

Diagnosing sap flow problems

Problem: A number of elm trees are showing some kind of sap flowing on the trunk. We think it is wetwood. Are there any other problems similar to wetwood? Is drain tube installation still recommended for wetwood problems? (Illinois)

Solution: Yes, there are some other problems which can produce sap flow, in addition to wetwood disease. For example, sap flow is associated with flux, slime flux, wetwood, and alcoholic slime flux problems.

Whenever a cut is made on trees, sap begins to flow. This is called flux. This is usually severe in spring because of heavy sap flow. Often many different bacteria or yeast can get into this flux which is then referred to as slime flux. Slime flux is primarily on the surface and it does not go beyond the cambium layer. Since neither flux nor slime flux are inside the plant, there is no need for treatment.

Alcoholic slime flux, a bacterial disease, is generally found on white oaks. Reports indicate that this problem can also occur on beech trees. This problem can be managed by bark tracing the affected areas.

Wetwood disease on American elm is caused by a specific bacterium (*Enterobacter* sp.). Affected trees may show chronic "bleeding" from crotches and wounds. The bacteria infects the sapwood and heartwood and then ferments the sap, releasing gases which create pressure build-up within the tree. This pressure causes the sap to flow out at crotches or near wounds. This fermented sap is toxic.

As a result, the "bleeding" wounds may not heal and often the bark tissues under the area of sap flow may be injured. Many insects may be attracted to fermented sap. This problem can be treated by making a downward slanting hole ($1\frac{1}{2}$ -inch in diameter through the trunk) and inserting a brass pipe into the hole (just far enough to hold it securely).

The drain tube should be installed below the bleeding site so that the sap will drip on the ground and away from the trunk. Copper tubing should not be used since it is toxic to the trees. Often the sap flowing from these tubes may kill grass or ground cover around the drip sites. Install one tube per 12-inch DBH tree or two to three tubes per 24-inch diameter tree at the base.

Power raking to reduce thatch

Problem: Why power rake since it does little to reduce thatch? (Colorado)

Solution: Although it may appear that power raking does little to reduce thatch, it can be beneficial if done properly. For best results the lawn should be raked several times. Periodically check the thatch level with a probe, and continue power raking until the thatch is reduced to the desired level.

Because of the nature of this operation, it may be damaging to lawns. Modifying the thatch layer by

core aeration is less disruptive to turf. With this method, the thatch barrier will be broken and the cores will bring the soil above the turf. Ideally, these cores should be broken to reintroduce the soil containing micro-organisms which are needed for thatch decomposition.

Aerating fairways and roughs

Problem: What are the most effective and most efficient methods of core aeration of a fairway or rough? What is the fastest method? Can this material be used for future construction? (New York)

Solution: Tractor-mounted aerifying equipment would be the most efficient for removing core aeration plugs in a fairway or rough. The effectiveness of the method can be affected by the soil moisture and cutting height. Often fairways and roughs are cut a little longer than the greens, which would reduce the penetration of tines. Also, if the soil is dry, tine penetration is reduced. Walk-behind type aerifiers are not practical for the fairways and rough areas because of the large area to be covered.

The plugs pulled out during aerification would contain some plant material and soil. In most cases, these are left on the ground and allowed to break down slowly and incorporated back into the turf. However, if the plugs are collected, they can be used for future construction.

Roundup and poison ivy control

Problem: Can Roundup be used to control poison ivy plants? Some are growing on tree trunks. When is the best time to treat? (Ohio)

Solution: Roundup can be used to control poison ivy plants. A representative from the Monsanto Company, manufacturers of Roundup, indicates that an application of 2 percent solution when the plants begin to turn leaf color in late summer or fall would provide effective control of poison ivy within seven to 10 days. If the plants are growing up a tree, one must try to cut down most of the vines and then apply the treatment. Avoid any material drifting onto green tissue of non-target, desirable plants because Roundup can cause injury. Read and follow label specifications for best control.



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Questions should be mailed to Problem Solver, Weeds Trees & Turf, 7500 Old Oak Boulevard, Cleveland, OH 44130. Please allow 2-3 months for an answer to appear in the magazine.