



# Tree Pest Alert



May 3, 2023

Volume 21, Number 11

## In This Issue

Plant Development.....1  
Treatments to begin now or soon.....2  
    Diplodia tip blight.....2  
    Emerald ash borer.....2  
Timely topic.....2  
    Emerald ash borer update.....2  
    Irrigation requirements for bare-root seedlings.....2  
    A reminder to sweat bare-root hackberry and oaks.....2  
E-samples .....3  
    Chokecherry vs buckthorn.....3  
    Mold on bare-root seedling roots.....3  
    Lilac-ash borer in lilacs.....4  
Samples received/site visits.....4  
    Lincoln County (red leaves on Freeman maple).....4  
    Meade County (pine engraver beetle attacking trees).....4

## Samples

John Ball, Professor, SDSU Extension Forestry Specialist & South Dakota Department of Agriculture and Natural Resources Forest Health Specialist

Email: [john.ball@sdstate.edu](mailto:john.ball@sdstate.edu)

Phone: 605-688-4737 (office), 605-695-2503 (cell)

Samples sent to: John Ball  
Agronomy, Horticulture and Plant Science Department Rm 314, Berg Agricultural Hall, Box 2207A  
South Dakota State University  
Brookings, SD 57007-0996

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

The South Dakota Department of Agriculture and South Dakota State University are recipients of Federal funds. In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability (Not all prohibited bases apply to all programs.) To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW Washington, DC 20250-9410, or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

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

## Plant development for the growing season

Spring has finally come to the entire state, even the frozen north. The growing degree days (GDD-base 50) are clicking upward at a rapid pace. These are the current GDD for communities across the state.

Aberdeen	63
Beresford	212
Chamberlain	240
Rapid City	200
Sioux Fall	213

The rapid warm up has condensed the flowering progression we typically see. Plants that normally bloom a week or two apart are flowering at the same time this year. We have corneliancherries (*Cornus mas*) – pictured below – finally blooming (the latest I have recorded in the past decade) at the same time as Norway maples (*Acer plantanoides*).



Soils are warm across the state. The soil temperature at 4-inches (bare soil) is in the 60s across much of the state. Only the northeaster quarter of the state is in the 50s, but they are catching up fast.

The temperatures are ideal for bare-root planting. I stopped by the Big Sioux Nursery and there were trucks and trailers picking up plant material.

While the soil temperatures are ideal, soil moisture is not. The northwestern quarter of the state and the southern one-third are under moderate drought with much of the rest of the state considered abnormally dry. Only the northeastern part of the state is not under some level of drought.

## Treatments to Begin Now or Soon

Diplodia tip blight (*Diplodia pinea*) is one of the most common disfiguring diseases of 2- and 3-needled pines in South Dakota. It is a common disease on Austrian (*Pinus nigra*) and ponderosa (*P. ponderosa*) pines.

The most common means of managing the disease is with fungicides. The treatment is foliage applications with a fungicide containing Thiophanate-methyl, Propiconazole, or Chlorothalonil (and labeled for treatment of this disease). The first application is applied just before the bud sheaths have opened.

Timing is critical. Once the bud sheaths have opened and the candle begins to form, it is a little late to begin the first application and this is the one that provides most of the protection. A second application is made about two weeks later.

Emerald ash borer trunk injections should begin now. The leaves are opening. This means the “plumping” system that carries the insecticide up the trunk and throughout the canopy has formed. The insecticide will kill the adults as they feed on leaves before laying eggs. Any eggs that are laid will have their tiny larvae killed before they do any damage to the tree. The ideal treatment window is now though mid-June.



The treatments are only necessary in counties where emerald ash borer has been confirmed, Lincoln, Minnehaha, and Union. The injections should be performed by commercial pesticide applicators as they have the equipment and insecticides to protect the tree properly and effectively from becoming infested. The treatments are effective for two years.

---

## Timely Topics

### ***Emerald ash borer update***

We are continuing to monitor the development of this insect. The larvae are no longer in their overwinter J-shaped form, most are now in the prepupa stage with some already becoming pupae.

The pupa stage begins with the insect having a white, cylindrical shape, nondescript form. This will gradually take the appearance and form of an adult.

This process will take several weeks. Once the insect transforms into an adult, it may remain just beneath the bark for a few days to a week or more before chewing a D-shaped hole and emerging.



Based on the current development of the insect and the long-range weather forecast, emergence is expected to begin around June 1 in Sioux Falls.

### ***Irrigation requirements bare-root seedlings***

In the perfect world we would have one inch of rain a week during the growing season – a soft rain that fell overnight. We are not going to see that in South Dakota, so for bare-roots seedlings the best practice is adding a quart of water per day for the first two weeks, then a quart of water three times a week for the next three months. The best practice may be hard to meet so what is acceptable if we do not receive adequate rain this summer? Here may be the most practical compromise for this year.

Water immediately at planting, one quart of water per seedling. Then water once a week, one gallon of water per seedling, for the remainder of the growing season. If the air temperatures are above 86°F during the day for a week, change once a week to watering the seedlings twice week with a half-gallon each watering. If it stays dry, and this irrigation schedule is not followed, do not be surprised if seedling mortality is high.

There is no substitute for water. Fertilizer at planting will not help and may be a detriment. There is research showing hydrogels can significantly improve survival and increase biomass so may be worth adding but these should be used in concert with irrigation, not as a replacement.

### ***A reminder to sweat bare-root hackberries and oaks***

Soil temperatures are in the 60°Fs in the upper 4-inches for most of the state. This is a great time to begin bare-root tree planting. The soil is warm enough to promote fast root growth, yet the air temperatures are still cool.

The cool air temperatures will help slow leaf expansion and transpiration until the roots are able to replenish this water loss. A little rain will help as well since root development depends on two basic ingredients, warm soils, and moisture. It will be necessary to water newly planted seedlings going into windbreaks this year since the soil is dry. Every seedling should receive about a quart of water at planting.

But some plants need a little more than water. They need to work up a sweat first! Two tree species commonly planted in South Dakota – hackberry (*Celtis occidentalis*) and bur oak (*Quercus macrocarpa*) – will either not break bud or do so very slowly if not sweated before planting.

Sweating is only necessary for bare-root trees that were in cold storage for the winter. Since most bare-root stock is harvested in the fall and held in coolers at near freezing temperatures for the winter, assume that any bare-root bur oak or hackberry will need to be sweated.

Sweating is a straightforward process. The bare-root tree seedlings are laid on a warm surface (soil or flooring) and in a building. The air temperatures should be between 45 to 70°F.

Cover the roots with moist material – wet straw or wood chips – water, and then cover the plants, roots, and tops with plastic. Be sure this “mini greenhouse” is in shade and not exposed to direct sunlight as the temperatures will become too high. The waxed boxes the trees come in from the Big Sioux Nursery work well for sweating.

After three days to a week, the buds on the seedlings will begin to expand. Once this occurs, take the seedlings and plant them as soon as possible. Since the seedlings are going to leaf out quickly, planting needs to be done after hard frosts are behind us as these cold episodes can injure the tender leaves.

---

## E-samples

### **Cherry vs buckthorn**

I had four pictures submitted asking if the tree was a common chokecherry (*Prunus virginiana*). Apparently, the pictures were not from the same tree as two pictures were of common chokecherry.



The other two were common buckthorn (*Rhamnus cathartica*). They both produce small, dark berry-like fruits but chokecherry is edible, but a little sour, while eating buckthorn fruit will result in diarrhea.



Chokecherry leaves are arranged alternately along the twigs. The leaves are elliptical, typically long, and narrow. There are also some small bumps where the leaf stalk, the petiole, meets the leaf blade.

Buckthorn leaves are either arranged opposite to one another along the twig or very close to appearing opposite. The leaves are broader, almost round sometimes. There are no bumps on the petiole. Another separation is buckthorn twigs end in a single thorn. It is not always easy to see but you can feel it.

### **Mold on bare-root trees**

I have received many pictures of bare-root trees with a white, filmy mold on their roots. Most of the questions and pictures are hackberries but I have also seen pictures of sumac and walnuts (as pictured below).



There are several fungi that cause mold and all are common in nursery soils. The spores are easily picked up with the trees when they are lifted in the fall and cling to the roots and stems.

Germination of the spores and rapid development of the mold is common if the plant material is wet and stored at temperatures above freezing. Storage at District coolers usually fits this description so mold may “suddenly” appear. The mold appears on the surface, not in the plant, so no harm – it can be washed off.

### **Lilac-ash borer in lilac**

I received this image of worms found in the base of common lilac canes. This is the lilac-ash borer (*Podosesia syringae*). The insect is commonly found in declining small ash trees but will also attack lilacs. Since the larvae create large tunnels in the base of lilacs, the insect is usually noticed once the canes start to break and fall over.



The larvae are creamy white with a dark head. They have three tiny pair of legs near the head capsule, and a few rows of small peg-like legs along the back third of the larvae. The tunnels and holes they crave as they burrow through the cane are about 1/4 inch in diameter and are clean. The larvae push out sawdust-like material out of the holes as they burrow so there is often a small pile of dust around the base of an infested plant.

The larvae overwinter and have resumed their feeding. They will very soon become pupa and the adult wasp-like insects will be flying by the end of the month. Insecticides containing Permethrin and labelled for treating lilac-ash borer can be sprayed on the lower canes of lilacs to prevent a new infestation.

---

## **Samples received/Site visits**

### **Lincoln County, Maple leaves turning red**

While we commonly see maples have their leaves turn red in the fall, many of the same trees can have their leaves emerge red. We typically see this in red (*Acer rubrum*) and Freeman maples (*A. x freemanii*), such as the Autumn Blaze maple), but it also occurs in cranberrybush viburnums (*Viburnum opulus*).

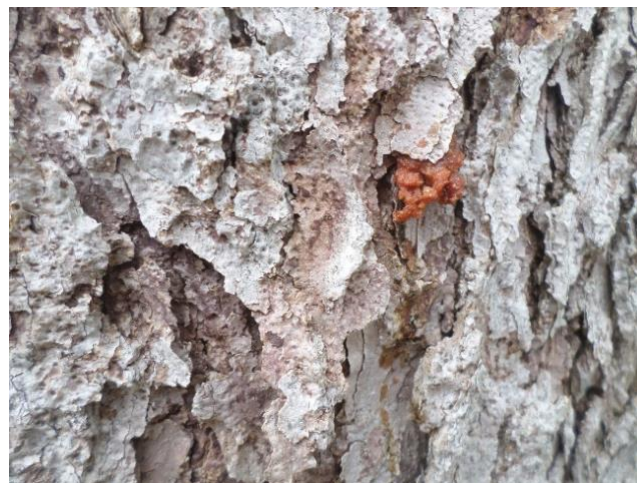


Red coloration in spring foliage is caused by the formation of the anthocyanins, the same pigments that cause red fall color. These form when we have a brief period of warm weather that triggers leaf opening, followed by a cold period that stalls expansion.

Now that the temperatures are staying warm, these stalled leaves will quickly complete expansion and turn their normal green.

### **Meade County, Pine engraver beetles attacking trees**

The adult pine engraver beetles (*Ips pini*) have emerged from their winter slumber in the soil litter and are burrowing into susceptible pine trees and in green slash piles. The overwintering adults of the first generation focus on attacking green slash pile but they will attack stressed live pine trees. The drought has left many pines in the Black Hills vulnerable to attack.



The new attacks are easy to see along the trunks. The small, pen-point size holes are surrounded by a thin crust of sticky, granular resin. The resin would repel the attack on a healthy tree, but not on a weak one.