



Pine Bark Adelgid

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White cottony masses produced by the Pine bark adelgid; note predatory lady beetle also in picture.
(Photo by Eric Day, Va Tech)

DISTRIBUTION AND HOSTS: The pine bark adelgid is native to eastern North America, occurring principally throughout the native range of eastern white pine. This insect is also found on Scots and Austrian pine.

DESCRIPTION OF DAMAGE: Adelgids feed on tree trunks by sucking sap from the phloem tissue. Trunks of heavily infested trees often appear whitewashed from the woolly masses these tiny insects secrete over themselves for protection. Small nursery stock, ornamental trees, and trees in parks can be heavily attacked. However, if the trees are otherwise healthy, permanent damage should not result. In eastern white pine plantations of a forest setting, repeatedly infested mature pine trees apparently suffer no serious harm.

IDENTIFICATION: Adelgids are similar to aphids, except they have shorter antennae and lack cornicles (or bumps) on their abdomen. They live under a woolly mass they secrete for protection. If this mass is pulled off the trunk, black teardrop-shaped insects with short legs are revealed. When populations are high, the woolly masses coalesce into one large mass on the trunks.

LIFE HISTORY: Overwintering immature adelgids will begin feeding during the first days of warm weather, and secrete woolly tufts. Once these insects develop to adults (April to May), egg laying begins. Eggs hatch into crawlers, which can move to other parts of the tree or be blown to other trees. Crawlers either become winged or wingless. The wingless forms remain on the host and reproduce repeatedly. Winged forms can disperse to new trees. Five generations have been recorded as far north as the Lake States. In the southern U.S., after two early generations, it is hard to distinguish the number of generations that take place as all lifestages can be found at one time.

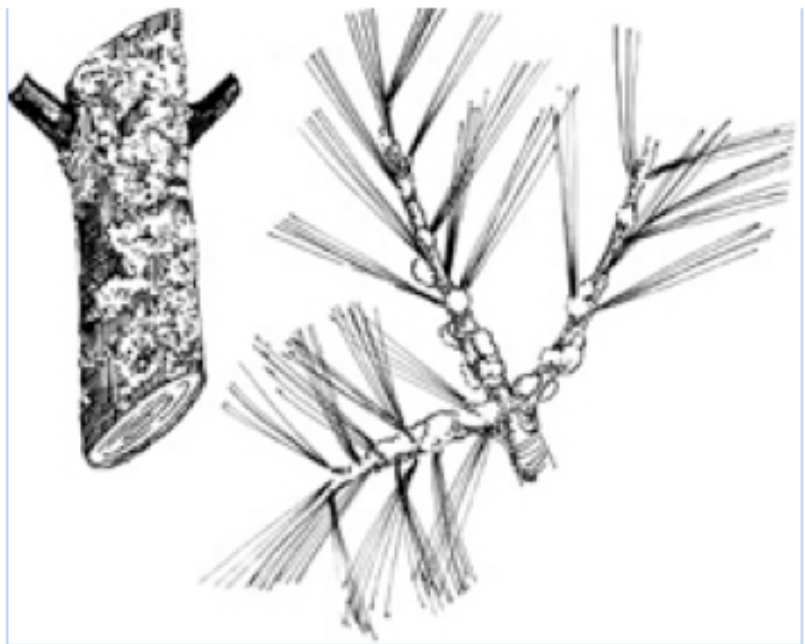
CONTROL IN CHRISTMAS TREES: Treat Christmas trees only if damage such as yellowing, witches brooming, or sooty mold occur. Treat with dormant oil in late winter before bud break. Avoid applying fertilizer, as nitrogen can cause build-ups of populations of this insect.

CONTROL IN FOREST TREES: Since permanent damage to trees is unlikely, little research has been carried out on control tactics. Application of insecticides is recommended for the trunks of transplanted large pine stock before the trunk is wrapped. Dormant oil, soap, and Sevin are recommended compounds. Consult the Pest Management Guide for Horticultural and Forest Crops, Virginia Cooperative Extension Publication 456-017 for proper application methods and any additional compounds. Application of insecticides on ornamental trees should only be attempted when trees appear to be damaged and declining due to the adelgid infestation. Timing of application should be in April or May. Repeat application two to three weeks afterwards. Don't fertilize infested trees, as the adelgids will benefit from the added nutrients.

FURTHER READING:

Drooz, A.T. 1985. *Insects of Eastern Forests*. U.S.D.A. Forest Service Miscellaneous Publication No. 1426. 608 pp. Johnson, W.T. and H.H. Lyon. 1991. *Insects That Feed on Trees and Shrubs*. Cornell Univ. Press, N.Y. 560 pp.

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Pine Bark Adelgid on white pine

