



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 weather is becoming more seasonal with warm days and cool nights. The warm weather may not return until spring, though Sioux Falls did experience an 82°F day in November 2020. These are the Growing Degree Days – base 50 (GDD) for communities across the state. We only gained about 30 GDD since last week.

Aberdeen	2,960
Beresford	3,490
Chamberlain	3,520
Rapid City	2,820
Sioux Falls	3,480

The fall foliage display is almost over. The windy weather is removing the few leaves left on trees. There are still some excellent red fall colors to see such as this cranberrybush viburnum (*Viburnum opulus* subsp *trilobum*).



The calls and text messages continue about the bright yellow needles falling from pines. This is the normal shedding of the oldest needles. It is more noticeable this year as the needles are turning a golden yellow before falling. This dramatic color change occurs when we have sunny falls. The interior yellowing is a constant to the blue-green needles of these eastern white pines (*Pinus strobus*)

Timely Topics

Emerald ash borer update

Emerald ash borer sampling continues in Canton and Sioux Falls. The larvae are in their 4th instar, the final larval molt. These are the ones that overwinter in their chambers in the outer sapwood. During the last five

years we have found some earlier instars this late in the season. These remain in the phloem, just beneath the bark.



The 2nd and 3rd instars that overwinter are more vulnerable to the cold and have higher winter mortality. The ones that did not survive the winter never became adults, so their genes were not carried forward. We now have emerald ash borers that begin the winter acclimation process sooner and can survive colder temperatures than experienced in China. The larvae survive -15°F temperatures in northern China. The insect is surviving -45°F in Manitoba now.

Where did all the apples go?

Calls are coming in from around the state of the poor apple harvest this year. While there are some small orchards with good production, the apple harvest has been disappointing to many – from homeowners with a few trees to the small orchards found in the state.



There are several reasons for this poor apple crop. One was the late frost that occurred in May, but this was not widespread and did not impact much of the area. Another is the outbreak of western flower thrip that appeared this spring (May 17, 2023, *Tree Pest Alert*). But this insect damages fruit, rather than eliminates it.

A more likely possibility is linked to the bumper apple crop in 2022. Many of the popular apple cultivars in the state are prone to biennial bearing – meaning a good

crop can be followed by a poor one. Honeycrisp apple – a favorite – tends to be biennial bearing. Haralson and Haralred – old favorites – also are biennial bearers.

There is nothing that can be done about the poor crop this year. If next spring brings an abundance of flowers and fruit set, that is the time to act. The small fruit – quarter-size – should be thinned out, removing apples so they are not touching one another (but leave the largest apple in each cluster). Reducing the crop size next year will mean more resources can be stored away to promote flowering in 2025 and subsequently more fruit that fall.

Dogs and the coffeetree

I was asked about the risk of coffeetree (*Gymnocladus*) pods and beans to dogs and other pets or livestock. The seeds (the bean) contain a group of glycosides called gymnocladosapponin. Eating the seeds or the gelatinous pulp in the pods can present with gastrointestinal – diarrhea, vomiting - and nervous system – muscle paralysis and convulsions – signs. Dogs and livestock have been poisoned by drinking water from puddles that the pod has laid in for a day or more (Troxel and Poppenga. 2005. *J. Vet Intern Med* 19: 599-601).



Spotted lanternfly update

I had an opportunity to look at the problem of spotted lanternfly (*Lycorma delicatula*). The Asian planthopper was first detected in Pennsylvania in 2014. It has slowly been spreading out from the mid-Atlantic states and was recently confirmed in Illinois. It is confined to an isolated location in Cook County, but surveys are continuing.

The adult spotted lanternflies are still flying, though the peak flight period has passed. The adults are about one inch long and one-half inch wide with large wings they fold across their back at rest. The forewings are light brown with large black spots at the front and a speckled band along the lower third of the wing. The hind wings are scarlet with black spots and white and black bars at the base. At rest, the hind wings are hidden beneath the forewings.



The adults are laying eggs now. The eggs are yellow brown and laid in rows. The egg masses are covered with a gray waxy covering. The egg masses can be found on the lower trunks or trees, but they are often attached to any flat surface including campers and lawn furniture. They can easily be moved by camping equipment – grills, campers, trailers – from one location to another.



The spotted lanternfly has long been associated with tree-of-heaven (*Ailanthus altissima*) in Asia. Tree-of-heaven has been planted in the United States for over two hundred years. Its seeds and sprouts readily so has become invasive in the southern and eastern states.

The tree is a preferred food source for the older nymphs. While the insect can develop and reproduce without access to tree-of-heaven, the females lay more than seven-fold the number of egg masses if allowed to feed on tree-of-heaven as nymphs. Insect development is faster, and survival is higher if the insect can feed on tree-of-heaven (Osariyekemwen et al. 2021. *Nature, Scientific Report* #15774).

A common management recommendation is to remove all the tree-of-heaven to deny the insect a food source for development. This is a good approach, but the insect is capable of limited development on other trees such as black walnut. Still, since tree-of-heaven is a weed tree in the southern half of our state and has naturalized along the Missouri River, we now have another reason to take any opportunity to remove this tree.

E-samples

Stinkhorn eggs

Stinkhorn mushrooms have been appearing on lawns for several weeks now (September 20, 2023, *Pest Alert*). The four to six inch tall, distinctly phallic structure with a thimble-like slimy cap covered with flies is hard to miss in a lawn. They seem to appear overnight, especially with a little rain. But where do they come from?

The surface or below-ground structure is easy to miss. When found, most people do not even connect it with the stinkhorn. The fruiting body begins as a white to pink egg-shaped structure about two inches or larger. In the inside of this “egg,” there is a gelatinous layer and a green spore mass along the stalk and cap of the mature stinkhorn.

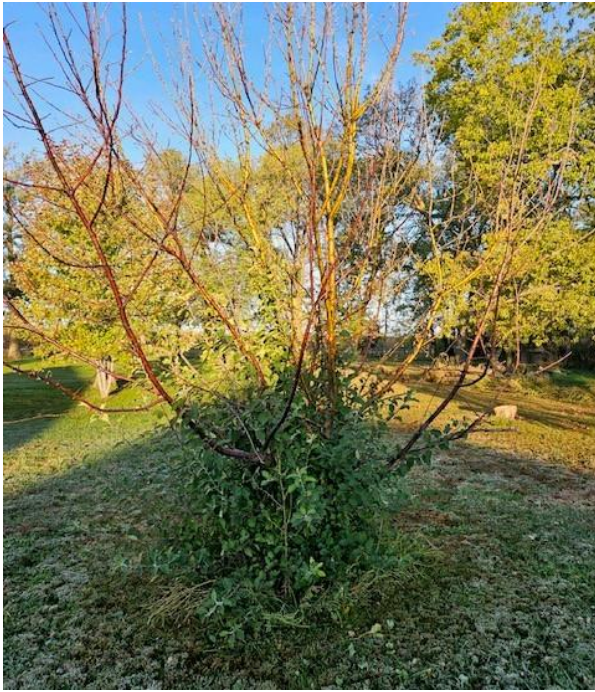


These eggs are found at or near the soil surface. When conditions are right – wet – the eggs rupture and the stinkhorn expand like a stalk very quickly, developing in an hour or two!

Can the sprouts from rabbit-girdled fruit trees become replacement trees?

The short answer is yes. If you are not expecting the same fruit tree that you planted. The rabbit heavily browsed many young fruit trees this past winter. If the browsing extended all the way around the trunk, often the stem above the girdle died and the stem just below the damage sprouts.

These sprouts usually originate below the bud union – the tissue where the specific fruit tree cultivar was grafted to the root stock. This means the sprouts shooting up are not from the same fruit cultivar that was purchased. The fruit will not be the same quality, color, or flavor. It is better to remove and replant the desired fruit cultivar then try to train a new tree from sprouts.



A common call I make is to see a mountainash about 25 to 30 years old that is beginning to decline. A canker is often evident on the stem or large branch. This same stem or branch is usually declining or dying back beyond the canker. A common canker disease for mountainash is cytospora canker. The canker usually starts with an older pruning wound or branch stub. It expands out from there and eventually girdles the affected stem or branch which causes dieback.



These cankers are weak pathogens. They can only colonize a declining host. A common stress that increases the tree's susceptibility is old age. Mountainash may only live 25 to 40 years in urban settings.

Since this tree is withering at this age range, the best option is to prune out the dead stem and enjoy the tree for a few more years. It will continue to decline, regardless of what is done, and expect to remove it within the next five years or so.

Minnehaha County, Giant puffball



This is the year for mushrooms. This is the giant puffball (*Calvatia gigantea*). It is the largest puffballs – often more than one foot across in the fall. One was found in Minnesota years ago that was more than two feet high and weighed more than forty pounds!

Samples received/Site visit

Fall River County, Giant conifer aphid

Giant conifer aphids are large enough, about 1/4-inch long, that they are easily seen on the needles. They also feed in colonies. During most of the summer, the aphids are all female. At this time of year there are male and female conifer aphids. The females are laying eggs along the needles. These large, smooth, black eggs are placed in a long row along a needle.



The aphids feed on plant sap through their piercing-sucking mouthparts. They can feed the shoots. The feeding is usually not enough to harm the host.

Minnehaha County, Declining mountainash

First, mountainash (*Sorbus*) is not a true ash (*Fraxinus*). Mountainashes are not hosts to emerald ash borer. Mountainash do have some borer problems but most decline is associated with cankers or fireblight.

Puffballs are white and smooth while they are young, but as they age, they turn brown and collapse. The torn liner allows the spores to disperse.

Young puffballs are edible; and are delicious when sliced and fried. But only harvest ones that are white and solid inside. Also, my standard recommendation is going with an experienced mushroom hunter on your first trip to collect these from the woods. Mushroom hunting – if you plan to eat them – is best taught in-person, not from a picture.