

# RESEARCH LABORATORY TECHNICAL REPORT

## Spruce Gall Adelgids

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The Eastern spruce gall adelgid (*Adelgis abietis*) and the Cooley spruce gall adelgid (*Adelgis cooleyi*) inflict considerable injury to ornamental spruce trees throughout the Northeast and Midwest. Both insects cause the formation of cone-like galls on developing twigs, which deform, stunt and usually girdle them. Heavy and repeated infestations will seriously disfigure and weaken trees, and render them more susceptible to invasion by disease causing organisms and other insects.

### Eastern Spruce Gall

The Eastern spruce gall adelgid primarily attacks Norway and white spruce, causing the formation of pineapple-shaped galls approximately one inch long at the base of developing twigs (Figure 1). Newly hatched nymphs begin feeding near the base of expanding buds in early spring. Feeding induces the formation of the galls, inside which the nymphs continue to feed and develop. In late summer (August through September), galls open and fully-grown nymphs emerge. These become winged adults, which can fly to nearby susceptible spruce trees.

**Figure 1: Eastern spruce gall on Norway Spruce**



### Cooley Spruce Gall

The Cooley spruce gall adelgid primarily infests blue, Englemann and Sitka spruce and Douglas fir. Galls caused by this insect are elongated, one to three inches long, and occur at the tips of twigs (Figure 2). The life cycle of this insect on spruce is similar to the Eastern spruce gall adelgid. In spring, nymphs feed on the succulent new growth, causing needle distortion and browning; however, galls do not form. In mid- to late summer (mid-July through August), nymphs mature to form winged adults. Adults deposit eggs on twigs of either spruce or Douglas fir which hatch and give rise to the overwintering nymphs.

**Figure 2: Cooley spruce gall on Colorado Blue Spruce**



## Management

Cultural and chemical control options exist for management of spruce gall adelgids. Removing and destroying green galls from spruce will reduce adelgid populations. Removing dried galls will have no effect on the pest population since the insect has already emerged from these galls. Please contact your Bartlett Arborist Representative to learn about effective control options for these pests.



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