Oak Wilt — A Serious Threat Or Just One More Disease?

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The summer of 1986 was marked by an unusually high incidence of Oak wilt throughout North Eastern Illinois.

Oak wilt is a disease closely related to Dutch elm disease. It affects a tree in much the same manner as does D.E.D., plugging the xylem, preventing water movement throughout the tree.

Infected trees of the red oak group, those with pointed lobes on their leaves, are killed quickly, usually within months of the appearance of the first flagging. Leaves bronze, dry and drop. Members of the white oak family (rounded lobes on their leaves) die back gradually, becoming stagg-headed before succumbing. Leaves on affected branches become light green, tan, and dry, remaining attached. There are reports of spontaneous recovery by white oaks, which seem to be capable of walling off infections if the trees are vigorous enough. Affected branches of all species show characteristic brown streaking of the xylem.

Oak wilt has been around for many years with localized outbreaks reported in red and black oak stands every year or so. Spread has been mostly by root grafting, although obviously something had to bring the fungus into the area to start with.

Fortunately, there has been no powerful vector such as elm bark beetle which efficiently moved D.E.D. throughout elm plantings nationwide in only a few years. 1986 was different. Oak wilt appeared in many places. It showed in individual oaks far removed from other oak trees. The first occurrance verified by our lab was in a pair of red oaks in the middle of a fairway, nearly ½ mile from another oak. No other infection was found in the vicinity. The pattern was repeated all season.

Apparently, something is moving the disease more efficiently than we have seen in the past.

Sap beetles are known to carry spores from fungus mats beneath the bark of wilt-killed black and red oaks, to open wounds on healthy trees. These insects could be carried miles by winds. Squirrels, too, could carry spores; but this has not been proven.

Once the disease gets started, it spread quickly to any adjacent oaks through root grafts. There is no cure, so prevention is the only means of control.

Prevention includes care to avoid wounding of healthy trees during the growing season, quick treatment of wounds, breaking of root grafts and prompt removal and destruction of diseased trees.

Wound infection is most likely to occur from bud break in spring until growth ceases in early summer. Pruning or any other work around oaks which could result in open wounds should be delayed until well past this time, preferably until the trees are dormant.

Wounds during the critical period must be treated promptly. This is one case where wound dressing is recommended to prevent the insects from coming in contact with the damaged wood. Paint generously with orange shellac, and cover with an asphalt-based tree dressing.

Sever root grafts betwen diseased and healthy trees as soon as symptoms are observed. The sooner the better. In large plant-

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ings of oaks it may be advisable to sever root grafts to create a barrier between the apparently healthy trees around an infection and the next healthy trees, just in case the disease has already moved through root grafts.

Diseased trees should be removed immediately unless such operations would injure nearby healthy oaks.

Wood from diseased trees may be used as firewood, but should be burned or debarked before spring.

There is speculation as to the reasons for increased incidence of the disease last year. There may have been unusually high populations of sap beetles because of the mild winter. Or, trees which were previously infected simply showed no symptoms until stressed; Appearance of a new vector is possible, as well.

Keep a close watch this spring as your oak trees develop. If you see suspicious symptoms, be prepared to take appropriate steps to protect nearby oaks. If you need assistance in diagnosis, contact our office or the Cooperative Extension Service office in your county.

"Walking the Tightrope with Ultra-Fast Putting Greens"

Dr. R. T. Kane, Turfgrass Advisor

Over the last few years, new standards for putting green quality has emerged, with the primary emphasis on green speed. Mowing heights for greens are now commonly in the 1/8 inch range (.125"), and other management practices such as frequent sand topdressing, verticutting, and brushing are used to accentuate speed and improve smoothness.

However, these same management techniques can be quite detrimental to the bentgrass and *Poa annua* plants that comprise the putting surface. Low mowing heights and the abrasive action of sand, verticutting, and other grooming activities reduce the leaf surface available for plant growth which, in turn, reduces root depth and volume. The result is a weakened plant which lacks vigor and is much more susceptible to environmental stresses and pathogen invasion (e.g. bacteria and nematodes). During summer heat and humidity, the superintendent must balance water, pesticide, nutrition, and other inputs in order to insure survival of the green.

De-emphasizing green speed as a determinant of putting quality would make the superintendent's life easier. Ultra-fast greens are not required to test the ability of the average golfer on a day-to-day basis. Raising the cutting height as little as 1/32" (to 5/32") will reduce plant stress and help insure a healthy, green putting surface through the entire season. Improved plant vigor will add a safety net of sorts to the tightrope walking routine.

Credit: "The Score Card", Spring 1987