National Elm Trial in Michigan

- Michigan State University, East Lansing, MI
  - Plant Pathology Research Farm
- Drip Irrigation with two emitters at each tree were used to establish trees
- Soil is primarily loam and site is mowed
- Visitors are welcome during business hours Mon- Fri.
- Insects: Japanese beetle and European elm flea weevil feeding on leaves
- Outstanding cultivars: Emerald Sunshine, New Harmony, Patriot, Danada Charm, Princeton (based on insect tolerance)
- Note: No cultivar escaped feeding from either insect
Dr. Dennis Fulbright
- Professor
- Dept. of Plant, Soil, and Microbial Sciences
- Plant Biology Lab
- 612 Wilson Rd. Rm 158
- East Lansing, MI 48824
- 517-353-4506
- fulbrig1@msu.edu
- Rogers Reserve Website

Dr. David Smitley
- Professor
- Department of Entomology
- Michigan State University
- 347 Natural Science
- East Lansing, MI 48824
- 517-355-3385
- smitley@msu.edu
National Elm Trial
Michigan Contacts

Dr. Gerry Adams

• Associate Professor
• Plant Pathology Dept.
• University of Nebraska-Lincoln
• 406 Plant Science Hall
• Lincoln, NE 68583-0722
• Phone: 402 472 2897
• gadams3@unl.edu
• Dr. Adams' webpage
National Elm Trial Location

- Directions from Michigan State University Pavilion to National Elm Trial on Power Line Dr., Lansing, MI 48910
  - 2.3 miles
  - Head south on Farm Lane
  - Turn right onto Forest Rd 0.3 mi
  - Turn left onto N College Rd 1.0 mi
  - Turn right 0.2 mi
<table>
<thead>
<tr>
<th>Cultivar Number</th>
<th>Cultivar Name</th>
<th>Parentage</th>
<th>Supplier</th>
<th>Root stock according to California trial</th>
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<tbody>
<tr>
<td>1</td>
<td>“Emerald Sunshine”</td>
<td>U. propinqua</td>
<td>Princeton Nurseries (Keith Warren)</td>
<td>U. pumila,budded</td>
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<td>Princeton'</td>
<td>U. americana</td>
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<td>Own root, softwood cutting</td>
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<td>3</td>
<td>‘Frontier’</td>
<td>U. carpinifolia X U. parvifolia</td>
<td>Princeton Nurseries</td>
<td>Own root, softwood cutting</td>
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<td>4</td>
<td>‘Homestead’</td>
<td>U. glabra X U. carpinifolia X U. pumila</td>
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<td>Own root, softwood cutting</td>
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<td>Vanguard™</td>
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<td>Commendation</td>
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<td>‘Prospector’</td>
<td>U. wilsoniana</td>
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<td>‘Valley Forge’</td>
<td>U. americana</td>
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<td>U. americana</td>
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<td>16</td>
<td>‘Jefferson' Lewis &amp; Clark' Prairie Expedition®</td>
<td>U. americana</td>
<td>The Botany Shop, Inc.</td>
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<td>U. americana</td>
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<td>Number</td>
<td>Year</td>
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<td>2007</td>
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<td>Parker</td>
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<td>Ever Clear 2007</td>
<td>Frontier break</td>
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<td>Valley Forge 2007</td>
<td>Homestead extra</td>
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<td>Athena Classic</td>
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<td>Ever Clear 2007 Late bud break Dead</td>
<td>Ever Clear Danada Charm</td>
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<td>2007</td>
<td>Allee Emer II 2007 Top half dead</td>
<td>Athena Classic 2007</td>
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<td>2007</td>
<td>Allee Emer II 2007</td>
<td>Ever Clear</td>
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<td>1</td>
<td>2007</td>
<td>Ever Clear 2007 Dead</td>
<td>Athena Classic 2007</td>
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</tbody>
</table>
‘Emerald Sunshine’ (*Ulmus propinququa*)

Date: 8/13/14
Survival: 100%
Diameter at 1.4m (cm): 11.9
Height (m): 6.0
Crown shape: Vase
Crown width (m): 3.5
% De-foliation: 7
Japanese Beetle (% Damage): 0
Elm Flea Weevil (% Damage): 100
Disease: None

‘Emer II’ Allee ® (*U. parvifolia*)

Date: 8/13/14
Survival: 0% root stock is growing as bush
Diameter at 1.4m (cm): NA
Height (m): NA
Crown shape: NA
Crown width (m): NA
% De-foliation: 0
Japanese Beetle (% Damage): 0
Elm Flea Weevil (% Damage): 0
Disease: None
‘Frontier’ (*Ulmus carpinifolia X U. parvifolia*)

Date: 8/13/14
Survival: 80%
Diameter at 1.4m (cm): 11.4
Height (m): 5.5
Crown shape: Oval, Vase
Crown width (m): 3.3
% De-foliation: 15
Japanese Beetle (% Damage): 8
Elm Flea Weevil (% Damage): 92
Disease: None

‘Homestead’ (*U. glabra X U. carpinifolia X U. pumila*)

Date: 8/13/14
Survival: 100%
Diameter at 1.4m (cm): 9.6
Height (m): 6.3
Crown shape: Oval, Pyramid, Vase
Crown width (m): 3.0
% De-foliation: 42.5
Japanese Beetle (% Damage): 62
Elm Flea Weevil (% Damage): 38
Disease: None
No Picture Available

‘Morton Glossy’ Triumph™ (*U. pumila* X *U. japonica* X *U. wilsoniana*)

Date: 8/13/14  
Survival: 40%  
Diameter at 1.4m (cm): 20.8  
Height (m): 8.8  
Crown shape: bush- maybe root stock sprouting  
Crown width (m): 6.1  
% De-foliation: 4  
Japanese Beetle (% Damage): 0  
Elm Flea Weevil (% Damaged): 100  
Disease: None

‘Morton Plainsman’ Vanguard™ (*U. pumila* X *U. japonica*)

Date: 8/13/14  
Survival: 80%  
Diameter at 1.4m (cm): 15.2  
Height (m): 6.6  
Crown shape: Vase  
Crown width (m): 4.8  
% De-foliation: 13  
Japanese Beetle (% Damage): 55  
Elm Flea Weevil (% Damaged): 45  
Disease: None
<table>
<thead>
<tr>
<th>Tree Name</th>
<th>Date</th>
<th>Survival</th>
<th>Diameter at 1.4m (cm)</th>
<th>Height (m)</th>
<th>Crown Shape</th>
<th>Crown Width (m)</th>
<th>% De-foliation</th>
<th>Japanese Beetle (% Damage)</th>
<th>Elm Flea Weevil (% Damaged)</th>
<th>Disease</th>
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<tbody>
<tr>
<td>‘Morton Red Tip’ Danada Charm™</td>
<td>8/13/14</td>
<td>80%</td>
<td>18.0</td>
<td>6.8</td>
<td>Vase, Oval</td>
<td>4.0</td>
<td>8.2</td>
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<td>60</td>
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<td>‘Morton Stalwart’ Commendation™</td>
<td>8/13/14</td>
<td>80%</td>
<td>18.5</td>
<td>7.5</td>
<td>Vase, Oval</td>
<td>6.1</td>
<td>20</td>
<td>82</td>
<td>18</td>
<td>None</td>
</tr>
</tbody>
</table>
‘Morton’ Accolade® (U. japonica X U. wilsoniana)

Date: 8/13/14
Survival: 100%
Diameter at 1.4m (cm): 14.5
Height (m): 6.1
Crown shape: Vase
Crown width (m): 3.9
% De-foliation: 22
Japanese Beetle (% Damage): 84
Elm Flea Weevil (% Damaged): 16
Disease: None

‘New Horizon’ (U. pumila X U. japonica)

Date: 8/13/14
Survival: 100%
Diameter at 1.4m (cm): 21.8
Height (m): 7.7
Crown shape: Vase, oval
Crown width (m): 5.0
% De-foliation: 11
Japanese Beetle (% Damage): 38
Elm Flea Weevil (% Damaged): 63
Disease: None
‘Patriot’ (U. glabra X U. carpinifolia X U. pumila) X U. wilsoniana

Date: 8/13/14
Survival: 100%
Diameter at 1.4m (cm): 16.7
Height (m): 7.2
Crown shape: Vase
Crown width (m): 5.1
% De-foliation: 8
Japanese Beetle (% Damage): 0
Elm Flea Weevil (% Damaged): 100
Disease: None

‘Pioneer’ (U. glabra X U. carpinifolia)

Date: 8/13/14
Survival: 60%
Diameter at 1.4m (cm): 15.2
Height (m): 6.8
Crown shape: Vase, Oval
Crown width (m): 4.4
% De-foliation: 15
Japanese Beetle (% Damage): 73
Elm Flea Weevil (% Damaged): 27
Disease: None

No Picture Available
‘Prospector’ (U. wilsoniana)

- Date: 8/13/14
- Survival: 100%
- Diameter at 1.4m (cm): 18.5
- Height (m): 7.0
- Crown shape: Oval, Vase
- Crown width (m): 5.8
- % De-foliation: 11
- Japanese Beetle (% Damage): 0
- Elm Flea Weevil (% Damaged): 100
- Disease: None

‘Valley Forge’ (U. americana)

- Date: 8/13/14
- Survival: 100%
- Diameter at 1.4m (cm): 12.2
- Height (m): 6.5
- Crown shape: Vase
- Crown width (m): 3.8
- % De-foliation: 11
- Japanese Beetle (% Damage): 58
- Elm Flea Weevil (% Damaged): 42
- Disease: None
‘New Harmony’ (*U. americana*)

Date: 8/13/14
Survival: 100%
Diameter at 1.4m (cm): 12.9
Height (m): 7.1
Crown shape: Vase
Crown width (m): 3.2
% De-foliation: 6
Japanese Beetle (% Damage): 30
Elm Flea Weevil (% Damaged): 70
Disease: None

‘Jefferson’ (*U. americana*)

These Jefferson reps were found to be the same cultivar as Princeton

Date: 8/13/14
Survival: 20%
Diameter at 1.4m (cm): 4.8
Height (m): 1.8
Crown shape: Vase
Crown width (m): 1.2
% De-foliation: 20
Japanese Beetle (% Damage): 100
Elm Flea Weevil (% Damaged): 0
Disease: None
‘Athena Classic’ Lacebark Elm
(U. parvifolia)

Date: 8/13/14
Survival: 100%
Diameter at 1.4m (cm): 5.8
Height (m): 2.2
Crown shape: Oval, Vase
Crown width (m): 1.2
% De-foliation: 8
Japanese Beetle (% Damage): 20
Elm Flea Weevil (% Damaged): 80
Disease: None

Everclear’ Lacebark Elm (U. parvifolia)

Date: 8/13/14
Survival: 40%
Diameter at 1.4m (cm): 5.1
Height (m): 4.1
Crown shape: Columnar
Crown width (m): 0.8
% De-foliation: 5
Japanese Beetle (% Damage): 0
Elm Flea Weevil (% Damaged): 100
Disease: None
‘Lewis & Clark’ Prairie Expedition ®
(U. americana)

Date: 8/13/14
Survival: 100%
Diameter at 1.4m (cm): 8.6
Height (m): 5.0
Crown shape: Vase
Crown width (m): 2.7
% De-foliation: 15
Japanese Beetle (% Damage): 78
Elm Flea Weevil (% Damaged): 22
Disease: None

No Picture Available

‘Princeton’ (U. americana)

Date: 8/13/14
Survival: 100%
Diameter at 1.4m (cm): 18.0
Height (m): 7.4
Crown shape: Vase
Crown width (m): 3.8
% De-foliation: 9
Japanese Beetle (% Damage): 50
Elm Flea Weevil (% Damaged): 50
Disease: None
European elm flea weevil damage in 2014

Japanese beetle feeding damage in 2014
Michigan National Elm Trial – a year after planting