



Entomological Notes

Department of Entomology

EASTERN SPRUCE GALL ADELGID

Adelges abietis (Linnaeus)

The eastern spruce gall adelgid is a key pest of Norway spruce, *Picea abies*, in northeastern United States. Occasionally, it also infests white spruce, *P. glauca*, red spruce, *P. rubens*, and Colorado blue spruce, *P. pungens*. In Pennsylvania it is a pest of plants in landscapes, nurseries, and Christmas tree plantations. In the past, literature referred to this species as an aphid.

DESCRIPTION

The galls formed by this pest are short, pineapple-shaped growths (Fig. 1). They are usually less than 25 mm long, green at first, but turn brown when they open and the adults emerge. Eggs are covered with white waxy filaments.

LIFE HISTORY

This pest overwinters on spruce as female nymphs in bark crevices on the current year's twigs, especially at the bases of buds. In the spring they resume feeding and mature into adults. Females usually start laying eggs about the time buds start to open. Each female lays between 100-200 eggs that normally are laid in small groups. Young nymphs hatch from eggs in 7-10 days and crawl into the bud and among the bud scales. Once in the bud, they begin feeding on the new tissue. Feeding stimulates most plant cells to produce an individual gall where each needle should develop. The result is a series of affected needles, which collectively grow into a stunted pineapple-shaped gall. This species becomes enclosed in spaces between the swollen round needles. They remain there until the galls are fully developed, begin to turn brown, and open from late July through October. During this period of time mature winged individuals fly from galls to lay eggs on host needles. Eggs hatch into young nymphs that overwinter. One generation occurs each year in Pennsylvania.

DAMAGE

Feeding by this species stimulates the formation of a gall at the base of current year's growth. Infested trees are seldom killed, but the aesthetics of an infested tree may be greatly reduced.



Eastern spruce gall adelgid

MANAGEMENT

Nonchemical

Pruning and destroying green-colored galls during June or July before they open, and therefore, before adults emerge, is practical for light infestations on a few small trees.

Chemical

Apply horticultural oil according to label directions as a dormant treatment, before new growth starts, when temperatures remain above freezing. Horticultural oil removes the glaucous bloom (blue color) from both Colorado blue spruce and Koster spruce.

To manage overwintering life stages of this pest, apply registered insecticides according to label directions from mid-September through early October. A second alternative is to treat infested plants in April prior to budbreak, before females mature and start laying eggs.

For optimal results be sure to thoroughly cover the bases of buds. Also, the use of certain insecticides may cause outbreaks of spruce spider mite, mainly because of their effect on mite predators. Be sure to monitor for outbreaks of spruce spider mite when using treatment materials that may impact mite predators.

WARNING

Pesticides are poisonous. Read and follow directions and safety precautions on labels. Handle carefully and store in original labeled containers out of the reach of children, pets, and livestock. Dispose of empty containers right away, in a safe manner and place. Do not contaminate forage, streams, or ponds.

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