Pest Update (January 20, 2021)

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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.

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.

Plant development for the growing season

We are continuing our mild Winter with only a few days, or perhaps a week, of colder than average temperatures. The warmer temperatures and lack of snow are appreciated by most of us (unless you want to cross-country ski or snowmobile). However, we could probably use the moisture – let us hope this dry spell does not continue into Summer.

Timely Topics

Darn bunnies!

I am sure that others are noticing rabbit feeding damage on their trees now that we are into winter. The combination of limited food sources and the lack of snow cover has made woody stems a tasty alternative for rabbits.

The most common question I am receiving is if this feeding injury is enough to kill the tree. The general rule-of-thumb is that if more than 2/3s of the bark has been removed from *around* the lower stem, the plant may die since food produced by the leaves later this summer will not be able to reach the roots. If the damage is less than 1/3 the way around, most likely the tree will survive. Notice the concern is not how far the damage goes up and down the stem but around the stem.

It may be too late to save some trees, but surprisingly we often experience most of our rabbit damage in March, so it is not too late to protect a tree that has escaped injury so far. The best protection is a physical barrier. Place poultry fencing around the tree set higher than the anticipated snow depth. You might have to remove some snow to insert the fence flush with the ground, but this is critical requirement. You do not want the rabbit to be able to get underneath the fence. A tube placed around the trunk works just as well.

Do not remove this Winter protection until the grass begins to green and other vegetation is available (such as your garden) for the rabbits. Young tree trunks can be relatively sweet to a rabbit in the spring, just before bud break, so do not remove the fence just because the snow is gone. However, once the weather warms and tree begin to grow, the trunk tubes must be removed to prevent damaging the stems.

The other possibility is to spray the tree trunk with a rabbit repellent. There was a relatively recent test done out in New England with the various commercial products available for discouraging rabbits from browsing on valuable plants (Williams and Short. 2014. *Human-Wildlife Interactions* 8(1) 113-122). The best, of course, was a fence. This is the only method that will work 100% of the time (assuming the fence is installed properly). The repellent product that worked best on rabbits was Plantskydd. This is made from dried blood, pigs or cattle, and rabbits do not like the smell – it is a warning they may be the next meal!

The products ranked lower were made of putrescent eggs, found in many deer repellents, and works by the smell of the sulfur odor (so you might not want to spray plants right next to the house). These do discourage rabbits but apparently not as effective on bunnies as on deer.

Regardless of what repellent is applied, check the label for how often it must be reapplied.

Ash trees are coming down – work continues in Sioux Falls.

Emerald ash borer was confirmed in the northern part of Sioux Falls in May 2018. Since the initial discovery, the insect has spread out from this area of town. Infested trees can be found throughout the northern half of Sioux Falls and a few satellite infestations farther south and west of these areas of town. This does not mean all the movement has occurred since 2018. The infestation was in northern Sioux Falls for several years before it was discovered, so movement out of this area had been occurring for a while. The movement was slow as there were plenty of ash in this area and the adult beetles usually do not fly any farther than it must to find a suitable host.

However, some will "hitchhike" on a passing car, truck, or trailer and some infested wood was probably moved throughout the city before 2018. These satellite infestations were small at first, and recently infested trees do not always show symptoms of attacks. This means we are just beginning to notice the infestation throughout the community.

The City of Sioux Falls has been anticipating the movement of the beetle and subsequent tree mortality and has an aggressive program to preemptively remove ash from their parks and boulevards. Unless the homeowner is having their ash street tree treated by a commercial service – and these have a tag on them – the tree will be removed some time during the next five years or so or was removed last year.

Since all the untreated ash will be killed by the emerald ash borer, it makes sense to gradually remove them, rather than wait until they are killed by the borer. Standing dead ash are a safety hazard and waiting until the streets are lined with dead trees before starting removals would overwhelm city resources and be a hazard to the public.

The City has swung into high gear with the removals and homeowners are noticing large machinery – equipment you might expect to see more in the Black Hills logging operations – coming down streets. These machines can remove trees faster than conventional felling; many people that called me about it remarked they could not believe how fast a tree can be cut down and hauled away.

While the aftermath of these operations can be startling, this is a far better, and less expensive option than having to wait to cut down ash killed by the borers.

E-samples

Apple buds beginning to open.

I usually receive a picture like this every few years. This is an apple tree in Pierre that has a few of the buds that are partially open. Pierre has experienced a warm winter so far with day temperatures in the 40^{o}Fs, 50^{o}Fs and even upper 60^{o}Fs during December and January. There were some cold periods as well, with night temperatures dipping near 0^{o}F. These temperature fluctuations can cause a phenomenon called early bud break (EBB).

This is not a good sign, not with the possibility of months of cold weather ahead of us. Expanded buds are more susceptible to Winter injury as the protective scales are pulled away. This can result in some twig dieback but usually most of the buds remain closed and are not affected by the temperature swings. Sometimes there are just a few that are out of sync.

However, I have seen some impatient trees break bud and even flower during warm Februarys. These confused trees often suffer severe dieback due to the cold weather we seem to always experience in March.

Longhorned beetle larvae in pine tree.

I received this picture of an insect found in a dead pine in the Black Hills. The insect looks to be the larva of the longhorned beetle (Cermabycidae) and probably a sawyer beetle (*Monochamus*). These are insects that are attracted to dying or stressed pines and are taking advantage of the situation rather than being the cause of the decline. Pines that have been stressed by drought, fire, or a multitude of other stressors create the perfect home for these insects.

These same trees are also home to the engraver beetles (discussed in the December 2-9, 2020 issue of the *Update*). Engraver beetle larvae are smaller, the size of a rice grain, nor do they have a swollen area near the head. They also leave trails filled with a fine powder while sawyer beetles leave larger tunnels with shredded wood. Engraver beetles generally infest dying trees but can (as they did last year) attack trees that are suffering from a mild drought stress so spraying to protect valuable trees is advised during some years. Sawyer beetles are after the dead and dying trees – the zombie trees – and no treatments, other than a chain saw, are used for management.

Fallen or leaning trees – what can be done?

The strong wind that came through the Black Hills left fallen and leaning trees in its wake. I had several texts and emails with pictures like these with the question "Can we stand the tree back up?" There is not a simple answer to this question. It depends on why a tree failed.

If the problem is shallow soils, a common occurrence in the rocky soils in the Black Hills, it may wise to finish the removal. If the soils are deep enough, at least two feet, the tree can be pulled back up and supported until the roots recover. This may take a few years and during that time guy lines must be used.

But the roots should be checked to be certain they were not cracked or broken by the fall. The failure might also be due to decayed roots that reduced stability; standing the tree back up is not going to work.

Generally, one or the other problem (too shallow of soils or decay) are the reason a tree failed, and the surrounding ones did not so rarely does righting leaning trees have long-term success.

Samples received/Site visits

Tripp County **What is wrong with this poplar tree?**

This is the work of the poplar vagabond aphid (*Mordwilkoja vagabunda*). As the aphid feeds on the expanding bud in the spring, it injects a substance into the plant tissue that causes a proliferation of cells resulting in a swollen, hollow mass which it lives inside. The affected shoot tip dies and turns dry and black, so these are easily seen at this time of year.

This aphid has a complex life cycle, moving back and forth though the season on different hosts (no one is even sure what the other host is). It also usually damages only a few shoot tips in a tree, so it is no concern to the poplar.

Reviewed by Master Gardeners Dawnee Lebeau, Carrie Moore, and Bess Pallares

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