



# 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: Bess Pallares, Carrie Moore, and Dawnee Lebeau

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## Plant development for the growing season

The weather has continued to be cold and snowy. The snow cover is keeping the few mild days from being warm as the snow does not allow the warmth to soak into the ground.

The growing degree days (GDD-base 50) are very slowly beginning to accumulate in western South Dakota. Rapid City is now at nine. The rest of the state remains at zero. There is no above-ground activity in our trees and shrubs yet this season.

Not so with the roots. The soil temperatures around the state at 4-inches are right near the freezing point (30 to 32°F) or, in the central part of the state, have already started to thaw. Roots are ready to grow.

Roots are an independent part of a tree or shrub. They do what they want, regardless of what the rest of the tree is doing. The root system does not truly go dormant, like the top of the tree. The above-ground part of the tree is like a bear, it is hibernating for the winter.

The roots are like a cat – they are just taking a snooze – but can instantly wake up. Once root temperatures are even slightly above the freezing point, roots become active. They slowly begin the process of absorbing water and element to prepare for the canopy growth come spring.

## Treatments to Begin Now

Critter damage is showing up across the state. See the e-sample discussion for more information on treatment.

## Timely Topics

### *Emerald ash borer update*

The recent confirmation of emerald ash borer in Union County has raised the awareness about this insect. There have been numerous e-mail and text messages about suspected infested trees.

The appearance of patches of blanding - the shedding of the outer, lighter, layer of bark – is the most common symptom that leads to the suspicion. Blanding is a common symptom of an infested tree. Woodpeckers will shred off this layer of bark in their search for borer larvae hiding beneath the bark. This blanding, however, will be accompanied by 1/4-inch drill holes from the woodpeckers drilling into the bark to pull the larvae out.

Squirrels will also blond the bark as they scamper up and down a tree trunk. A few clues that the blonding is due to squirrels is the appearance of these rodents in the tree, old squirrel nests – called a drey – constructed in the high fork of a tree of twigs and dried leaves, and bird-feeders on the tree – a common attractant for these critters. Most important the blonding will not have the drill holes – those are made by woodpeckers.



## E-samples

### ***Oh Deer! Deer damage appearing in windbreaks***

Calls are increasing about deer damage on trees. The high snow is causing the deer to yard in small areas within a windbreak. The trees, both young and mature, are being heavily browsed.

The preferred browse plants are arborvitae (northern white cedars) and pines. Arborvitae are rarely used in South Dakota windbreaks but the few belts they appear in are being heavily browsed. Pines are also being heavily browsed. The torn needles on lower branch tips are a common sight.



One group of trees that are not a favorite food are spruces but most of the calls coming are about browsing on these trees. Spruces are only a food source when other food choices are limited. Spruce, both Colorado (blue) spruce and White (Black Hills) spruce, are common in South Dakota windbreaks.

The damage is usually on the inside of the tree rows and extends from the snow line to as high as nine feet on the mature trees. Most of these trees will survive as the browsing is on one side and in the interior where the foliage is usually thin anyway.

There is not much that can be done at this time. The deer are being forced into smaller areas due to the snow depth and not much will get them to move. They are also limited in food choices – hence the browsing on the spruce – so they will feed on about anything they can find. Repellents in this situation have little success.

### ***Rabbit damage on young trees***

Pictures are coming in of deer and rabbit damage around the state. This picture is rabbit browse damage on Kentucky coffeetrees in Codrington County. The snow cover is limiting food sources and the depth allows rabbits to reach higher on the stems.

Young trees with smooth bark are most susceptible to browsing injury. Once the bark thickens and become rough, it is not as attractive to rabbits. We see most of the injury on young apple (and crabapple), burning bush, cherry, coffeetree (pictured), cotoneaster, plum and pine.



The injury appears as gnawing, usually pairs of deep grooves, made through the bark. The gnawing will usually extend completely around smaller stems, those less than 2 or 3 inches in diameter. Tender shoot tip will be cut off at a crisp 45° angle, unlike deer that tend to tear shoot tips.

Once the rabbits have gnawed completely around a stem, it usually kills the tree above this injury. The young tree will need to be replaced. The loss of needles on young pines can also cause mortality. If most of the



needles have been browsed away from a small pine, it will probably die.

The best way to reduce rabbit damage is fence off small evergreens and place tubes around young trees. This was a fall activity and will be difficult or impossible now that we have snow. It is still worth doing if the fence or tube can be installed flush with the ground. Most of our rabbit injury occurs from now into spring.

Rabbit repellents are usually applied throughout the winter – on the days warm enough to spray. Some of the best repellents are made of dried blood or rotten eggs and work as a fear deterrent. The sulfurous odor from these materials makes rabbits avoid treated plants as they fear being ambushed by a predator. A commonly available product made of dried blood and working by the fear-factor is Plantskydd.

This is often at the top of any ranking done on product testing, but no product is 100 percent effective nor works every year on every plant. Once the rabbits are used to feeding in a spot – and if they are hungry enough – they may not be easily discouraged. However, we have a lot of cold weather still ahead of us so still worth applying on young stems if the stem beneath the snow can be uncovered and sprayed as well.

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## Samples received/Site visits

### ***Kingsbury County, Bumps on leaves***

These fallen leaves and pieces are not from ash (*Fraxinus*), what they suspected the tree was, but hackberry (*Celtis occidentalis*). The bumps are formed by the feeding of the hackberry nipplegall maker (*Pachypsylla celtidismamma*). While ash and hackberry are not even closely related, the trees are often confused.



The adults lay eggs on the underside of the expanding leaves. Once the eggs hatch, the nymphs begin feeding and in response to this activity, the leaves form tissue to encapsulate the growing insect.

This provides perfect protection for the nymph from its natural enemies and weather extremes. However, it leaves the foliage with these ugly bumps on the bottom of the leaves. Surprisingly the bumps do not harm the leaves in the least – just their appearance.

### ***Union County, Witches' broom on hackberry***

I was surveying along the rivers for ash infested by emerald ash borer and found this unusual “growth” on a hackberry tree. I usually receive a sample or two of these growth during the winter from a tree owner who noticed them in the bare trees.



Witches' broom are a proliferation of short shoots that are tightly bunched together at the end of branches. They may be caused by diseases, mites or natural mutations. They rarely kill their host but can cause decline and dieback on branches on which they appear.

Hackberry witches' broom is caused by the combined activity of two different organisms, a powdery mildew fungus (*Podosphaera phytoptophila*) and a mite (*Eriophyes celtis*). These two are always found with the brooms but either have been proven to be the cause of the symptoms. It is thought that the mites might cause the brooms and the fungus just lives in the tight clusters.

The brooms only appear on specific trees. Even two trees with intertwining branches may have one covered in brooms and the other remain broom-free. If a tree has a broom, it will always have brooms so pruning them out is a task worthy of Sisyphus.