

DUTCH ELM DISEASE

(*Ophiostoma novo-ulmi*)

http://www.arborjet.com/index.php/post/dutch_elm_disease

DESCRIPTION

Dutch elm disease is a vascular wilt disease that causes rapid decline in as few as 6 weeks after infection. American and European elms are commonly infected in two ways: via elm bark beetles that vector the disease from infected to healthy trees, or via fungi that are transmitted through root grafts. Dutch elm disease is an aggressive disease that is almost always fatal to the host tree once it becomes established.

SYMPTOMS

Leaves show signs of wilting (flagging), yellowing and browning. Brown or purplish discoloration is found in sapwood under the bark and dieback will occur shortly after symptoms are first discovered.

TREATMENT

Dutch elm disease must be treated pro-actively before the disease is present in the tree. The disease spreads so quickly that treatment on diseased trees may not be effective. Arborjet recommends a trunk injection of Alamo® Fungicide (14.3% propiconazole) with the TREE I.V., preferably as a proactive treatment, or else at the earliest stages of infection. If treating an infected tree, the following should be performed in addition to the micro-infusion treatment:

- Prune flagging branches immediately as the vascular wilt moves rapidly in the sapwood.
- Strip the bark from the branch with flagging symptoms.
- Inspect the sapwood for streaking (dark staining).
- Cut the branch 6-10 feet beyond the discolored area to clear wood, ideally to a branch bark collar.
- Properly dispose of the infected wood or debark it completely.
- Make sure to disinfect all tools between each cut or drill hole using a bleach solution.
- Trenching between infected and non-infected trees will slow the spread of the disease by root grafts.

PHOTOS

A: Dutch elm disease symptom of flagging branches.

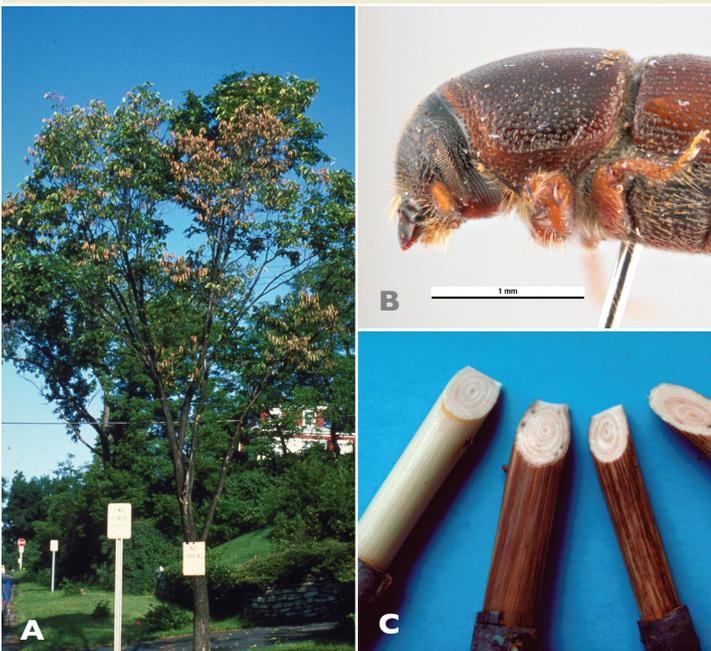
B: Elm bark beetles are the vector of the Dutch elm disease.

C: Discolored twigs indicating dying tissues.

Photo A taken by: Fred Baker, Utah State University, Bugwood.org

Photo B taken by: Pest and Diseases Image Library, Bugwood.org

Photo C taken by: R. Scott Cameron, Advanced Forest Protection, Inc., Bugwood.org



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WHEN TO TREAT

Generally, the best seasons for injection are fall and spring, as uptake occurs when trees are transpiring. The environmental conditions that favor uptake are adequate soil moisture and relatively high humidity. Soil temperature should be above 40°F for trunk injection. Hot weather or dry soil conditions will result in a reduced rate of uptake, so trees should be watered if applications are made when soil is extremely dry. If treating trees in the summer, inject in the morning for the quickest uptake. Tree health will affect treatment efficacy, so assess tree health prior to treating. For example, a declining tree (>50% canopy dieback) is a poor candidate for treatment.

For Dutch elm disease, we recommend that Alamo is applied in the spring prior to beetle flight. Best treatment response can be expected when less than 15% of the canopy is affected. In dry conditions, watering the tree will improve uptake of the injection treatment.

WHAT TO EXPECT AFTER TREATMENT

Tree recovery will be dependent upon the severity of the Dutch elm disease infection at the time of trunk injection, as well as upon the extent of eradicated pruning. Alamo is best used as a pro-active application before signs of infection are present. Up to 60% of infected elm trees have recovered using the pruning and treatment techniques recommended above.

WORLD CLASS FORMULATIONS

For treatment of dutch elm disease use Alamo® Fungicide.

Alamo is a systemic fungicide widely recognized as the leading treatment for dutch elm disease. Alamo will stop or inhibit the spread of dutch elm disease and allow the infected tree to recover. Applied pro-actively, Alamo can prevent infection.

Our products can be purchased online at www.arborjet.com or at your local Arborjet distributor.



Alamo® Fungicide is a registered trademark of a Syngenta Group Company

QUIK-JET INJECTION



TREE I.V. INJECTION



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QUIK-jet Kit



TREE I.V. 2-Pack Kit



QUIK-jet Pro Kit



Arborjet Deluxe Kit

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