

Forest Disease Management Notes

United States
Department of
Agriculture

Forest Service
Pacific Northwest
Region



True Fir Dwarf Mistletoe

True fir dwarf mistletoe, *Arceuthobium abietinum*, infests thousands of acres of true fir types in southern Oregon and the eastern slopes of the Cascades in Oregon. Infestations are not common in Washington. Infection results in growth loss, wood quality reduction, and tree killing, especially in old trees.

Hosts: Primary- white, grand, and Shasta red fir; Secondary- Pacific silver fir. There are two varieties of true fir mistletoe; one on white and grand fir and one on red fir. White fir dwarf mistletoe does not infect red fir and vice versa.

Recognition: Leafless yellow-green dwarf mistletoe shoots (about 3 to 8 inches long) appear on infected branches; basal cups of detached shoots remain on branches. Infection causes branch and stem swellings witches'-brooms are small and flat; branch flagging is accentuated by fungi that invade mistletoe infections. Severely infected trees are predisposed to attack by fir engravers (*Scolytus ventralis*) and possibly root diseases.

Disease Spread: Seeds are sticky and forcibly discharged up to 50 feet from the fruit in the fall, landing on surrounding trees. Infection takes place on branches or stems where bark is thin in the spring-, spread is most rapid in multi-storied stands; spread in single-storied stands averages 1-2 feet per year; death of the host results in death of dwarf mistletoe.

Management: Clearcut severely infested stands; remove infested overstory from manageable susceptible understory; remove infected trees when thinning lightly infested stands; destroy infected live residuals left after clearcutting, fires, or blowdown; favor non-hosts in mixed stands. Trees with open-faced stem cankers should be treated in recreation areas. Trees with good live-crown ratios can tolerate heavier infection levels than trees with poor live-crown ratios.

May be Confused With: Fir broom rust. Hemlock dwarf mistletoe, but the effects on hosts are the same.

Arceuthobium abietinum on
white fir



Mistletoe stem canker



Flagging in grand fir caused by
true fir dwarf mistletoe
and canker fungi