

DUTCH ELM DISEASE



WHAT IS THE THREAT:

Dutch Elm disease (DED) is a fungal vascular wilt disease primarily vectored by the elm bark beetle but previously affected trees often infect adjacent tree through root grafts. This disease is fatal if not treated preventively.

WHERE IS THE THREAT:

The most susceptible elms are English, American and winged elms while Siberian and Chinese elms are considered resistant. Older cities in the mid-west and north-eastern US were once over-planted with these stately trees until the 1970's when many succumbed to this disease.

SYMPTOMS:

Infection begins after full leaf out in the spring and appears as faded leaves still attached to twigs. This rapid collapse of tissue is due to death of new xylem cells and loss of water and nutrients. Olive discoloration of new wood appears as 'streaking' along the grain when twigs are sampled. Entire branches will wilt throughout the upper canopy within 4-6 weeks and unchecked will lead to tree mortality. Note: squirrel damage can look similar but is identified by the stripped, shredded bark at the base of limbs.

WHAT TO DO ABOUT IT:

Elms treated preventively with a systemic fungicide such as Propizol® have the best chance for success. However, trees with 15% symptoms or less can still be treated but use the high rate. Wait until all leaves are fully formed prior to treatment and follow the dilution rates for the best distribution. Root grafts between trees within 30 feet of one another should be disrupted by trenching where practical. Fungicide treatments involve higher volumes of materials and will require adequate soil moisture for uptake. Consider watering trees prior to injection and include a soil moisture product such as NutriRoot to help keep water in the root zone to minimize stress.



Early wilt symptoms



Cut stems showing staining



Close-up view of wilting leaves

All images taken by: Header Image: Fabio Stergulc, Università di Udine, Bugwood.org; Early wilt: Joseph OBrien, USDA Forest Service, Bugwood.org; R. Scott Cameron, Advanced Forest Protection, Inc., Bugwood.org; Close up View: Minnesota Department of Natural Resources, Minnesota Department of Natural Resources, Bugwood.org