

CHAPTER NINETEEN

Western Gall Rust

Sally J. Campbell

Disease and hosts

Western gall rust is caused by the fungus *Endocronartium* (*Peridermium*) *harknessii*. This fungus infects lodgepole and ponderosa pines as well as other two- and three-needle pines. It can be found in most North American bareroot nurseries that grow these hosts. The disease is most prevalent when susceptible pines adjacent to the nursery, such as those in windbreaks, are infected with the fungus.

Western gall rust may be
confused with:
Mechanical damage
Pesticide damage



Figure 19-1. A 2+0 ponderosa pine showing swelling on the stem and branch proliferation from *Endocronartium harknessii* infection.

Symptoms

Globose to pear-shaped swellings on the stem or branch of the seedling usually appear late in the second growing season (Figure 19-1). Galls continue to develop after outplanting and eventually girdle and kill the seedling stem or branch. Girdling is usually not seen in the nursery unless seedlings are grown for longer than 2 years. Similarly, spores are not produced on galls that develop in the nursery because the interval between infection and sporulation is greater than 2 years.

particular seedlot. However, a much higher percentage of infected but asymptomatic seedlings may actually be planted.

Western gall rust
symptoms appear:
2+0
Summer

Loss potential

The percentage of seedlings culled because of western gall rust infection is seldom greater than 1 percent of a

control option. Risk of seedling infection can be reduced by removing infected branches or entire trees that are within 275 m (300 yards) of the perimeter of the nursery so that spores from mature galls do not blow into the nursery and infect seedlings. All seedlings with galls should be culled before packing to reduce the spread of the disease to outplanted areas.

No fungicides are registered in the Pacific Northwest specifically for western gall rust control. Other methods of control should be considered before fungicides are used.

Selected references

- Sutherland, J.R.; Shrimpton, G.M.; Sturrock, R.N. 1989. Diseases and insects in British Columbia forest seedling nurseries. FRDA Report, ISSN 0835-0752; 065. 85 p.
- Ziller, W.G. 1974. The tree rusts of western Canada. Publication No. 1329. Canadian Forestry Service, Department of the Environment. 272 p.

Management

Because this rust does not cycle between pine and another plant species, removal of alternate hosts in the vicinity of the nursery is not a