

Sap-Sucking Insects, Gall Formers and Mites

Cooley Spruce Gall Adelgid *Adelges cooleyi* (Gillette)

Hosts: Spruce and Douglas-fir

Symptoms/signs:

Cone-like galls, 12-75 mm long, are formed on spruce branch tips as a result of feeding by the nymph stage of this insect. In late spring, galls are light green to purplish in color and the nymphs may be found inside. In late summer and fall, galls dry up and open and the nymphs emerge, flying to Douglas-fir to complete the next phase of their life cycle. The galls may persist on the branches for several years.



Figure 60. Gall of spruce gall adelgid on spruce.

On Douglas-fir the insect feeds on the sap of new needles, new shoots, and developing cones. Nymphs are oval and black with

a white waxy fringe. Adults are dark brown and covered with white, wooly wax. Feeding on Douglas-fir does not cause galls to form but rather yellowing and twisting of the needles.



Figure 61. Cross section of gall showing nymphs of spruce gall adelgid on spruce.

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Biology: The entire life cycle requires 2 years. There are six stages in addition to the eggs and crawlers when both host trees are present.

Effects: This insect has a very complex life cycle involving two hosts, spruce and Douglas-fir. On spruce, galls are unimportant in forest situations. However in nurseries, plantations, and on ornamentals, galls are a concern since they kill branch tips and can stunt and deform trees.

On Douglas-fir infested needles turn yellow and become twisted. Heavy infestations on poor sites result in defoliation.

Similar Insects and Diseases: Damage on Douglas-fir is similar to that caused by needle midges or needle cast.

References: 23



Figure 62. Waxy filaments (“cotton”) created by Cooley spruce gall adelgid on Douglas-fir branch.