

Forest Tree Diseases of Virginia

July 1970

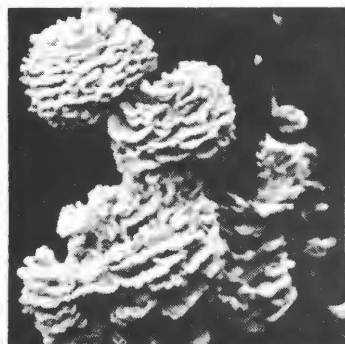
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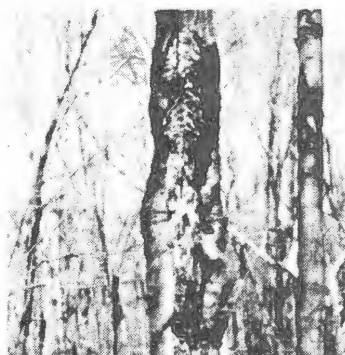
RUST



DECLINE



DECAY



CANKER

Nectria Canker
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In areas where intensive management of high value hardwoods is being conducted, early recognition of *Nectria* canker may avoid considerable later losses. This disease, caused by the fungus *Nectria galligena* and other species of this genus, has been known since the early 1900's but has only recently become of importance due to the planting and management of

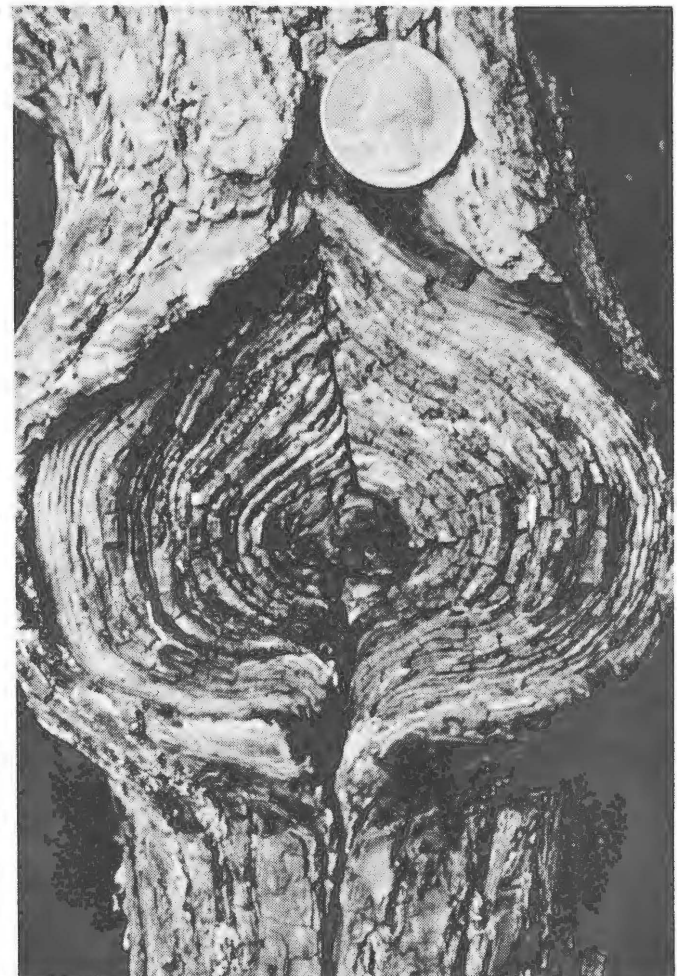


Figure 1. Perennial canker caused by *Nectria galligena* on walnut. Note many concentric rings of callus tissue and the dead branch stub at the center of the canker.

high value tree species such as walnut and yellow poplar. *Nectria* canker is usually a non-killing disease. However, it is a severely degrading type of disease and following cankering trees usually remain alive and occupy space that could be used by healthy trees. Hence, the value of high quality stands and of the hardwood forests in general is lowered through the activity of this fungus. Subsequent invasion of cankered surfaces by decay fungi and the increased likelihood of wind breakage increases the indirect losses attributable to this disease.

RANGE:

Nectria canker occurs throughout the United States and is common in Virginia. Incidence of the disease is usually determined by climatic factors, site quality, and the presence of susceptible species.

SUSCEPTS:

All hardwood species are susceptible to invasion by the fungus. High value species usually damaged are black walnut, white and yellow birch, cherry, yellow poplar, and several species of oaks. A different species of *Nectria* in combination with a scale insect causes a serious disease of American beech in the Northeast.

SYMPTOMS AND SIGNS:

Cankers are distinctly target shaped and usually center around a dead branch stub. The bark commonly sluffs off the canker surface and the exposed wood is quite resistant to decay. This is particularly so with walnut. When viewed from the opposite side of the stem or branch, cankers appear as flared out swellings. Newly formed cankers (1 year) are initiated during the dormant season of the tree and appear as flat or sunken areas on the bark circumventing a dead branch or branch stub. Many small red fruiting bodies of the fungus may be in evidence directly on the surface of young cankers. During the following growing season the infected tree forms callus tissue over the killed area. Subsequent reinvasion of the newly formed callus tissues during the next dormant season causes their death. Hence, a target shaped canker results. Many small fruiting bodies of the fungus may be in evidence about the periphery of the cankered area on or under the bark.

CONTROL:

Direct control is seldom feasible or economically justified under normal forest conditions. Removal of infected trees during normal timber stand improvement cuts is suggested. In areas where a certain species is particularly susceptible and attacked, it should not be favored in management plans. Early removal of trees with stem infections and pruning of infected branches from other trees is justified in high value stands such as walnut or tulip poplar. Forest practices that help to increase tree vigor will reduce the infection hazard and/or subsequent damage from infection by *Nectria*. Trees of older age (over 20-25 years) that are uninfected usually remain free of infection.