Pest Update (May 22, 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/

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Plant Development

Nothing like snow at the end of May to really make you wish for summer. The wet, heavy snow in the Black Hills snapped a lot of tree tops. There were also many whole trees crashing down in the forest and on the roads. The remainder of the state had rain. The wet weather while trees are leafing out may result in

a lot of foliage diseases later this summer and I expect that the snapped trees in the Black Hills are going to provide a great food source for pine engraver beetle populations to expand – more problems.

The crabapples are past full bloom in Brookings and the Ohio buckeyes are just beginning to bloom – about the same time as last year so lots of pest treatments are due to start very soon!

Treatments to do very soon

Now that the growing season is in full swing there are numerous treatments to be applied. These treatments are necessary to protect the plant from becoming infested or infected by a pest or pathogen. Waiting until you see symptoms of an infestation or infection is usually too late for effective treatments.

Clearwing ash borer treatment with an insecticide containing permethrin as an active ingredient also begin now. The bark must be sprayed to protect the tree as the insecticide will kill the adults as they are walking on the bark to lay their eggs. The insecticide will also kill the newly hatched larvae before they burrow into the wood. Systemic treatments to kill the insect once it burrows into the tree are generally ineffective so injecting a pesticide or pouring one around the soil are not practical means of managing this borer.

The adults are usually out flying about a week or so after Vanhouttee spireas begin to bloom and the shrub started flowering a week ago. You will know the adults are flying when you see the pupa skins (picture above) sticking out of the emergent holes on infested trees

Now that buckeyes are blooming, bronze birch borers are emerging from infested trees. **Bronze birch borer** (*Agrilus anxius*) is a native insect that attacks birch. It is a close relative to the emerald ash borer so they both make ac D-shaped hole as the adult emerges from the tree. The time to treat birch trees is now as the female beetles are finding places on the bark (usually near a branch union) to lay their eggs. The bark can be sprayed with an insecticide containing permethrin as the active ingredient with a second application in about three weeks. Insecticides

containing imidacloprid can also be used as a soil drench in the fall to kill newly hatched larvae the following year so it's too late now for these treatments to be effective. If the canopy has dieback back more than about 40% the tree too far gone for treatments.

Bronze birch borers colonize almost every birch species with their favorites being Asian and European species such as the cutleaf European white birch. The river birch is very, very rarely attacked by bronze birch borer and can be considered a borer-free alternative to other species.

Cedar-apple rust galls on the junipers have expanded during the past week and this is an indicator to begin treatments to protect susceptible apples and crabapples from cedar-apple rust. The galls form on the junipers (cedars) and release spores that infect the apples and crabapples. The infection on apples and crabapples results in discolored foliage and fruit and premature drop of the leaves. Fungicides containing Myclobutanil as the active ingredients can be applied beginning now and repeat three more times at 7 to 10-day intervals. Captan, a common fungicide for apple scab is NOT effective against cedar-apple rust.

Codling moth adults are flying and laying eggs on the newly forming apples. Once the larvae hatch, they will burrow into the developing apple, usually near the base of the fruit, resulting in a trail of brown, powdery frass through the apple. This frass often extrudes from the entry hole as in the picture to the left.

The treatment is usually Malathion, though there is much evidence that carbaryl (Sevin) provides better control. The first treatment begins about 10 to 20 days after petal fall, as the fruit just begins to form and then three more applications spaced about 10 days apart. This treatment will also control **plum curculio**, an insect that cannot usually get through the tough skin of an apple, but the egg laying leaves the fruit dimpled and distorted. The picture to the right shows bird pecks (the large hole) and plum curculio damage (the dimples).

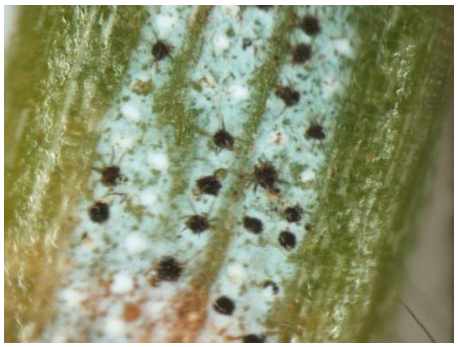
The other option is **bagging the individual apples** using the Japanese fruit bags when the apples reach about ½-inch diameter. This is no guarantee of control as the fruit may become infested before that size, but they do provide reasonable control of this pest and many others as well as improve the shine to the fruit.

And finally, if you want to hang jugs of bad smelling liquid to attract codling moths and repel unwanted visitors at the same time consider mixing **molasses and water** in a 1:7 solution with a few drops of dishwashing soap. Pour this solution into a one-gallon milk jug with the top cut out of it and hang from the tree. The fermenting mix is attractive to codling moths (as well as wasps and critters) and they *may* prefer this to your apples. It also creates a mess if you bump the bucket while mowing your lawn…….

Diplodia tip blight first application of a fungicide should be applied very soon. Tip blight is probably the most common disease of pines, particularly Austrian pine. Symptoms in early summer are the new needles becoming brown and stunted (as seen in the picture below). Twigs may be infected and become stunted and deformed. The treatment is a fungicide containing thiophanate-methyl, propriconazole or chlorothalonil (labeled for control of this disease) just before the bud sheaths have opened and should be happening soon. Timing is critical, once the bud sheaths have opened and the candle begins to form, it's be a little late to begin the first application and this is the one that provides most of the protection.

Pine needle scale, also called white scale, is an armored scale, one that forms a hard, waxy covering over their body. The eggs overwinter beneath mom's shell and hatch occurs about the time common lilacs are in bloom. The mobile immature, called crawlers, move out to the new needles, settle down, insert a "beak" into the needle and begin to suck out sap. The crawlers lose their legs and develop a hard shell (at least the females, the males develop wings and fly). The eggs are laid under mom and then she dies. This is completed by mid to late July and we usually see a second generation in late summer.

The female's dried shell remains on the needle for years, so it always looks like a bigger problem than what it really is. The natural enemies of the scale generally keep the scale population in check, so treatments are not always needed. If treatment is necessary use 2% horticultural oil or insecticidal soap as these insecticides cause little harm to the natural enemies (however, read and follow label directions and precautions carefully as a misapplication can cause needle discoloration. Insecticides containing acephate are also effective, but harm natural enemies. All applications should be made beginning in mid-May (about one week after Tatarian honeysuckle blooms) and another application mid-July.



The new shoots are expanding on spruce so it's time to apply a fungicide to protect against **rhizosphaera** or **stigmina needlecast**. These are the most common foliage diseases of blue spruce. These diseases cause the older foliage to turn yellow by midsummer and then purplish-brown. Usually small black fruit bodies can be found in the spring lining the stomata along the needles. Stigmina needlecast fruiting bodies have fuzzy edges (as pictured above) while rhizosphaera fruiting bodies are smooth (as pictured to the right). The disease results in premature needle drop and a thin and discolored canopy. The disease can be managed by an application of chlorothalonil now and a second application in about two weeks. If the needlecast is due to Stigmina the applications may have to continue every 10-days till August. It is important to treat the entire canopy, not just the lower branches when treating for Stigmina.

Timely Topics

What will the cold do to my trees?

While it snowed in the upper elevations of the Black Hills, its also been cold in much of the state. Many areas have seen temperatures dip into the low 30s or even 20s. Since we did receive a teaser of warm weather a few weeks ago, this recent cold snap occurred while some tree species already had their leaves open and the foliage is now drooping.

The native bur oak and other species have sensible not leafed out yet – they have been here for 7,000 years or more and know that May weather is unpredictable. Not so with many of our introduced trees and shrub that come from more moderate climates of regions in Europe or Asia where extreme seasonable temperature fluctuations are less common.

Unfortunately, many of our Norway maples and other woody plants that leafed out early were caught by the cold weather. Many of these trees were presenting drooping leaves over the past few days and I expect that some of these leaves may soon have blacken margins or blotches. The drooping leaves will usually recover just fine but if they develop blackened areas they may be shed in the next week or two.

Regardless this is not a major concern as the trees will recover this summer.

Can I eat these mushrooms?

South Dakotans are a frugal group of folks, always looking for a free meal. I receive numerous pictures every year of leaves, mushrooms, conks, anything coming out of a tree, etc. with the question "Can I eat this?" The answer to this question is easy – sure you can. The correct question is "Will this hurt me if I eat it?" is a better question because there are lots of plant material out there you can eat but shouldn't.

I received these pictures recently with the question whether they can eat this mushroom. First these are not usually considered mushrooms, but conks. Mushrooms are fleshy fungal fruiting bodies that appear on the ground or decaying material such as a log. Conks are shelf-like (bracket) fungal fruiting bodies that grow on standing or fallen tree trunks and branches. Some consider a conk a type of mushroom, so the terms are sometimes used interchangeably.

Mushrooms and conks are both the fruiting bodies of fungi. The vegetative structure to these fungi are the fine threads that form a network of fibers in the wood or soil. The fruiting bodies are the reproductive structures that produce the spores.

These appear to be Ganoderma species, which are generally perennial shelf fungi with a white spore surface (the underside of the shelves) that bruise brown when touched or scratched. The margins of the shelves are usually a bright white while growing but develop a tough woody texture as they mature. These can become more than two feet across if left undisturbed.

Ganoderma are also saprotrophic forming a white rot in dead and dying hardwood trees though they can sometimes be found on conifers.

Edible Ganoderma do not have poisonous look-a-likes, but they can become very woody and moldy and these should not be picked. **Also NEVER assume a fungus is edible from a picture or description. ALWAYS go out with an experienced mushroom hunter to be sure of identification.**

Also, while considered edible they can cause problems if consumed in combination with certain medication so check with your physician first. And last point, our most common Ganoderma are far too tough to be considered edible but are sometime cut into small pieces and used as a tea. I would opt for Starbucks instead.

E-samples

Maple bladder galls are beginning to appear on silver maple leaves. The galls are due to the feeding of a very small eriophyid mite called (you guessed it) the maple bladder gall mite (*Vasates quadripedes*). The mites overwinter under the scaly bark of the trunk then move to the expanding leaves in the spring. The mites feed on the underside of the leaves causing a pouch or bladder to form. Eggs are laid in this bladder and the young mites live and feed within this protective structure. The galls turn color during the season from green to red to black and usually the color is what catches the eye of the tree's owner. The mites and the galls do not harm the tree, the leaves are still able to manufacture food, so no management is needed. Besides, once the galls are noticed, it would be too late for any treatments as nothing can remove the bumps (unlike pimple treatments for acne plagued teenagers!).

Samples received/Site visits

Hand County **Please identify this tree and the problem.**

This is eastern redcedar (*Juniperus virginiana*) and they often have a yellowish cast to them in the spring. It will green up as the weather becomes warm. The small bumps at the tips of the foliage are the formation of the "flowers", the male cones.

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