# **Ponderosa Pine Needle Symptoms**

### **Bark Beetle Damage**



All needle ages faded or red.

Tree will die.



Needles uniform red.



Terminal buds dead.



Beetles and/or galleries under bark. Phloem brown, frass present.



Blue staining in xylem from bark beetles.

## **Unknown Needle Damage**



Needles green at base.



Terminal buds alive.



No beetles and/or galleries under bark. Phloem yellow, moist.



No staining in xylem.

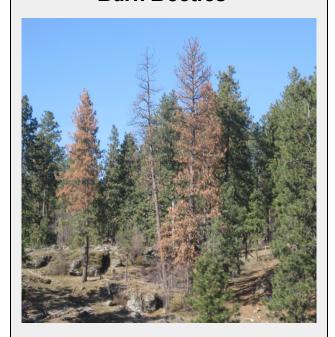


Only 2014 needles damaged. Tree will flush new growth.



# **Typical Appearance of Symptoms**

#### **Bark Beetles**



**Bark beetles** usually attack in small groups, all needles are faded or red.



**Kamiah**, **ID**. This photo shows typical bark beetle damage in a ponderosa pine plantation.

### **Unknown Needle Damage**



Hauser, ID on January 26, 2015. Nearby trees often unaffected, only 2014 needles turn yellow. The elevation is approximately 2100 feet.



**Gifford, ID on February 19, 2015.** This photo shows the scattered nature of the damage in this plantation at approximately 2800 feet elevation.

#### Common Pine Diseases



Western gall rust causes branch flagging, killing needles on individual branches. Caused by gall on the branch.

Needle blights or red band needle disease usually affects the previous year's needles. Needle spots usually present.



Close up of western gall rust galls that can cause branch flagging.



Close up of needle spots from foliar disease.