Pest Update (April 29, 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/

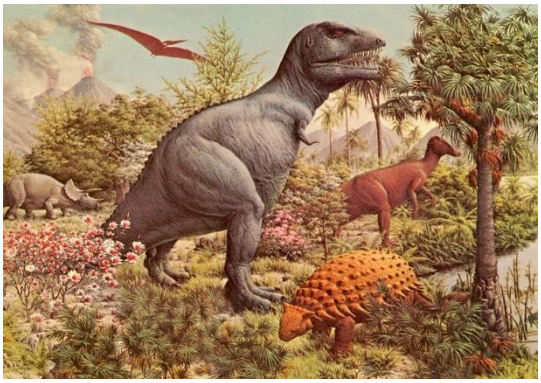
Plant development for the growing season

The weather is warming across the state and we are beginning to see many early-flowering trees and shrubs coming into bloom. The star magnolias (*Magnolia*

stellata ‘Royal Star’) on the SDSU campus are in full bloom right now. Almost every branch is lined with the flowers.

Magnolias do not have petals. The colorful blooms are tepal, where the petal and the sepal are indistinguishable. In the center of this bloom are the stamens that sit upon a pineapple-shaped structure which is the carpel.

Tepals are considered the ancestor of our modern flowers (or at least were, some recent studies have disputed this linkage). Anyone who thinks back to their dinosaur books can remember this picture showing a Tyrannosaurus and Ankylosaurus lumbering by a magnolia in full bloom (it is from Rudolph Zallinger’s “Age of Reptiles” mural in the Yale’s Peabody Museum of Natural History). They are old plants!



So, take the opportunity to go out and enjoy the flowers. At least you will not have to fight off the dinosaurs.

Treatments to do now

Spruce needleminer treatment – the larvae are moving from their webbed nest and resuming their feeding. A spray of high-pressure water right now may knock them off the tree though be sure to rake up the fallen needles and larvae after the water spray. The other approach is pesticide treatments to kill the larvae as they begin moving out onto the foliage. Remember to spray inside the canopy, not just the exterior. Actually “power washing” the lower canopy of the spruce is a good way of cleaning off all the dead and dying needles as well as some insects. However, be aware the tree will appear a little more open afterwards!

Zimmerman pine moth treatments should begin now. If the pine has pitch masses around the junction of the branches and trunks this is a good indicator that the trees are infested and should be treated. The most effective treatment is an application of an insecticide applied as a trunk drench.

Timely Topics

Be careful pruning, for your sake and the tree’s!

I know everyone is anxious to go out and start pruning their trees. The warm and sunny weather is an invitation to get outside and do just about anything. However, pruning might not be the best project to work on, especially if it involves working at height or using a chain saw.

I saw this interesting example of pruning branches high up into the tree. Rather than use a ladder (which is generally not a good idea either), the tree owner here assembled scaffolding to reach the upper branches. While this might seem like a good idea, scaffolding can fail, and people have been known to fall from scaffolding. Pruning branches that require you to leave the ground should be a reason to call a local tree company that has the equipment and know-how to do this work safety.

The know-how is also important for the tree's sake. I found this ash tree that had one of the two leaders cut off. Apparently, the tree cutter was not aware that when you cut off a long, heavy limb such as this, the wood is going to tear in a very long strip. There are ways to do this properly but none of those steps were followed here. The tree had a small pocket of decay and now it is open to further decay as the bark – its protective skin – has been removed in a long strip.

Morel hunting will soon begin!

If you are not familiar with these mushrooms, they are known as morels, the sponge mushroom, and are excellent when cooked (or dried to be used for later). They begin to appear when the days are in the 60s and nights in the 40s. Add a little rain to this temperature mix and morels start popping out of the ground. Another signal is morels start coming up about 10 days after you notice dandelions in flower.

Morels are among the “fool proof four” and along with puffballs, sulfur fungus and shaggymanes, are easy to identify as well as tasty. This is important as a misidentification of a fungus, even if cooked, can lead to a bad tummy ache or death.

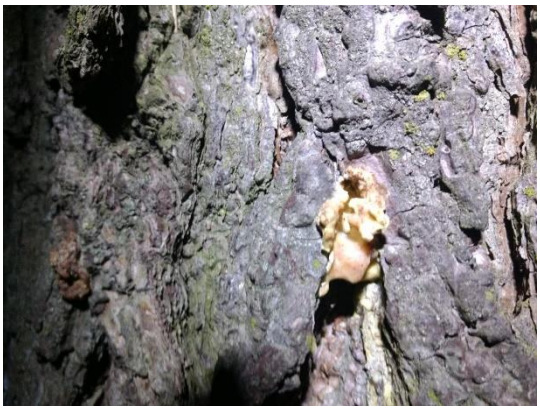
Morels are hard to confuse as their characteristic conical caps indented with irregular pits that makes the cap almost appear as a sponge. They tend to come up in the same spot every year so almost every morel hunter has a secret spot or two. IMPORTANT: while morels are easy to identify it is always a good idea to go mushroom hunting with an experienced person for the first couple of times just to be sure you are collecting the right mushrooms, pictures are not enough.

E-samples

Turpentine beetles in Austrian pine

Red turpentine beetle (*Dendroctonus valens*) is found in ponderosa pine in the Black Hills. This bark beetle is found in stressed and declining pines. It is not the tree-killer that its smaller cousin, the mountain pine beetle, is to pines. I see turpentine beetles frequently in trees surrounding new home construction sites in the Black Hills. The pines are kept, but not protected by fencing, so the bark is torn by equipment and the roots crushed by trucks. These trees are attractive targets for turpentine beetles.

I do not often see it East River, but it appears to be in a stand of Austrian pines in Turner County. The pictures show large reddish pitch masses along the lower trunks. There is also granular sawdust on the surrounding soil and in the bark crevices. These are common signs of a turpentine beetle infestation.



An infestation is not usually fatal. It is more an indicator that the tree is stressed. The key is to restore the tree’s healthy by identifying and alleviating the stressors. The most common are drought and saturated soils. While Turner County has experienced drought during the past decade, the last couple of years have been wet. Pines do not perform well in wet soils and this may be the underlying stress. A site visit is planned to confirm the identification of the insect and determine the stress.

Witches' broom in boxelder

Rick, an Urban Forester with the South Dakota Department of Agriculture, received this picture from the tree owner and passed it along. This is a witches' broom in a boxelder (*Acer negundo*). Witches' brooms are a dense cluster of short shoots arising from a single source on a branch. Brooms are common on trees such as hackberry where the cause (a mite and a mildew fungi) is known but most brooms are just a guess as to their origin.

Brooms on trees in our region are caused by fungi, phytoplasmas (bacteria-like organisms), viruses, mites and aphids. Mistletoes, parasitic plants, are also responsible for brooms but most of these occur outside of the Great Plains.

Brooms are also due to genetic mutation in the buds. Usually if the cause is just a genetic mutation there is only one broom in a tree. If this is the only witches' broom in the boxelder it might be a genetic quirk.

Fortunately, brooms are not harmful, just a proliferation of shoots, like ear hairs, so just endure them (or prune them off if unsightly).

Samples received/site visits

Brookings County **Zimmerman pine moth**

I covered a Zimmerman pine moth (*Dioryctria*) infestation in spruce in an earlier Update (April 22nd issue). However, the insect is far more common in pine. It can be found in Austrian and ponderosa pines, but I rarely see it in Scotch pine. This is not a single insect species, but three closely related moths with slightly different life cycles. The tree injury is the same, however, with infested pines often with distorted trunks and broken branches. Large pitch masses usually occur in association with branch whorls.

The best time to treat is late April (beginning when Magnolia flowers are just beginning to open which is now) to kill the overwintering larvae before they burrow into the wood and again in August (when goldenrod begins to bloom) to kill the newly hatched larvae. Insecticides labelled for treating Zimmerman pine both

and containing bifenthrin or permethrin as the active ingredient should be applied with a pressure spray so that the droplets reach the trunk, not just the outer canopies.

Custer County **Mountain pine beetle**

While the mountain pine beetle (*Dendroctonus ponderosa*) epidemic is over, that does not mean the insect has completely disappeared. I found mountain pine beetle infesting a few stressed pines on a landowner's forest stand (almost all the adults were dead). Mountain pine beetle is now biding its time attacking weakened pines since their numbers are too low to be able to successfully attack large, healthy pines. At some point, hopefully more than a decade from now, the population will begin to expand and once again become the tree-killers that they were from the late 90s to a few years ago.

Minnehaha County **Aspen taking over a lawn**

I receive a call from a homeowner in Sioux Falls that the lawn beneath his 15-year-old aspen (*Populus tremuloides*) trees was thinning. Aspen cast very light shade so the limited sun screening is rarely a problem for our cool-season turfgrasses but the roots – that another problem! Aspen reproduces by suckering. They send shallow roots through the surrounding soil and these generate stems that push up and form a new tree. These continue to send sprouts up and eventually you have an aspen forest. The largest organism in the world is an aspen stand in Utah called Pando. It's a clone that is about 100 acres in size!

An aspen forest will sprout in a lawn if it is not mown. The picture shows several large aspen trees in the backyard. These were all planted, not sprouts, but they are collectively producing a network of thick roots just beneath the soil and these are attempting to generate sprouts. This extensive network of roots is completing with turfgrass and absorbing more than its share of water and elements.

The best solution is just to make a mulch bed that encompasses the aspen trees and cut any sprouts that come up through the mulch. Once a year should keep

them under control. If the mulch bed extends about 3 feet out from trees the roots mass will be much less outside this area and the turfgrasses should be able to complete.

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