hardwoods (since most folks cannot identify wood), cannot be moved from the State quarantine area (Minnehaha, Lincoln, Turner, and Union counties) at any time of the year.

Unfortunately, some people confuse the City of Sioux Falls' emerald ash borer restriction on pruning and removing ash trees (prohibited between Memorial Day and Labor Day when adults are flying) with the State quarantine. There are Craigslist and Facebook ads from firewood sellers within the quarantine areas that mention delivery throughout the region. No, firewood must stay within the quarantine counties 365 days of the year – it cannot be moved into the surrounding counties.

The quarantine restricts more than just the movement of firewood. There is a lengthy list of ash products that cannot be moved outside the quarantine from nursery stock to ash lumber. There are exceptions for some materials through a permit issued by the state. For more details on the quarantine go to the state's emerald ash borer website at:

<https://emeraldashborerinsouthdakota.sd.gov>

Tree tube removal

Tree tubes protect seedlings from rabbits and deer (browsing and rubbing) as well as mechanical injury from weed eaters. They also provide a "mini greenhouse" that improves the growing environment for the young trees which improves survival and growth.

The downside is the rapid terminal growth comes at the expense of diameter growth. The protective tubes limit swaying in the wind, an important trigger for diameter growth, so the trees in the tubes do not develop the proper taper. If the tubes are removed after the tree begins to grow above the top, the slender stem will often bend completely over as it cannot support the top.

The solution is to either remove the tube while the tree is still small and not peeking out above the tube (though this eliminates the protection) or leave it in the tube until the tree's trunk is almost filling it and the canopy is far above it. As the tree increases in height above the tube, the trunk will sway and develop the necessary taper.

The worst time to remove the tube is just after the tree has branched out above the tube. These young branches are heavy since they now have room to expand but the trunk is still too slender to support it.

But leaving the tubes on once the trunk is higher than the tube can result in abrasion. The sharp edges of the plastic tube can cut into the thin bark of the sapling. There are numerous strategies to reduce this injury. A simple one is to crumple and bend the rim, so the sharp rigid edge is eliminated. The other is to glue a foam strip around the top to provide a soft barrier. Obviously, these alterations take time; a belt with five hundred trees is going to be a lot of work but the effort will pay off in sturdy and healthy trees.



The foam barrier was used in the above picture but after the damage was noticed. At least it will protect the trunk from further injury. The question from this producer was whether the trees, aspen and maples, will survive. Since the injury was about a third of the trunk or less, and the trees are young, they will overgrow this injury.

E-samples

Pear sawfly on cotoneaster

The windowpaning on this cotoneaster leaf is caused by the earlier feeding by pear sawfly (*Caliroa cerasi*), also known as pear slug. The sawflies feed by removing the tissue between the veins on the upper surface of the foliage. The feeding was finished a few weeks ago so no treatment is needed at this time.



The vine is an annual so spraying now is not likely to do much other than harm the woody plants that serve as their support. Since it reproduces from seed each spring either hand-pull the seedlings or apply a pre-emergent herbicide next early May in the areas where the vines were a problem this year. Simazine is a common herbicide used for this treatment.

Seams in maple bark

This is one of the most frequent questions I am asked about maples. The smooth soft gray bark of the many cultivars of Freeman maple (*Acer x freemanii*) is often etched with long vertical grooves, as though someone ran a finger down soft putty. This is a normal bark feature of Freeman maples. It is not a defect nor results in interior cracking.



Wild cucumbers on trees

This fast-growing vine – one that seems to appear overnight – is wild cucumber (*Echinocystis lobata*). This vine can grow up to twenty feet or more by autumn draping over small trees and shrubs. The greenish to yellow flowers which are abundant right now stand out against the large, triangular lobed, green leaves. The fruit, which is cucumber-shaped, is covered with smooth, sharp prickles.



The pale-yellow crawlers move out to the new shoot tips in the spring. They insert their beak-like mouthparts into the tissue to withdraw fluid from cells. The males develop wings at maturity and fly. The females lose their mobility and develop a hard shell.

Treatment is in the spring during crawler hatch. The crawlers have only a brief period of vulnerability to treatments, so timing is critical. Severely infested trees, such as this ash, can be treated with an insect growth regulator – pyriproxyfen sold as Distance – or as a soil drench with an insecticide containing dinotefuran as the active ingredient and labelled for this use. Safari and Zylam are two common products.

Lawrence County, Hail damage on spruce

These are some spruces near Belle Fourche that are thinning. The trees are drip irrigated so drought is not the issue. Instead, the frequent hailstorms are causing mechanical injury to the branches. This wounding has allowed cytospora canker (*Leucostoma kunzei*) infection to rapidly expand and girdle these hail damaged branches.



The best treatment is maintaining or improving the health of these trees. This will slow the spread of the canker disease and close the wounds quicker.

Minnehaha County, Bacterial blight on Korean maple

This sample of Korean maple was presenting with the classic symptoms of bacterial blight (*Pseudomonas syringae* pv *syringae*). The shoot tip was blackened and curled. The leaves had necrotic tips and angular blotches that were confined by veins. These are symptoms, testing will be required to find the bacterium.

This same bacterium affects lilac in the state, but we also see the disease on Tatarian maples (*Acer tataricum*). Fullmoon maples (*A. japonicum*) and Korean maples (*A. pseudosieboldianum*) are also susceptible. The disease can slowly kill its host if not treated. The disease also produces a protein that serves as an ice nucleus which increases frost injury to the host.



The treatment is an application of a copper fungicide in the spring to protect the new tissue and suppress the disease. The treatment must be applied just before bud-break. Later applications do not provide adequate control of the disease and may injure the tree.