South Dakota State University Extension

Tree Pest Alert

February 4-11, 2026 (biweekly October-March) **Volume 24, Number 3**

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

This publication made possible through a grant from the USDA Forest Service.

Plant development for the growing season

The first two weeks of February have been warm. The West has seen the longest stretch of warm weather but much of the rest of the state has had mild winter weather. Even Aberdeen saw temperatures in the high 40s.

The mild to warm weather pushed the growing degree days (GDD base-50) during the past two weeks. This is the GDD accumulation for the first two weeks of February for communities across the state.

Aberdeen	0
Beresford	21
Chamberlain	42
Rapid City	59
Sioux Falls	12

The unseasonably warm weather is pushing some plants out of their slumber. False-spirea (*Sorbaria sorbifolia*) is one of our first shrubs to wake up in the spring. I have seen the buds being to swell and open in mid-March. They are beginning to open in February this year. These plants are beginning to wake up way too early from their winter slumber. When you see the buds swell that means the plants are beginning to wake up.

Temperate woody plants need to fulfill their chilling requirements before resuming growth in the spring. This can be anywhere from 700 to 1500 hours of chilling. Chilling does not mean freezing. It means exposure to temperatures between 35 and 45 degrees.

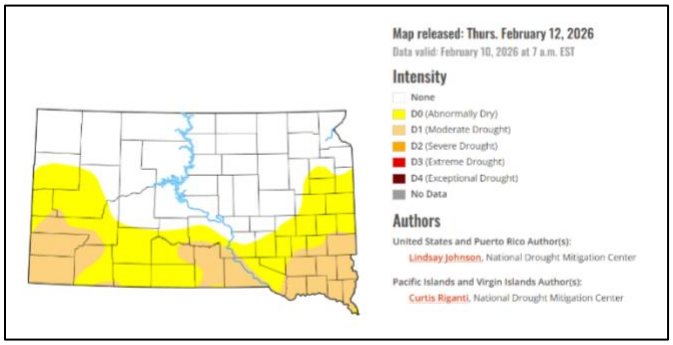
Once they fulfill this requirement, temperatures in the high 40s and 50s can trigger the deacclimation process where woody plants prepare for spring growth. If the temperatures drop again, the process stops, but the plants do not return to their previous cold tolerance. When they could survive -40ºF in mid-January may mean 0ºF is their limit after our warm spell.

Some plants, such as bur oak (*Quercus macrocarpa*), know not to wake up this early. The ancestors of our bur oaks saw this weather during past centuries. They are hard-wired to sleep in until late April. Not so with our ornamentals whose ancestors lived in Europe. This warm weather has fooled a few to wake up to an early alarm clock.

Drought monitoring

About half the state is classified as drought free, about the same as two weeks ago. About 30 percent of the state – the lower third - is classified as "Abnormally Dry." The southeast and southwest corners of the state, along with Gregory and Tripp counties - about 18 percent of the state are classified as "Moderate Drought."

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



Treatments to Delay

It is a little early for maple tapping

The syrup season may be starting a little early this year. Sap begins to run when the day temperatures are about 45ºF, the nights between 15 and 25ºF and the soils are moist (better still if snow covered). We had these requirements during the past week. Some sap will be flowing. There are a few commercial operations starting to tap in southeastern Minnesota.

But most are waiting out this brief warm weather rather than tapping early. The sap flow will stop as the weather returns to more seasonal temperatures during the next week. I expect we will be starting in mid-March.

However, expect to see some maples "bleeding" from wounds during this warm spell.

Pollination requirements for fruit and nut trees

Lots of gardeners are going through their catalog searching for fruits trees. However, pollination requirements must be considered when selecting a specific fruit. Pollination involves the transfer of pollen from the stamens, the male part of a flower, to the pistil, the female part of the flower. Bees accomplish the transfer of pollen for most fruit trees while for many nut trees winds serve this function.

Some fruit and nut trees are self-fruitful meaning that the pollen from a flower can fertilize flowers on the same tree. These trees are called self-fruitful. Other species are self-unfruitful, or self-sterile, meaning they will not accept pollen from flowers on the same tree.

It is not that the trees are different gender – I use to have shopper coming into the garden center back in Michigan asking for a "boy" or "girl" tree – it is that they have mechanisms to prevent them from accepting their own pollen.

If a tree is self-unfruitful it means you must have two different trees of the same species for fruit to develop: two different apples or pears for example. This can become a little complicated as we plant cultivars which are clones with known characteristics.

No one plants apple trees grown from seed but instead named cultivars such as 'Sweet Sixteen' or 'Haralson' so we know the fruiting characteristics. Every tree of the same cultivar is genetically identical meaning they are the same tree. If you plant two trees that are the same cultivar they will not pollinate one another. You need two different cultivars.

If the trees require bees for pollinators the two trees should be within 200 feet of one another. Trees that are wind pollinated should be planted within 50 feet of one another.

Fruit trees
Self-fruitful
Apricot (note: the cultivars ‘Moongold’ and ‘Sungold’ are self-unfruitful)
European plum
Nectarine
Peach
Sour cherry

Self-unfruitful
Apple
Crabapples (apples and crabapples can serve as pollinators for one another)
Hybrid plums (including Japanese)
Nanking cherry
Pear
Sweet cherry

Nut trees
All nut trees are *self-unfruitful* requiring two different cultivars or trees for nut production.
Filbert
Hazelnut
Hickory
Walnut

Timely Topics

Emerald ash borer update

We continue to monitor larval development in ash. There is not much to report. Emerald ash borer larvae are smarter than trees. The warmer weather is not fooling them into waking up early. They have hit the snooze alarm and are sleeping in.

Milk builds strong bodies, not trees

Nathan, an agroforester with the SDDANR, called me about using milk for trees. It was not that he wanted to try it, but had someone ask. I had not heard of this but did check on the practice.

You can find recommendation on use of milk for plants on the Internet – a great source for accurate as well as misleading information. I will put milk in the misleading category.

Yes, milk does contain calcium and sugar. People also post about the beneficial microbes that will help plants grow better. There is no evidence that milk will improve plant growth.

There have been a few studies that showed a milk spray can reduce powdery mildew and foliar viral diseases on vegetable crops. There has been no data that shows any benefit for growing trees. Best to leave the milk for you, and just water for your trees.

E-samples

Flower hermit beetle larvae

While most “false” emerald ash borer insects are the usual suspects: ash-lilac borer or either the redheaded or banded ash borer, I sometimes receive pictures of other possibilities.

This is a picture sent in from the Hartford area of an insect found in a declining ash tree. The insects found at the base of rotted ash are often called white grubs, but these insects are more strongly associated with dying lawns than trees.

This white grub is the hermit flower beetle (*Osmoderma eremicola*). It does not live in lawns (or flowers) but decayed trees and stumps. The large, C-shaped, white larvae with reddish brown heads are often discovered when the decayed tree falls; people assume it is the cause of the failure. However, it is merely taking advantage of the rotted wood to make a home and snack for three years or so on the wet, punky wood.

Samples received/Site visits

Lincoln County, Redheaded ash borer larva

Not every borer found in an ash tree is emerald ash borer. This larva was found in an ash tree along the river. The tree had minor dieback and there were some woodpecker drills but no blonding – which is usually found on trees infected with EAB.

The larva is the redheaded ash borer (*Neoclytus acuminatus*). This is a native insect that is found in

declining hardwood trees, including its namesake, ash. The larva is white with rounded segments, rather than the flat, bell-shaped segments found on EAB.

There are two Neoclytus borers that attack ash in South Dakota. The other is the banded ash borer (*Neoclytus caprea*). The larvae have a similar appearance. However, the banded ash borer overwinters as adults. They are one of the first borers to emerge from trees in the spring. The redheaded ash borer adults also emerge in the spring – but a little later. They overwinter as larvae, as seen here, or pupae.

Minnehaha County, Lichens on tree branches

A homeowner was out raking the lawn of winter debris. They noticed these “strange growths” on the fallen honeylocust twigs and small branches. The concern was that these were a disease causing the branches to fall.

These colorful growth on the branches are not a concern. These are lichens. They are a symbiotic relationship between fungi and algae. The fungi protect the algae from drying out while the algae use photosynthesis to provide food for both organisms.

They form many different shapes. Some colonies live as crusty, almost-papery, layers on the surface. These are called crustose lichen. Other, such as the one found here, are called foliose lichens which have more upright, finger-like projections.

Lichens can survive on almost any surface. Some even live on rocks. But they live on surfaces, not from them. They are not harming the tree. They do seem to grow more on slower growing or dead branches so it’s easy to see how the connection is made.

Yankton County, Pine wilt disease

This pine has all the classic symptoms of pine wilt disease, looked fine last summer and dead now. Instead of a canopy filled with bluish-green needles, the needles are hanging and tan. They are brittle to touch. While collecting a wood sample or better a “cookie” a cross-section of wood from the lower trunk, is the best means of extracting and identifying the nematode, it is a moot point here as the tree is dead.

The only advice is to remove and destroy the tree before April 1 when the sawyer beetles that carry the nematode from dead to healthy trees begin to emerge. If possible, burn the wood. Do not store the wood either with or without the bark.

Healthy Austrian and Scotch pines can be protected by injections with one of two nematocidal avermectin compounds – abamectin and emamectin benzoate. These same active ingredients are used for emerald ash borer.

While you can inject a tree lightly infested with EAB and have it recovered, pine wilt treatments are only effective as preventative, not as a therapeutic application. It also is not as effective as EAB treatments. This may be due to the difficulty of injecting conifers.