

Pest Update (September 18, 2019)

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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, instead 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 and the label is the final authority for a product's use on a particular 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



Last week we had some small patches of snow in the higher elevations around Custer though warm to hot weather is persisting across much of the state. The wet weather is continuing to fool flowering trees and shrubs into blooming. I saw a crabapple in Mitchell with a sprinkling of flowers in the canopy. This does not harm the tree but will reduce the number of blooms next spring.

Timely Topics

Emerald ash borer update



Emerald ash borer adult flight season has ended, and the larvae are snug within the inner bark of ash tree. They are still feeding and will continue to do so for another few weeks and then many will begin to curl, like a cat, for a long winter nap.

Now is the time that ash trees in Sioux Falls can be cut and the wood haul to the appropriate locations for disposal. Much of this wood will be utilized as a biofuel this winter before the insect can continue its development to emerge as an adult next spring.

Contactors and the Sioux Falls city crews are working to remove boulevard and park ash trees, infested or not, throughout the city to lessen the impact of emerald ash borer. If nothing were done, the insect will be responsible for the loss of about 40,000 public ash trees, most of them dying within a three to four-year window. This is far too many trees for any city to cut and dispose of within short period.

Too often cities have been lured by the slow initial spread believing that their community will somehow be spared the devastation seen by others. They are soon surprised by how quickly tree mortality peaks.



A good rule-of-thumb for most South Dakota communities is once emerald ash borer is confirmed in their town, ten years later all their untreated ash will be dead or dying. A town with 2,000 ash will see all of them gone within a decade after the initial discovery. However, the first five or six years the town may only loss 500 trees, a manageable number to remove. But the majority, the 1,500, may be lost in the next three to four years. Cutting and disposing of 500 dead trees a year, especially ones with wood having the consistency of Styrofoam, will overwhelm the budgets.

Last Thursday evening, South Dakota Public TV show South Dakota Focus covered emerald ash borer and what is being done in our state to slow its spread. Travis Theilen, SD Game Fish and Park; Dr. John Ball SDDA Forest Health Specialist; Brenda Sievers SD Dept. of Agriculture; and Kelby Mieras, Sioux Falls Park and Recreation provided their insight on what is being done currently and what are the future. The show can be seen by following this link:

www.sdpb.org/SDFocus

Once on the page go to the archive section and you'll see the episode titled SDF 2502 Emerald Ash Borer. It's a good overview of what has being done to-date and what the future will hold for ash throughout the state.

Ash firewood sales

As mentioned in the SDPB show, firewood is still a major dispersal agent of this insect. Its not a far or fast flier so unlikely to cross the open prairie between communities on its own. The adults can hitchhike under boat covers and even tumble off cars driving down the road during the summer so spread of this insect is inevitable and often follows transportation corridors. However, larvae and pupae in firewood are still the greatest threat. If infested wood is moved during the summer, adults beetle can emerge and begin attacking trees in their new home.



So, companies offering to sell ash firewood throughout the state raises a concern. While these sellers are outside the quarantine area of Minnehaha, northern Lincoln and northeastern Turner Counties, still moving ash wood is a means of accidently spreading the insect. We are aware of only one infested area of the state, but there is the possibility of other infestations that are undetected.

Local sources, preferable within a county, is the best source for firewood. The only exception is treated firewood, split wood that has been heated to 140°F for 60 minutes.

You do not need to kill cicadas in your trees

Cicadas are still buzzing away in treetops throughout South Dakota. These are the dog day cicada, annual cicadas, not the 13- or 17-year cicada found out East.



I have had numerous calls from alarmed tree owners certain the cicadas are damaging their trees. Many have sprayed their trees without success in stopping the noise. One enterprising tree owner used a shot gun and found that he could successfully shoot them out of the tree, however, the collateral damage in terms of leaf damage caused a halt to the operation.

Spraying the canopy of the tree may have minimal impact on the population. First, they are not eating the foliage so will not ingest any insecticides that work as stomach poisons. Even contact insecticides will have little effect as it is nearly impossible to spray high enough, and fine enough, to sufficiently cover twigs with the pesticide residue.

The only damage cicadas cause to the canopy is the adult female makes small slits in twigs to lay eggs. Once the eggs hatch, the nymphs immediately drop to the ground, enter the soil and spend the season feeding on tree and grass roots.

Other than an occasional twig that was sawn through when the female made an egg slit, the adults above ground and even the nymphs below-ground cause little harm to trees.

Buying hedge-apples for insect and spider control



Osage-orange (*Maclura pomifera*) fruit is out in stores now. The yellow-green, warty fruit, also known as hedge-apples (as the plant is frequently used as a hedge in the south), is sold as an insect killer. It is truly an excellent killer. If you hit an insect with the fruit, you will kill it. Otherwise, no, its not a repellent for insects or spiders.

Nothing really likes the fruit. It is not poisonous as once suspected, though the thick, latex sap can lodge in the throat. However, deer will eat them once the fruit become mushy. It is not a preferred food for them and while they will eat it, the seeds do not germinate well after passing through their digestive system, so deer are not a good dispersal agent.

The critter that supposedly really liked the fruit and excreted the ripe seeds that germinated was the American mastodon (*Mammot americanum*). This large herbivore disappeared about 7,000 years ago, maybe the fruit wasn't tasty enough.

E-samples



I am receiving pictures of common buckthorn (*Rhamnus cathartica*) fruit – do not eat this fruit! The dark, almost black, fruit is out right now and is being confused with chokecherries. Common buckthorn can be easily identified by the small spine at the tip of each branch. If you push on a shoot tip with your finger, you can feel it. Do not eat the fruit as it can result in sudden and violent diarrhea.



This picture is a **Chinese praying mantis** in Hot Springs. This is a common mantis in the state as well as the European praying mantis (there are no native mantis to our state, these two have been visiting here since the 1880s). The European mantis is the smaller of the two, about 2 to 3 inches, while the Chinese is 4 to 5 inches long. The Chinese mantis is more colorful with vertical strips on the head and a strip along the edge of the forewing.

They do not like our winters and frequently die as the temperatures become colder, but the egg cases may survive the winter to hatch out the young in the spring. People buy mantises each year and release them much as folks dump unwanted pet alligators in lakes during the summer.

Why would anyone buy an egg case to hatch out mantises? They are often sold as biological controls for garden pests. The praying mantis is a stone-cold killer and will attack and eat anything about the same size or smaller, even other praying mantis (so not a good party guest). They usually feed on caterpillars, crickets, grasshoppers, and moths. But they feed on anything, even frogs (as well as each other). They also do not reproduce very quickly and rather cautiously as the larger female may make the suitor the dinner.

Samples received/site visits

Davison County

What is wrong with my locust tree?



This was a black locust that had suffered storm damage some years ago. The open wound where a large branch torn off was still visible on the side of the trunk. This weakened tree is vulnerable to attack by the locust borer (*Megacyllene robiniae*), a native insect that is found throughout the state. While healthy black locusts are usually not attacked, the exception the cultivar 'Purple Robe', trees that are damaged or stressed are singled out for invasion.

Interestingly, an adult borer landed on the tree during the visit! The adult borer resembles a wasp. It is about 1 inch long, black with a yellow "W" across the wing covers. The adults are flying in late summer and will lay eggs on susceptible hosts. The eggs overwinter and hatch in the spring. The larvae burrow into the heartwood and may feed for a year or two before pupating and emerging as adults in late summer.



The treatment is a trunk spray of Carbaryl (Sevin) applied as the adults begin to fly (so a week ago).

Davison County

What is attacking my ash?



First, it's not an ash but a boxelder (*Acer negundo*), sometimes referred to as an ash-leaf maple. This is a native tree and the D-shaped holes in the trunk are the exit holes of the native maple borer (*Agilus masculinus*). It's a close relative of the emerald ash borer but is native so only attacks declining trees and is not the same threat to our forest. The maple borer is about

2/3s the size as the emerald ash borer, so the D-shapes exit holes are smaller as well as the larvae found beneath the bark.

Minnehaha County

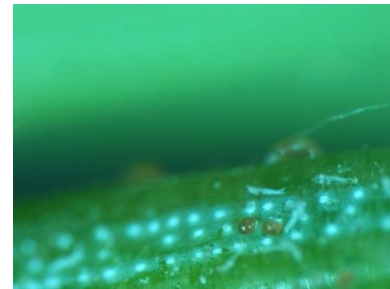
What is damaging my spruce?



Spider mites are blamed for far more damage than they cause on spruce. It seems that the reason for every discolored spruce is spruce spider mite when pathogens, needlecast diseases and cankers, are usually the cause. But spider mites can sometimes be the problem. The small (1/64-inch) dark green mites suck the cell contents from needles which causes yellow dots to multiple across the surfaces. Eventually infested needles turn

brown and fall prematurely.

The mite overwinters as reddish eggs near the base of needles and emerge in the spring to feed. The summer is also spent as eggs with adults hatching out in late summer. The mite is a cool season mite and it is most active (and causing damage) in early spring and mid-fall when the air temperatures are in the 60-70oFs. These are also the times when treatments are applied.



The best treatment is to hire a professional company. The insecticide available to tree owners, the horticultural oils and soaps, are best limited to small trees, less than 4 feet tall, that are easily sprayed with minimal equipment. Larger trees will require specialized sprayers that have the pressure to penetrate the dense canopies of a spruce. They also can apply effective miticides that are not available to homeowners.

Pennington County

What is eating my apple?



This was a great sample that I saw in Rapid City! The worm was coming out of the apple. This is the apple maggot (*Rhagoletis pomonella*), the insect responsible for dimpled and mushy apples. The adults, which resemble house flies, lay eggs on the developing fruit beginning in late June. The eggs are laid just beneath the skin and this results in a dimpling of the fruit. The legless, cylindrical larvae, white with two dark mouth hooks, hatch soon from these eggs and feed

in the flesh for about a month before emerging from the infested, fallen apple to form a pupa in the soil.

Treatment for the insect is either spraying the developing fruit during the summer when the adults are laying eggs or placing sticky red traps in the tree during this same period to capture adults.

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