

NOW

IN TETON VALLEY



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Colter Half Marathon Saturday.

B1 TETON VALLEY NEWS - AUGUST 4, 2011

BUGS AND CRUD

FUNGI IN THE FOREST

Shepherd's Crook on aspen.

Photo courtesy William Jacobi; Colorado State University; Bugwood.org



Part two of a two-part series

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TVN Staff

With the recent emergence of Aspen Ink Spot, along with two other fungal diseases, a virtual “orgy of foliar fungi in the forests” is infecting aspen stands in eastern Idaho and western Wyoming, said James Hoffman, U.S. Forest Service plant pathologist.

And, while some fungi are not necessarily deadly, others are alarmingly lethal.

Of serious concern is white pine blister rust. It is attacking and killing whitebark pine, a tree needed by a number of wildlife species, along with western white pine and limber pine.

“[Whitebark Pine] is an important food source” for wildlife, said Hoffman.

The local forest districts are trying to identify blister rust-resistant trees with research to protect those trees, so cones can be collected and seeds be raised to see if they really are resistant. If so, the seeds could be used for a future source of tree planting throughout the whitebark pine range in the mountains.

The tree is a candidate species under the Endangered Species Act.

Other foliar fungi appear and reappear, depending on the continuing conditions that favor the development of fungal diseases, he said.

“The long, extended spring

season of cool, moist weather favored development of two aspen foliage diseases in western Wyoming and eastern Idaho,” he said. “Diseased aspen groves have been reported from Montana down into northern Utah. It appears to be an epidemic.”

Black leaf spot disease starts with small brown spots on the leaves that enlarge and turn blackish-brown in early August, frequently causing the leaf to fall off prematurely.

From a distance infected aspen stands appear brownish, he said.

Aspen leaf and shoot blight — also known as shepherd’s crook — persists within an aspen stand on older infected stems or branches, said Hoffman.

“Continued moist and cool conditions allow the pathogen to infect and eventually kill the aspen leader so quickly that it turns black, curls, and may persist in the shape of a shepherd’s crook.

“Infected stands initially look reddish in color until later in the summer when they appear black or dead, and look all for the world like they’ve been burnt,” he said.

“This is the most widespread outbreak of this foliage disease in this area since 2000.”

The new emergence of a third fungal disease — aspen leaf spot — confirms the declaration of an epidemic of foliage diseases on aspen,

Hoffman said.

But these fungi are not lethal to the trees. Hoffman likens these illnesses in trees to the cold and flu season in people.

“That’s when we have the



TVN Photo/Ken Levy

The spores of a tree-rust fungus known as yellow witches’ broom are what appears to be yellowish-orange dust on the surface of subalpine fir needles, said James Hoffman, USFS plant pathologist. “On fir trees this perennial rust fungus causes the overelongation and overproduction of host tissues, similar to cancerous growths in animals,” he said. This tree was found in Teton Canyon.

conditions that transmit these fungi from tree to tree and cause these short-term perturbations that make them look sick or discolored. Most of the trees will recover and survive,” he said.

One possible silver lining to this malady, Hoffman said, is that “the swift and repeated defoliation caused by the three foliage diseases may allow the aspen stands to re-leaf quickly.”

The trees will look ratty and dirty for a while, but as new shoots emerge they’ll take over, and “the trees will look normal. They’ll probably look very good for fall foliage this year,” he said.

Conifers, including Douglas fir, are also susceptible to fungus, such as needle cast, which turns the lower

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Jim Robertson,
natural resource specialist/silviculturist,
USFS Caribou-Targhee National Forest

◀ Aecial spore stage of white pine blister rust on main stem of a young tree.

Fungi continued on B12

Fungi continued from B1

The "grey ghosts" of dead conifers stand solemn sentinel in Teton Canyon.

TVN Photo/Ken Levy

third of the tree's foliage red. Later in the year those red needles are cast off.

Homeowners should prune dead material and twigs and dispose of them, as a sanitation measure to ensure the trees aren't re-infected during the year.

"They're probably watering their trees in their landscape and there's a chance that if the leaves or twigs fall, they'll continue putting spores out throughout the year, that could be splashed up into the tree," said Hoffman.

Contact licensed, certified pesticide applicators, garden shops or arborists before spraying your trees, or contact Ben Eborn, University of Idaho extension agent, at (208) 354-2961.

Plant parasites such as dwarf mistletoe can create problems in the forest, said Hoffman, including cancer-like growths

and malformed branches called witches' brooms. Douglas fir shows "weird formations" from the parasites and can be seen at Targhee.

"They eventually kill the tree out," Hoffman said. Fire is its only enemy.

All of the insect activity and plant diseases in the forest are natural, said Jim Robertson, natural resource specialist/silviculturist, USFS Caribou-Targhee National Forest.

"What isn't natural is the tree densities and numbers of trees we have over the past 80-100 years with fire exclusion," Robertson said. "We have a lot more competition for water and nutrients. As those trees are stressed, we see an increase in insect and disease activity. We've done a great job of excluding fire, which kept tree densities down.

There's too many trees through the whole western United States."

"What we're having is an epidemic of trees," Hoffman said. "We've done too well with our forest sciences. What are we going to do with them when they've grown up? We have to come to a common consensus on the part of society that we have to do something with these trees. Allowing them to burn up in wildfires is not a very viable option in terms of land management alternatives and societal concerns."

That includes safety, as more people live in or adjacent to the forest.

"Our priorities are in the wildland/urban interface," Robertson said, especially when people's lives and values are at risk to wildfire.

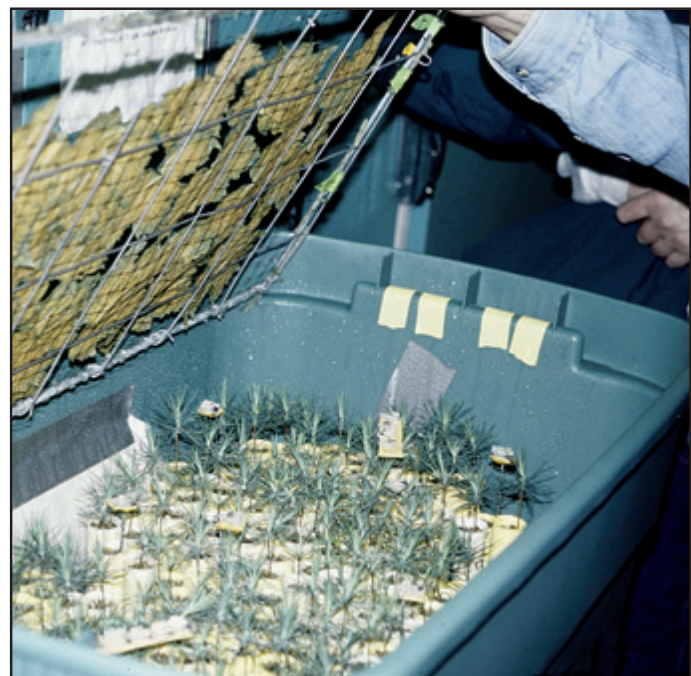


Photo courtesy Joseph O'Brien; USDA Forest Service; Bugwood.org

Research continues on white pine blister rust.