



Dutch Elm Disease in Idaho

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During a survey of tree problems, scientists from the College of Forestry, Wildlife and Range Sciences, University of Idaho, examined American elms (*Ulmus americana* L.) in Boise, Idaho at the request of the City Forester, Mr. Herman Ward. On 10 October 1967 two had symptoms of dutch elm disease and feeding injuries by elm bark beetles which transmit the disease. Chips from these trees were implanted on malt agar slants in the Forest Pathology Laboratory, University of Idaho, on 16 October 1967. On October 23 these cultures contained mycelium and coremia of *Ceratocystis ulmi* (Buism.) C. Moreau, the fungus causing dutch elm disease.

This is the first reported dutch elm disease in Idaho, and its presence is alarming. It destroys the American elms which form an important part of the ornamental and shade tree complex of our communities. Once infected, a tree almost never survives the disease and at this stage no spray or injection will help. Control must start before infection occurs. Infected trees must be destroyed by removal and burning or burial, otherwise they form infection sources. In addition, spraying healthy trees to control the carrier bark beetles is necessary to prevent spread.

Although control is costly, it is less expensive than tree removal. Effective control costs approximately \$4 to \$6 per tree. Removal costs \$75 to \$300 per tree. The secondary effects of lost shade, nesting sites and shelter for birds and mammals, weather modifications, and aesthetics usually are not included in estimates of dutch elm disease impact but must be considered in decisions regarding control. Simultaneously, the possible effect of sprays on wildlife must be weighed. A

choice must be made between some possible bird mortality or definite tree mortality and loss of wildlife habitats. Communities and individuals must choose to incur one cost or another—the costs of control or of loss. Neglect of the problem means certain loss. The history of this disease in the United States has been one of destruction, not because controls are ineffective but because people are apathetic to its effects. This is a destroyer!

The disease is recognized by the following symptoms:

1. Progressive yellowing, wilting, and browning or blackening of the leaves on individual branches.
2. Flags of yellow against the normal green of crowns resulting from the yellowing of branches.
3. Progressive decline of the crown as branches die.
4. Brown streaks in the cambium and/or outer sapwood, particularly in "flagged" branches. This is exposed when bark is peeled back on suspected branches.

The disease cannot be diagnosed by symptoms only, but requires laboratory culturing of twigs from flags or immediately adjacent areas. These must be living, not dead, approximately 1/4-1/2 inch diameter and 6 inches long, and preferably should show the streak symptom.

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