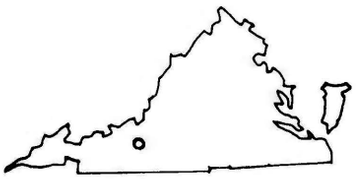
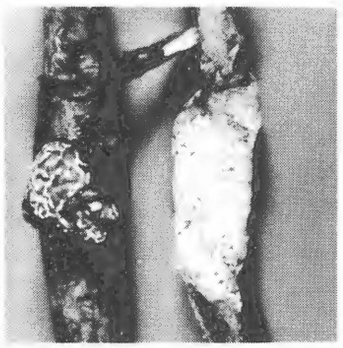
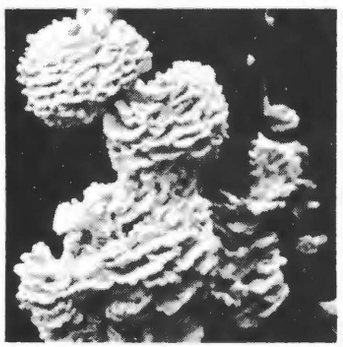


Forest Tree Diseases of Virginia



RUST

DECLINE



DECAY

CANKER

February 1973 MR-FTD-20

SOOTY MOLD OF CONIFERS AND HARDWOODS

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Sooty mold of trees and shrubs occurs commonly throughout Virginia in the form of black spots or crusts on the foliage of conifers, hardwoods, and other plant species. This insect/fungus related growth seldom causes problems in the forest; however, it can prevent proper development of Christmas trees, nursery stock, and landscape plantings.

CAUSE. Sooty mold is a fungus growth which occurs wherever the droppings (excrement) of sucking insects accumulate in large quantities. The most common contributory insects are aphids, scale insects, mealybugs, and whiteflies. The fungi live entirely on the sugar-rich deposits of insect excretions, and do not penetrate into

FIGURE 1. Sooty mold infested white pine (right) as compared to healthy (left).

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the leaf or bark tissues. No direct injury to the plant results from the presence of the fungi. Sooty mold deposits are indirectly detrimental to plants by excluding sunlight and interfering with photosynthesis in the leaves.

SUSCEPTIBLE PLANTS. Any plant infested with large numbers of sap-sucking insects, or growing beneath an insect-infested plant, may be affected by sooty mold. The white pine aphid and pine tortoise scale, most commonly associated with sooty mold on white and Scotch pine, also occasionally infest other pines, spruce, and fir, thus often causing sooty mold in these species as well. Broadleaf trees such as tulip poplar, maple, elm, and basswood frequently are infested with aphids and scales which can predispose such trees to sooty mold. Many types of shrubs and herbaceous plants are also commonly affected by this problem.

FIGURE 2. A serious aphid infestation led to an abundance of sooty mold. Death of these lower limbs of white pine followed.

SYMPTOMS. The presence of the black soot-like fungus, frequently causing a crust over the leaves, is the best indicator of this problem. The fungi are usually pigmented with black or brown hyphae which give the deposits a sooty appearance. Abundant insect activity is usually evident, although the sooty mold may persist long after the insects have disappeared. Severely affected plants are yellowed and may suffer defoliation from the combined influence of insect feeding and reduction in the photosynthetic process. Conifer needles may be encased in the fungus mantle (Fig. 1). Although sooty mold usually does not cause dieback or mortality, the insect feeding may be severe enough to weaken or kill portions of infested plants (Fig. 2). Pruning of dead and dying branches helps eliminate the entrance of other pathogens and allows trees and shrubs to establish good form.

CONTROL. Prevention or reduction of high insect populations is the only recommended control for sooty mold. Insect control is essential also to protect the plants from feeding damage. Aphids may occur on plants any time during the growing season. Plants should be inspected at weekly or biweekly intervals and treated whenever aphids are observed and before they increase to large populations. Scale insects are highly variable in the seasonal occurrence of the crawler stage. It is essential to apply sprays only during the limited crawler period. Treatment at other times is ineffective. For timing and spraying recommendations, consult the Insect Control Recommendations: C.S. 124, Insect Pests of Christmas Trees; or C.S. 142, Insect Pests of Ornamentals around the Home; or C.S. 143, Insect Pests of Nursery Crops and Shade Trees; and M.S. 126, Controlling Scale Insects. A dormant oil spray on plants not susceptible to oil injury is an excellent preventive treatment for scales and many aphids.