Pest Update (October 23-30, 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.

Plant development for the growing season

Plant development is at a complete stop now. There is still a little fall color in the southern part of the state, but foliage and fruit are quickly dropping as our trees and shrubs prepare for their long winter nap.

Timely Topics

While we are still in autumn, it's a good time to start thinking about what to plant next year for windbreaks. We have gone on the "ash diet" and I am seeing a greater diversity of deciduous trees going into belts. However, we still lack diversity in our evergreens.

This is a harder task as much of South Dakota has very few native conifers – just eastern redcedar (*Juniperus virginiana*) and Rocky Mountain juniper (*J. scopularum*). These are excellent windbreak trees, but I do not want to become too dependent on them as they are not without problems (including becoming a weed) and the threat of an exotic pest is always out there.

We also have a lot of spruce in belts and one is being overused – the Colorado spruce (*Picea pungens*). It can be, and often is, an attractive tree but it is not well-adapted to our region and once it reaches 20 to 30 years decline is very common. One of my favorite spruces is the Meyer spruce (*P. meyeri*). While I was at the Big Sioux Nursery a week ago, I took a picture of an attractive row of this tree. It has bluish green needles and while not nearly as blue as some Colorado spruce, they are as blue as many. The tree also is adapted to our climate and appears to suffer few pest problems than our Colorado spruce.

It's not a perfect tree. It is not very drought tolerant – spruces are not – and it grows slower than Colorado spruce on many sites, maybe 3/4's the growth rate. Another challenge is the softer needle seems to make this tree attractive to deer and I have seen them browse this tree to the size of a beach ball. Once the tree gets some height – about 6 feet – they leave them alone but before that, expect some damage.

Another tree to consider is red pine (*Pinus resinosa*). This species is native to Minnesota (it's their state tree) and is adapted to droughty soils. It does not do as well on poorly drained clay soils and I see some chlorosis (yellowing) of the needles if the soil pH is above 7.4.

I happened to see a belt of these trees south of Brookings. They were a little yellow but otherwise seem to be doing fine. I have also seen nice specimens from Brookings down to Yankton so while it may not find a home across the state, it might be a possibility in the eastern edge.

Now-a-days we speak of tree diversity, not in terms of species, but genera. The more genera, the less risk of a catastrophic loss to an exotic pest. While Meyer

spruce and red pine are possibilities, they are still spruce and pine and we have plenty of them.

A better (and safer) choice is a larch, an underused genus in the state, and one of the best is the Siberian larch (*Larix sibirica*). It has about everything you want in a conifer; extremely cold hardy (zone 1!), adaptable to drier sites (though not extremely drought tolerant) and tolerant of alkaline soils. Siberian larch also has a faster growth rate than most other conifers.

The downside? While it's a conifer, its not an evergreen. Larches drop their needles every autumn – often after a color change to bright golden yellow – and flushes with soft, bright green needles each spring. However, yes, it does look like a dead spruce during the winter. We don't seem to mind our deciduous trees looking "dead" during the winter so we probably should consider adding larch to our list of trees.

E-samples

Very chlorotic oak

I received a picture of a very chlorotic oak. This is the Regal Prince oak (*Quercus* x *warei* 'Long') which is cross between an English oak (*Q. robur*) and the swamp white oak (*Q. bicolor*). The Regal Prince can be a beautiful, columnar tree but it seems to take after its swamp white oak side when it comes to alkaline tolerance. I often see these trees becoming chlorotic on soils that are only slightly alkaline. Two years of wet soils, which has limited root development, just makes the problem worse.

Diamond willow

I also had some pictures and a question as to whether these were the 'diamond' willow. The diamond willow is not a species, but a pathogen. Diamond willows receive their name from the diamond-shaped discolored wood that forms around branch scars on the stem. The pathogen is the fungus *Valsa sordida* though there may be others involved. While diamond willow is not specific to any willow species, we usually find them on Missouri willow (*Salix missouriensis*) canes along streams and rivers.

Samples received/site visits

Moody County **Why are my young spruce dying?**

This also required a site visit. Many of our dying spruce samples can be easily categorized as needlecast disease, cytospora canker, spruce needleminer or another common pest. This sample showed nothing out of the ordinary, so a site visit was needed.

Unfortunately, the site visit did not solve the puzzle as the trees looked fine. The pictures that were submitted with the sample showed stunted, yellow interior needles but the yellowing was normal, just the loss of the older needles, and the stunted needles occurred the year following transplanting which is a common.

There may be nothing wrong with these trees other than the seasonal color change and now that those needles have dropped, the trees look fine.

Union County **Why are these Prairifire crabapples dying?**

Samples were sent from two of the trees but other than some shoot dieback there was not much to go on. This cultivar is hardy to our area, so the injury was not related to winter-damage (though it is prone to some tip-dieback during very cold winters). There were no symptoms that could be associated with fireblight and this cultivar has good resistance to the pathogen.

Usually if the problem is not on the sample, it is in the roots, so a site visit was arranged. When I arrived, the problem was obvious. The trees were standing in a very low area, an area that had standing water last year and this year. Crabapples are not tolerant of wet soils and these trees had already suffered significant root mortality – one was ready to fall! Not much to do other than remove the trees and either berm the soil or plant a species that tolerates wet soils.

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