

DUTCH ELM DISEASE ON
PRINCE EDWARD ISLAND

"Dutch elm disease" - for those of us who have noted the gradual disappearance of the species in eastern Canada, the term invokes visions of stream borders lined with dead elms, their trunks devoid of bark, bleached by the elements like the bones of a beached whale. What is this terrible disease, and how has it arrived here?

Dutch elm disease was first observed in the Netherlands in 1918 and now occurs throughout the whole of Western Europe. It was discovered on this continent in Ohio, in 1930, apparently having been introduced in a shipment of elm logs from Europe. The disease had spread to Canada by 1944, and is now present at epidemic levels in Manitoba, Ontario, Quebec, New Brunswick and Nova Scotia. The first infection was found on Prince Edward Island in 1979.

The disease is caused by a fungus, Ceratocystis ulmi, the spores of which are transported from diseased to healthy trees by the native elm bark beetle, Hylurgopines rufipes. All species of elm may be so infected. The fungus enters the tree's water-conducting vessels, as adult beetles feed in the upper branches of healthy trees. There it produces spores and toxic chemical byproducts which are carried in the sap stream to all parts of the tree. Eventually, vessels are blocked, and the leaves wilt from lack of water.

Yellowing and sudden wilting of the leaves during July, on one or more limbs in the upper crown, is the first obvious symptom of Dutch elm disease. It is important that surveys be carried

out at this time as natural yellowing, not associated with the disease, commonly begins in early August. Diseased leaves turn brown, dry out and fall, or they may shrivel, become brittle, and remain attached to the twigs for many weeks.

Following development of the first foliar symptoms of Dutch elm disease, affected branched die quickly and the condition extends through all large limbs until the tree dies. Depending on the initial condition of the tree, and the severity of attack, death may occur in from one to three years.

The first infections on Prince Edward Island, located at Conway and Northam in central Prince County, were confirmed in August, 1979. At that time, an attempt was made to contain the "hot spots" by removing and destroying all infected trees, as well as other elms in their immediate vicinity. All areas of the Province have been surveyed for the disease in 1980. Though suspects have once again been identified, a final analysis must await the results of laboratory testing.

Favored for its beauty and vigor, American elm was planted extensively along streets of newly-settled towns in the last century. Significant populations of our native elm occur in central Prince County, along with scattered small groups elsewhere throughout the Province. Unfortunately, the future survival of this species is in jeopardy. Unless a practical means is found to halt its spread, Dutch elm disease may very well result in the eventual disappearance of American elm from the landscape of P.E.I.

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