

## How does white pine blister rust spread into our forests?

- by the transport of infected plants including currants and gooseberries, and 5-needle pines.
- by airborne spores traveling long distances in the wind.



Damage to currants and gooseberries is minimal but includes leaf spots and premature defoliation.



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# White Pine Blister Rust

What you can do to slow the spread



## Currants and Gooseberries

The currants and gooseberries are low growing, usually small, deciduous shrubs. They have simple, alternate leaves that are palmately lobed (like maple leaves). Fruits are smooth or glandular berries produced in the fall. Stems are smooth or armed with nodal spines and internodal bristles. Generally, most gooseberries have spines and bristles and most currants are unarmed.



## What is white pine blister rust?

White pine blister rust is an exotic, invasive disease of 5-needle white pines. The disease causes cankers which usually kill the stem above the canker and often lead to tree mortality. Trees weakened by blister rust become susceptible to other damaging agents such as bark beetles.

White pine blister rust requires an alternate host (currants and gooseberries) to complete its life cycle. Pines are infected by spores produced on the alternate host.

White pine blister rust is present throughout much of Wyoming. The disease was thought to be only in the northern part of Colorado until recently. Isolated infestations were discovered in the Sangre de Cristo and Wet Mountains of southern Colorado in 2003. At this time, the disease was discovered for the first time ever on Rocky Mountain bristlecone pine. As of now it is unclear how the disease was carried to these locations.

## What can you do to help?

- Learn to identify 5-needle pines and currants and gooseberries and move plants from the forest.
- Do not plant commercial nursery stock unless it is certified disease-free.
- Report blister rust sightings to Forest Health Management!



Stem cankers are often resinous. They usually kill the portion of the tree above the canker.



Branch flagging is a common symptom of the disease.



Cankers produce orange pustules of spores in the spring that infect the alternate host.



Cankers swell and become roughened as a result of past fruiting.



Rodents often gnaw the bark off around cankers.

## Identifying Susceptible Pines



White pines are easy to identify because they have 5 needles per bundle as opposed to lodgepole pine

or ponderosa pine which have 2 and 3 needles per bundle, respectively.

Susceptible species present in the central Rocky Mountains include limber pine, whitebark pine, southwestern white pine, and bristlecone pine. The 5-needle white pines are relatively short with upward-reaching or spreading branches. They often grow in clumps and are usually found on dry, rocky ridges at high elevations. These pines are long-lived, and often have a weathered appearance.

