



# 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

The growing degree days (GDD-base 50) are still at zero for most of the state. The needle has not moved except for a few communities along the edge of the Black Hills. Even in Black Hills communities that frequently experience some warm winter days that start GDD going, the accumulation is less than 20 this year. It has been a long, cold, and snowy winter.

The weather continues to be cold and snowy. We often see a few signs of spring by this time such as red and silver maples flower buds beginning to open. Not this year.

## Treatments to Begin Now

### ***Pine engraver beetle treatments in the Black Hills need to be applied soon***

Despite the cold, snowy weather, spring will soon be here. One of our first tree pests to appear is the pine engraver beetle (*Ips pini*). The adult beetle is the overwintering stage so it only takes a few warm days of temperatures in the 60s for them to become active.



The insect is common in the Black Hills. Once the weather warms, often by early April, the adults will search for fresh green pine material to burrow into for a home. They prefer to infest recently fallen green branches or broken canopy branches during this first flight. They will also be attracted to standing pines that are stressed by drought.

The long-term drought has increased the beetle populations, and subsequent tree damage, during the past several years. Last summer it was not hard to find small pockets of pines that were attacked and killed by this beetle.



High-value pines, those around homes in areas where tree losses occurred last year, should be treated with an insecticide this spring. The insecticide will kill the adults as they search for a tree to make a home. Once they find a suitable tree, the adults burrow through the bark and lay eggs along their tunnels. The tunnelling through the inner bark by the larvae are responsible for the decline and death of the host tree.

There are several different active ingredients used in bark sprays for engraver beetle management. Two of the most common are carbaryl and permethrin. These ingredients are found in a wide range of pesticides. When used to treat for bark beetles, this use must be specifically identified on the label of the insecticide.

The insecticides must be applied soon (late March/early April) to be sure the bark is thoroughly covered before the adults beetles begin to fly. If the insecticide is labeled for bark beetles, the residue will remain effective for the entire growing season so there is no reason to delay the application.

The application must be applied with sufficient pressure to reach the top of the tree and soak all the branches. This means hiring a commercial service with sprayers with enough pressure to carry the insecticide into the tree canopy. This is not the time for a garden hose sprayer and a ladder.

Call a reputable local company soon to get on their schedule for this spring.

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## Timely Topics

### ***Emerald ash borer update – EAB found in Moorhead, Minnesota***

Emerald ash borer was confirmed in Moorhead Minnesota about two weeks ago. Attached is a picture of one of the larvae collected from an ash (provided by Angie Ambourn, Minnesota Department of Agriculture) This means that emerald ash borer is appearing along or near the eastern South Dakota border in widely spaced, and likely independent, infestations.



More confirmations are likely to occur along the eastern side of state this year or next. While infestations will eventually spread throughout the entire state, this will may take decades. The longer the better as this gives communities more time to prepare for the inevitability of the insect.

The county quarantines are the best means of slowing the spread of the insect. Minnesota first confirmed the insect in a St Paul neighborhood in 2009. They established county quarantines to slow the spread; this effort has bought them time. It took about 13 years to cross the state from border to border.

The Moorhead infestation is several counties away from the nearest infested county in the state. It is an outlier and probably started by someone bringing an infested piece of wood into the area. There are many areas between the metro Twin Cities and Moorhead where infestations have yet to be found.

County quarantines do work at slowing the spread within a state. The South Dakota quarantines have slowed the movement out from the original discovery in northern Sioux Falls. While there are many areas of Lincoln and Minnehaha counties that are now infested, we have not yet confirmed the insect in the adjacent counties.

The most recent confirmation in Union County is probably related to the find in Sioux City, Iowa rather than Sioux Falls. We can expect multiple introductions from outside the state if people are not careful about moving wood in from other states.

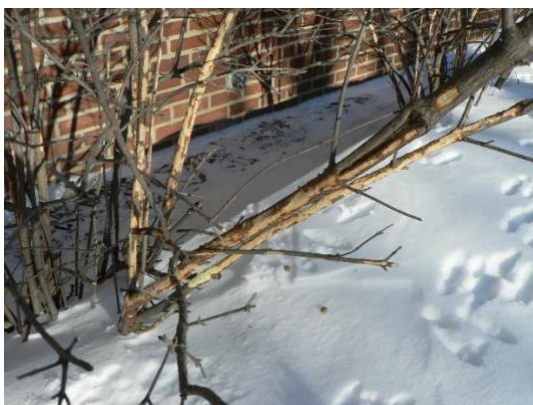
## Catalpa tree seedlings update

The catalpa seeds planted about a month ago emerged about 10 days after planting (see Pest Alert, January 18-25, 2023). The seedlings are now about three inches tall and beginning to produce their first true leaves.



## Rabbits, Squirrels, and Deer, oh my!

The Year of the Rabbit is beginning to live up to its name. The calls continue to come in about shrubs and small trees that have all the bark strip around their canes and lower trunks.



The most commonly damaged shrubs are arrowwood viburnum (*Viburnum dentatum*) (pictured above), burning bush (*Euonymus alata*), hedge cotoneaster (*Cotoneaster lucida*) purple-osier willow (*Salix purpurea*) (pictured below), shagbark sumac (*Rhus typhina*) and spireas (*Spiraea spp.*). The most common trees are apple and crabapple (*Malus spp.*), honeylocust (*Gleditsia triacanthos*) and Kentucky coffeetree (*Gymnocladus dioica*).



If the shrub canes or tree trunks are stripped of their branch completely around the stems, the stem will most likely die this year. The rabbits are also browsing off the tips of many shrubs. These plants will recover but may look misshapen as the new sprouts will occur where the cane was nipped, rather than near the ground level.

There is not much that can be done about trees at this time. But many shrubs that suffered extensive rabbit damage – girdling and tip browsing – can be repaired by cutting all the canes to within two to three inches of the ground this spring. New buds will open near the pruning cuts and shoots will quickly grow.

The two exceptions are burning bush and sumac. Cutting stems to the ground will not result in new shoots forming on the pruned canes of these shrubs. Heavily damaged burning bushes will have to be replaced. Sumacs will not sprout from cut canes but do sucker from the roots so a sumac thicket will rejuvenate itself.

Squirrels are also hard at work gnawing on trees. The canopies of some trees have many of the smaller – two to five inch diameter branches stripped of their bark. The light colored exposed sapwood from squirrel feeding stands out in contrast to the darker bark of the trunk and larger limbs. The trees with the most branch damage are basswoods (*Tilia americana*), elm (*Ulmus spp.*) and hackberry (*Celtis occidentalis*).

Most of the affected branches are girdled completely around and a foot or more along their length as with the sugar maple pictured below. These injured branches are not likely to recover. Sometimes they linger on for a while. The girdled branches may even have leaves this spring but often the leaves turn yellow and wilt during the summer heat. The branches should be pruned out this spring if they can be reached.



Deer are also creating havoc with their browsing. This injury will be covered under e-samples.

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## E-samples

### **Deer browsing continuing to appear in spruce windbreaks**

I received another picture of deer browse. This is a spruce in Kingsbury County where the lower branches have been browsed of their foliage. Spruce is not their preferred browse and are often on deer-resistant lists. Apparently South Dakota deer have not read these lists as they will heavily browse Black Hills spruce (*Picea glauca*) and Meyer spruce (*P. meyeri*) if they lack other winter food options. Colorado spruce (*P. pungens*) is usually avoided due to the sharper needles.



### **Suspected emergence holes of an emerald ash borer**

The picture below is of an emergence hole that was thought to be from an emerald ash borer. It is not. One indication that an ash tree is infested is the presence of 1/8 inch wide D-shaped holes. These are the emergence (exit) holes of the adult.



The D-shaped holes are always a crisp D, not a fuzzy oval. The emergence hole in the picture is from a closely related ash borer, the native redheaded ash borer. The emergence holes cut by this borer are a little larger and more oval to round shaped. They are frequently confused with the holes made by emerald ash borer but as lower picture shows, the D-shaped holes made by EAB form a crisp D, not an oval as seen in the picture above.



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## Samples received/Site visits

### **Brookings County, Righting a leaning spruce tree**

There is still evidence of the storm damage from last May's derecho. The storm resulted in the loss of hundreds of spruce trees that were uprooted by the combination of wet soils and strong winds.

There was also spruce trees that were left leaning from the storm. The leans are more noticeable now during the middle of a stark winter. The question for this tree is it too late to right it now?

The answer is yes. It is too late. The tree is already compensating for the lean. The top of the tree is now bending upward after being tilted by the spring storm. The roots have also recovered from the storm. Any righting efforts done this spring will likely break newly formed roots and lead to the decline of the tree.



The choice now is either remove the misshapen tree or leave it as a memento of the spring derecho as a leaning tower of spruce. Not as much a tourist attraction as the tower is in Pisa, Italy but still a reminder of the 2022 winds!

### ***Roberts County, Peeling bark on a snow-covered shrub***

The concern was a shrub with the bark peeling away from the lower half of the canes. The deep snow was covering most of the plants. They wondered if the snow was responsible for the peeling.



The Diablo ninebark (*Physocarpus opulifolius* 'Monlo') has become a popular ornamental shrub due to its red-purple summer foliage color and its creamy white bark that exfoliates in long papery sheets. The multiple peeling layers are the origin of the common name ninebark.

The peeling bark is one of the underappreciated ornamental values of this shrub. The canes are hidden by leaves all summer so the bark usually does not stand out until winter. The snow line is real coincidental in this case as the shredded older bark is normal and part of the appeal of this shrub. One other appeal – the bunnies do not like to chew on them!