West Virginia University
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Extension Service
West Virginia University

Wood Rots

I. Introduction: Wood rotting fungi cause losses over longer periods of time than most other diseases. Losses are caused mainly by breakage of branches and trunks due to a decline in the structural integrity of the wood. Structural integrity of the wood is altered by the enzymatic digestion of wood cell wall components by the fungal pathogen or pathogens that have colonized the wood. Some of the same fungi that cause wood rot can also cause dieback.

II. Symptoms: The two most common symptoms of wood rot are breakage of the limbs or main trunk and the presence of fruit bodies on the bark or wood surface. However, fruiting bodies are not always produced, and may occur less commonly on some fruit tree species (e.g. pear). Symptoms vary depending upon the particular wood rotting fungus involved in the rot or dieback. For example, infection by *Trametes versicolor* causes a papery bark symptom, in addition to wood rot. The symptoms are usually seen on the portions of large branches where the bark is still smooth. Where the outer bark separates from the inner bark, a tan to bronze-colored, blistery, paper-like quality to the bark occurs. Smaller branches arise at the point where the limb is still healthy, and the infected part of the branch dies back to this point.

Wood rotting fungi can also cause dieback from the central leader. When this occurs, infected tissue appears water-soaked and darker than the surrounding tissue. As the

infection progresses down the leader, branches are girdled and the shoot tissues above the infections die completely.

III. Disease Cycle: Several fungi cause wood rot, including *Trametes versicolor*, *Schizophyllum commune*, *Polyporus hirsutus*, and *Chondrostereum purpureum*. Wood rotting fungi are opportunistic wound pathogens that colonize winter-injured or mechanically injured tissues. Where pruning is performed improperly, cut surfaces may remain wet for long periods of time, thus creating a favorable environment for wood rotting fungi. Many wood rotting fungi have broad host ranges, so orchards in the vicinity of wood lots or wooded fence rows may be at greater risk for infections than orchards in more open areas.

IV. Monitoring: The presence of limb dieback and/or fruiting bodies should be noted at various times during the season.

V. Management: Orchards should be managed to promote optimum winter hardiness. Tree nutrition should be balanced. Excessive fertilization with nitrogen and late-season irrigation should be avoided. Horizontal pruning cuts should be avoided so that water won't accumulate and stand on the cut surfaces. Large cuts, which generally should be avoided, should not be made late in the growing season, and should be made in such a way that the branch collar is preserved. The use of sealants or paints on pruning cut surfaces is not recommended.

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