DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Agriculture and Natural Resources

FSA7552

Wetwood of Shade Trees

Stephen Vann
Assistant Professor -
Urban Plant Pathologist

Introduction

Sometimes referred to as slime flux, wetwood of shade and forest trees is the result of a bacterial infection within the tree. Several bacteria can be directly associated with this disease. In Arkansas, slime flux is quite common in large, mature elms, oaks, cottonwoods and willows in the landscape. The disease can also affect forest trees. Wetwood is normally not very serious in most trees, but it can contribute to a general decline in tree vigor, especially in older trees growing under adverse conditions such as poor soils or management practices. This disease can be triggered by drought, heat and other stress conditions.

Figure 1. Fluxing associated with pruning wound on elm.

Figure 2. Slime flux from bark crack on box-elder.

Symptoms

The most obvious external sign of wetwood/slime flux is a bubbly, dark, watery exudate that drains from cracks in the bark, pruning cuts or other wounds (Figures 1 and 2). Seepage may also occur in branch crotches. Drainage may continue for several weeks and then dry up, leaving a visible stained gray area (Figure 3). The liquid, which may support the growth of many microorganisms such as yeasts and other bacteria, will often ferment, giving it a "sour" smell as it runs down the branches or trunk. The liquid may

Figure 3. Stained bark on cottonwood.

Arkansas Is Our Campus

Visit our web site at:
https://www.uaex.uada.edu

also develop a “frothy” appearance. The seeping liquid attracts insects which may help spread the disease organisms from tree to tree. Turfgrass may wither and die if the slime flux drips or runs down on these plants.

Disease Cycle

The bacteria that cause wetwood usually enter the tree through a wound created on the trunk or branch as a result of an injury. Common sources of wounding on landscape shade trees include lawnmowers and pruning cuts. The bacteria associated with the disease are commonly found in the soil and may enter tree roots also. Infection usually occurs in the heartwood and inner sapwood regions of the tree. Gasses and liquid by-products of the bacteria cause the internal pressure of the sap to increase, forcing the liquid from openings in the bark. Fluxing is most obvious during the summer and often ceases during the fall and winter months.

Management

There is no curative control for this tree disease. Previously, metal or plastic tubes were installed in the tree to allow drainage; however, this practice is no longer recommended. In fact, holes made in the tree are actually more harmful since they provide an infection site for other disease organisms and insects to enter the tree.

Proper pruning techniques and wound prevention are good management practices to prevent this disease. Loose, dead bark at the drainage site can be carefully removed to allow drying of the area. Pruning paint or similar materials are not recommended. Trees with wetwood or slime flux usually live for many years with proper care. Appropriate fertilization based on a recent soil test and good irrigation practices to maximize tree vigor will extend the longevity of the tree. Promoting vigorous tree growth is an important part of disease management.

Contact your local county Extension office for information about collecting and submitting a soil sample for analysis. Prompt and accurate disease diagnosis will make disease control measures more effective. The Plant Health Clinic at Fayetteville provides accurate disease diagnosis on various plants. The clinic is a valuable resource for homeowners and other growers in making plant disease management decisions.

DR. STEPHEN VANN is assistant professor - urban plant pathologist with the University of Arkansas Division of Agriculture in Little Rock.

FSA7552-PD-5-13RWC