



NORTHERN HARDWOOD NOTES

Recognizing And Preventing Maple Decline

Maple decline (i.e. maple blight, maple dieback) has periodically caused significant losses of sugar maple in northern hardwood forests. The first major outbreak of maple decline was reported in northeastern Wisconsin and upper Michigan in the late 1950's. The disease reappeared in the same general area during the late 1970's and early 1980's.

Maple decline is characterized by branch dieback, discolored or stunted foliage or both, and epicormic sprouting. These symptoms often combine to give affected tree crowns a tufted appearance. Maple decline affects all size trees, but particularly those that are suppressed or overmature and thus low in vigor. Trees die in small scattered pockets, rather than in large continuous blocks. Affected trees normally die over a period of several years, but some may succumb in one season. Others recover entirely. Maple decline can be confused with other diseases such as sapstreak or Verticillium wilt. Both of these diseases result in leaf distortion and branch dieback. Differentiating among maple blight, sapstreak, and Verticillium wilt often requires laboratory isolations.



The tufted appearance of a tree with maple decline.

Maple decline is caused by a complex of insects and diseases working together or in succession. Insect defoliation, caused by leaf rollers and the maple webworm, can trigger the outbreak of maple decline. Such defoliation occurs early enough in the season (July-August) to allow affected trees to reflush, but late enough so they do not harden off before the end of the growing season. Early fall frosts and low soil moisture also increase the severity of maple decline. Singly or combined, these reduce tree vigor and food reserves. As defoliated trees are weakened, Armillaria root rot builds up and eventually kills the tree.

Maple decline is most severe in understocked stands and in stands that have a lot of sugar maple. So, to prevent or reduce potential losses from maple decline maintain well stocked stands and a diversity of species. The more diverse the species the less susceptible stands are to severe insect defoliation.

Reference

Lakes States Forest Experiment Station. The cause of maple blight in the Lake States. Res. Pap. LS-10. St. Paul, MN: U.S. Department of Agriculture, Forest Service, Lakes States Forest Experiment Station; 1964. 15 p.

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