

UMass Extension – Landscape, Nursery & Urban Forestry Diagnostic Lab

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Plant American elm	Date 12-7-11
Contact Elaine McGrail, Pat Artis, & Anneli Johnson	Firm Wollaston Garden Club
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Briefly Describe Problem

Mature American elm has some dead branches but also major limbs are quite viable with the bark on trunk and most limbs in good condition. Tree grows in full sun on a raised portion within an area of blacktop and receives no special cultural care.

Part affected Branches	Symptoms Dieback	Soil type Soil mix
Drainage Moderate	Location Raised region in blacktop area	Age ~100 years old
When did symptoms appear?	Irrigation? No	
Were symptoms apparent previous years? Not given	Describe chemical use: Not known	

Diagnostic condition of sample received: Good

Diagnosis and Management

The lab cultured and incubated branch xylem sapwood pieces to check for Dutch elm disease (DED) and branch canker pathogens. Here are the test results:

Lab sample #	Vascular staining?	Culture results:
1079	No	6/6 negative for DED and branch canker pathogens

The lab dissected the terminal and lateral buds on the branches submitted and found them turgid and fully formed. An unknown agent damaged water-conducting tissues in some of the branches on the American elm, which disrupted water and mineral transport beyond that point and caused those branches to dieback. However, as long as about 70% of branches in the crown of the elm leaf out, the tree then has enough leaf area to photosynthesize the carbohydrates needed to survive.

Management strategies: Remove dead branches to improve the mature elm's appearance and to reduce danger of dead limbs falling to the ground during storms. During extended dry periods, consider providing once weekly soaking irrigations. Fertilize as needed and maintain a 2-3 inch layer of mulch over as much of the root zone of the American elm as possible to aid retention of soil moisture. In addition, when engaging in activities around the elm, take care to protect the tree and avoid bruising the trunk and branches.

Lab number 1079	Received 11-30-11	Responded 12-7-11
By Daniel H Gillman	Payment received Yes	Amount Due \$0.00

Thank you. Payment Received