

Pest Update (October 21-28, 2020)

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Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of dying 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.

Available on the net at:

<http://sdda.sd.gov/conservation-forestry/forest-health/tree-pest-alerts/>

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.

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Plant development for the growing season

Cold and snowy weather was the norm for the past two weeks. Temperatures dropped to the single digits for several mornings. Most of our woody plants are prepared for winter. The drier and warmer Fall weather may mean that some of the marginally hardy plants were not quite prepared and we may see some winter-injury on them come spring.

Timely Topics

Emerald ash borer continues to spread

New community find in Nebraska

Earlier last week, Nebraska confirmed emerald ash borer northwest of Grand Island. This along with the recent insect's discovery in Kearney is an indication that the insect has most likely spread out from the initial Nebraska find in the Omaha area in 2017. While it is difficult to trace these newer infestations back to Omaha, it is following the common pattern of new infestations appearing in and near communities along transportation corridors farther out from the initial find. Regardless of origin, the insect is becoming established in eastern Nebraska

Satellite infestation discovered in southern Sioux Falls

Emerald ash borer also continues to spread south through the Sioux Falls. The insect was first discovered in the northern edge of the community in 2018 and it is thought to have been there since 2015, possibly 2014.

Since that time, it has spread to where infested trees are found throughout the city north of 12th street/Highway 42, at least the portion of the city west of the 229. As



mentioned in the last issue of the *Update* there are undoubtedly satellite infestations south of this line – one was detected in 2019 – but these will usually be only a small number of trees so will escape detection in our surveys.

However, Kristi from Arbor Care contacting me last week about a possible infested tree two miles from the nearest known infestation. This tree is west of 1-29 and in the vicinity of 26th Street. I inspected the tree that same day and it had all the symptoms usually associated with emerald ash borer. There was blanding – large strips of the outer layers of bark shredded off to reveal lighter bark - in the upper branches and these patches had extensive woodpecker drills.

Once emerald ash borer spreads into a neighborhood or community, woodpecker soon find these insects are easy to extract (they are just beneath the bark), plentiful and apparently tasty. Woodpeckers become very good at locating trees infested by emerald ash borer and we use them as spotter, though these same birds will occasionally blond an ash infested with one of our native borer. There was also numerous watersprouts – long, slender upright shoots – along the major limbs and trunk. These too will occur in ash infested with other native borers and stressed by environmental disorders.



The Arbor Care crew was on the property to prune the tree but once they saw the symptoms of emerald ash borer, they investigated a little further and found the “smoking gun”, a larva. They sent a picture to me and then Kristi and I found more when we stripped the bark off some of the cut branches. No question, it was infested with emerald ash borers.

A survey of the neighborhood found at least ten other ash trees with blanding, woodpecker drills, and watersprouts along trunk and limbs in the canopy. Several ash had been recently removed and one was cut

into firewood and D-shaped exit holes made by the adults were found on the stacked wood. I expect to see dieback in many of the untreated ash in the neighborhood next summer.

The tree owner was only planning to have his ash tree pruned. He had not started treating it yet. Now that emerald ash borer was found in the tree, he wants to start treatments. Unfortunately, for his tree it is too late. Treatments now might still save the tree, ash trees can survive when treated with the canopy more than one-third dead, but the dead does not come back. Someone must get up in the tree and remove all the dead wood and then train the new sprouts to become a new crown. It can be done. It is just very time-consuming and expensive.

If you live in Sioux Falls and you like your ash tree enough to prune it, you should be treating it. Ash tree owners should not wait until their tree is infested to begin treatments. While lightly infested trees can be treated and recover, these are typically trees that there have no outward signs or symptoms of the infestation. Once extensive blanding, woodpecker drills, and canopy dieback has occurred, it is too late.

Emerald ash borer development



The insect develop survey found that almost all the larvae were in their 4th instar and had curled in their winter cell, often described as J-shaped. Once the 4th instar completes its feeding, it cuts a tunnel up to the bark (which the adult uses to emerge next spring) and then cut a cell deeper into the wood.

If you just pull the bark off an ash at this time of the season all you might find are the galleries, not the insect, as it has burrowed deeper into the wood. Kristi and I found several cells craved into the wood of the ash tree previously mentioned. I found only one earlier instar while sampling in Canton. This is an indicator of a two-year life cycle but that was just one. The rest of the sampling revealed J-shaped larvae snug in their winter cell.

Buying firewood

Many homeowners are stocking up for firewood and rather than going through their local newspaper for sources, the internet has made firewood only a click away. Not too surprising you can even buy firewood from Amazon, where 1.5 cubic feet of seasoned, split firewood sells for \$45, the equivalent of \$3,800 per cord!



Craigslist image of firewood for sale in Sioux Falls.

Most of us would rather pay far less a cord so we look on Craigslist or other internet source. These sources are selling firewood in eastern South Dakota for about \$100 or so per pick-up load (about 1/2 to 2/3 of a cord depending how high its stacked) or about \$200 to \$300 for a cord of ash (a cord is a stack of wood that is 4 feet tall, 4 feet wide and 8 feet long).

The concern is where this wood is coming from. Some sellers are in Minnesota Counties, Brown and Nobles, that are within their quarantine. No hardwood firewood can be moved out of those counties unless it is MDA (Minnesota Department of Agriculture) or USDA certified. Other sellers are from Minnehaha County. Lincoln, Minnehaha, and Turner Counties are in South Dakota quarantine and no hardwood firewood can be moved outside these counties (though again there is a limit permit or certification system here as well).

The most common questions I received about moving firewood are these:

It is after Labor Day, can we move ash firewood out of Minnehaha County?

NO! The City of Sioux Falls prohibits the removal or pruning of ash between Memorial Day and Labor Day to prevent the movement of adults from infested areas to areas that are not yet infested. Adults emerge during the summer and can “hitchhike” on recently cut material.

This applies only to the City. The federal and state EAB quarantine is in effect year-around.

Seasoned firewood is older than 6 months. Can it still have borers in it?

YES! If the wood is cut after June, it can have adults emerge as late as July two years later! While most of the insects have a one-year life cycle, they can have a two-year life cycle where they remain as larvae in wood for almost two years.

Why is the quarantine for all hardwood firewood, why not just ash?

Because most people cannot identify the species of split firewood.

The best place to obtain firewood is from within the county you live. That may be difficult in counties that lack forests or old windbreaks that are being renovated. However, in these instances, the safest option is to buy firewood within the state of South Dakota and only wood that did not come from our three quarantined counties.

E-samples

At this time of year the samples shift from what’s this bug to what’s this plant?

Is this a chestnut?



Ohio buckeye, not chestnut!

Every year or so I receive a call or email about the discovery of an American chestnut (*Castanea dentata*) in South Dakota. This summer I finally actually got a call and when I visited the site, it was an American chestnut. But it was not a tree or a shrub, but more a ground cover as it really does not do well in our climate. While some guides list the tree as a USDA plant hardiness zone 3 tree, it can suffer dieback when exposed to a midwinter temperature of -20°F. Add in our seasonal temperature fluctuations and that is a combination that has limited its use in South Dakota.

This week’s discovery was the usual suspect – the Ohio buckeye (*Aesculus glabra*). This tree is adapted to much of the state and we, and squirrels, have planted it in many communities. The oval fruit, which litters the ground in the Fall, is light-brown spiny capsule about



1 to 2 inches in diameter. Once the fruit is split, there is one smooth, dark, shiny nut with a light colored scar – the buck-eye.

The nuts are not edible, at least without a lot of leaching and roasting. The raw nut meal is toxic to people and to some livestock such as horses and cattle. Leave them to the squirrels and buy the chestnuts from the store.

What is this tree?

The most common leaf sample sent in every fall is the white mulberry (*Morus alba*). The reason is the tree produces a variety of leaf shapes, from egg-shaped to mitten shaped. Mulberry is also a common tree around the state. The raspberry-like fruit (shape, not taste) is readily taken by birds and the seeds are deposited everywhere beneath where birds perch.



What is this vine on my plants?



This is bittersweet nightshade (*Solanum dulcamara*). It is a non-native plant that can now be found throughout the Great Plains. Bittersweet nightshade is also known as climbing nightshade as it usually grows as a perennial vine originating from a rhizome. The reddish berry is poisonous, the unripe fruit more than the ripe fruit, and can be harmful to people and livestock. It can be eradicated from a site by cutting the vines and digging up the rhizomes but the entire rhizome must be removed as fragments can regenerate a new plant.

What borer is causing these holes in my elms?



This injury is easily identified by the rows of shallow, oval-shaped holes “drilled” in neat patterns around the stem. Sapsuckers are a bird, not a “bug” and their damage is usually very limited. The sapsucker is a member of the woodpecker family and this group of birds lives by feeding on tree sap and the insect that inhabit that same zone of the tree. Typically the holes do not harm the tree but if the rows are extensive, as we have seen on young elms during the past few years, the holes can girdle the stem interrupting the flow of sugars from the canopy to the roots.

The problem is not easily stopped once the birds have decided that the tree is tasty. Usually wrapping the affected area in burlap will discourage further damage. However, the burlap must be frequently checked to ensure that it does not girdle the tree as well. Sticky repellents, such as Tanglefoot, may also be applied around the tree just above the top row and below the bottom row of the current holes.

Young hybrid elms seem to be especially attractive to sapsuckers – they must have tasty sap! The damage is not severe or common enough to discourage planting of these Dutch elm disease resistance tree. However, it may be interesting to see if there are differences among these cultivars in attractiveness to these birds.

Samples received/Site visit

Minnehaha County

Discolored cotoneaster leaves



The discoloration was due to the feeding by the pear slug (sawfly). The larvae, which resemble slugs, feed by removing the upper leaf tissue and only the tissue between the veins. This is called skeletonizing and the affected leaves have a lacy or dusty appearance. We have two generations per year of this insect so larvae are feeding in early and late summer. The populations seem to be higher than normal this year (maybe because everyone was home in plants more often). Treatments may not be necessary next year.

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Union County

What are these mushrooms?



These are puffballs, the globular fruiting structure found on certain fungi. Puffballs are common found in the fall on moist humus or decaying tree stumps. When the puffballs dry, they break easily and emits puffs of dust-size powdery spores. Some puffballs can become as large as four feet across while others are the size of a golf ball. Many are edible but only when they are young and fresh, once the interiors begin to turn color they should not be eaten. Also **never** eat these or any other fungi

until it has been identified to species by an experienced mushroom hunter that is standing there with you!

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