

# Forest Pest Bulletin



DEPARTMENT OF AGRICULTURE  
AND NATURAL RESOURCES  
DIVISION OF RESOURCE  
CONSERVATION & FORESTRY

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## WESTERN GALL RUST

### CAUSAL AGENT

*Endocronartium harknessii*

### HOSTS

Ponderosa pine (*Pinus ponderosa*),  
Lodgepole pine (*Pinus contorta*),  
Scotch pine (*Pinus sylvestris*), and  
Mugo pine (*Pinus mugo*).

### SYMPTOMS

Western gall rust forms woody swellings or galls on branches and stems. The galls are generally round, but they may be asymmetrical and are sometimes



Figure 1. Sporulating galls formed by western gall rust.

deeply fissured. In late spring, orange-colored spores form in the blisters beneath the bark of the galls (Fig. 1). The bark may fall off, exposing spores over much of the gall surface. For most of the year, however, galls are covered with normal bark, so the spores are not visible. Galls that form on the branches will not kill the entire tree, just the branch that the gall is on. The disease can also cause Whitches'-broom to form. The galls will weaken the tree; therefore, it is more susceptible to wind or snow breakage. On mature trees, galls can become open cankers on the lower trunks. If the gall forms on the trunk of the tree it will girdle the trunk and eventually kill the tree (Fig. 2).

### LIFE CYCLE

The spores are produced under the bark scale of the gall in late spring or early summer. High humidity causes the galls to erupt and eject the spores from inside the gall. Once the spores are airborne the wind carries them to their new host. The spores mostly affect the green tissue of new shoots. If the gall forms in the summer, it won't produce spores until the following spring. The spores do not need an alternate host to survive on. The spores directly infect other pines from

their location. The galls die out when the branch or trunk that the gall is living on dies.

### MANAGEMENT

There are no chemical treatments available to control this fungus. One way to control this disease is to cut and remove the infected branches, preventing the spread to healthy trees. If most branches are infected, the entire tree may have to be cut and removed. Mature trees are not as likely to be affected as much as young trees.

Due to numerous pesticide labels and/or label changes, be sure the product label includes the intended use prior to purchase or use. Please read and follow all pesticide label instructions and wear the protective equipment required. Spraying pesticides overhead increases the risk of exposure to the applicator and increases the likelihood of drift to non-target areas. Consider the use of a commercial applicator when spraying large trees due to the added risk of exposure and equipment needs. The mention of a specific product name does not constitute endorsement of that product by the South Dakota Department of Agriculture and Natural Resources.

For further information contact your nearest South Dakota Division of Resource Conservation and Forestry office. Hot Springs 605-745-5820; Lead 605-584-2300; Mitchell 605-995-8189; Pierre 605-773-3623; Rapid City 605-394-2395; Sioux Falls 605-362-2830; Watertown 605-882-5367.

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Figure 2. Western gall rust formed on the trunk.  
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