Forest Disease Management Notes

United States Department of Agriculture

Forest Service
Pacific Northwest Region

Needle Cast of Larch

Needle cast of larch is caused by the fungus, *Meria Laricis.* This disease appears sporadically throughout Pacific Northwest larch stands and nurseries growing larch seedlings. Trees in forest stands generally do not experience serious damage even though the disease may appear spectacular. Damage is greatest on 2-year and older seedlings in nurseries. Tree killing can occur in nurseries.

Hosts: western larch *(Larix occidentalis),* subalpine larch *(L lilyalii),* European larch (L. *decidua),* Japanese larch *(L leptolepis),* and hybrid larch (L *eurolepis).*

Recognition: Needle discoloration and browning begin at the tips or in the middle of the needle, spreading from the tip downward. Not all needles on each individual spur shoot are affected. Lower portion of trees are often affected first. Infected needles are cast early. Discoloration first appears in mid- to late-spring.

Spore clusters are found in and emerging from stomatal openings on the underside of needles. Spore clusters are white and difficult to see without staining and magnification.

Disease Spread: Short distance spread occurs by spores traveling from infected to healthy needles or trees. Spores probably are spread via wind or water droplets. Long distance spread can occur by transplanting infected stock into disease-free areas. Infection and spread are favored by moist weather. The fungus overwinters in needles on the ground or in the trees.

Management: No measures are available or needed for control of needle cast in forest trees. Control in forest nurseries is achieved by:

1. Use of benomyl and maneb fungicides at 1.0 and 1.5 lbs. a.i./ 100 gallons of water at bud swell, 1 month after first application, and at 2 or 3 week intervals thereafter. Continue applications until weather becomes dry or until the end of July.

2. Transplant seedlings at end of first year to seedbeds where larch have not been grown recently to prevent reinfection of new growth by the fungus overwintering in fallen needles.

3. Avoid introduction of diseased stock into disease-free nurseries. This can be accomplished by growing all larch stock from seed.

May be Confused With: Frost damage, *Hypodermella laricis,* larch casebearer.

Needle discoloration caused by *Meria laricis*

Meria laricis on 2-0 seedlings