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ELM INFORMATION FOR CONNECTICUT

The arching, vase-shaped American elms that once lined the streets of Connecticut are much less common now than at the turn of the century. Many of the trees in New Haven (the Elm City) were blown over in the hurricane of 1938. Street trees are frequently injured by automobiles and by people, and the stress of a restricted root zone contributes to their short lives. However, the elms are also attacked by a serious disease.

An Asian fungus, *Ophiostoma ulmi*, was accidentally imported into the US in the 1930's. American and English elms (*Ulmus americana* and *U. procera*) are quite susceptible to the vascular disease caused by this fungus, but tree breeding in Holland has produced cultivars of the European elm, *Ulmus carpinifolia*, with some resistance. The extensive research efforts in Holland led to our common name for this disease; Dutch Elm Disease (DED).

The fungus is carried from tree to tree by elm bark beetles that feed by cutting grooves in the bark at twig crotches, and drinking the sap. The fungus is rubbed off the feet and bodies of the beetles into these wounds, and infection begins. By spraying elm trees with insecticide (contact a licensed arborist) at the beginning of May, beetle feeding can be reduced. Obviously, good coverage of the twigs is essential.

The beetles mate after feeding, and lay their eggs in the bark of dead elm trees. The fungus multiplies in the galleries (tunnels) produced by the feeding larvae. When the adult beetles emerge from these galleries the following spring, they are covered with the spores of the fungus. Thus, prompt removal of dead and dying elm trees is an important factor in reducing the chances for future infection.

A number of American elms which survived DED were selected by Dr. Eugene B. Smalley at the University of Wisconsin at Madison. These were planted together and crossed to produce seed. The seedlings were tested for resistance, and a group with numbers from W502 to W510 selected to be propagated, along with one of the original clones (M8 from Kansas). Six of these are sold as a group under the name "American Liberty Elm" by the Elm Research Institute in

Harrisville, New Hampshire (1-800-367-3567). The trees in this group have only partial resistance to DED. One of Smalley's second-generation selections which has better resistance is marketed by nurseries as 'Independence'. Other American elm cultivars with much more resistance include 'Delaware', 'Delaware #2', 'Valley Forge', and 'New Harmony' released by the USDA, 'l'Assomption' released by the Forest Research Lab. in l'Assomption, Quebec, 'Washington' from the National Park Service, and 'Princeton' from Princeton Nurseries in New Jersey. Princeton Nurseries (609-259-7671) also carries 'Delaware and 'Washington', but only sells wholesale. Millane Nurseries in Cromwell, CT (860-635-5500 or www.millane.com) sells 'Princeton', and cultivars 'Princeton,' 'Valley Forge,' and 'New Harmony' are available from The Botany Shop, Joplin, MO (417-781-6431 or www.botanyshop.com), and Sunshine Nurseries, Clinton, OK (580-323-6259 or www.sunshinenursery.com).

The very resistant *U. carpinifolia* cultivars 'Soporo Autumn Gold' and 'Homestead' (available from Millane Nurseries) and the hybrid 'Regal' which is [(*U. carpinifolia* X *U. glabra*) X *U. carpinifolia*] X (*U. pumila* X *U. carpinifolia*), are good choices for planting in areas where beetles cannot be controlled.