

Elm renaissance: a new chance for a beloved American tree

The American elm

The majestic arching canopies of elm trees (*Ulmus americana*) were dominant features along the streets of many American cities during the early 20th century. Generations of families grew up under their stately shade. But beginning in the 1930s, Dutch elm disease began taking its toll, and by the 1970s the disease had swept across the country killing most of the elms.

The cries of “timber” were accompanied by sighs of despair by those who felt that no other species could duplicate the **grace, stature, and adaptability of this native tree.**

For many years, it was as if the elm was extinct. Now, an elm revival is underway. New disease-resistant trees have been propagated and are being planted once again, including 80 “new” elm varieties recently planted in front of the White House.



Photo courtesy of Greg Greece

17 new cultivars at UC Davis

As part of this national renaissance, researchers from the Center for Urban Forest Research, along with teachers, students, and grounds crews from UC Davis planted 74 elms at the Bowley Plant Science Teaching Center on the campus of UC Davis in 2005 and 2006. The trees, provided by Schmidt Bros. Nursery in Oregon, represent 17 cultivars expected to be good performers in northern California. They include the disease-tolerant American elm cultivar ‘Valley Forge’ and hybrids such as ‘Accolade,’ mostly of Asian heritage, whose vase-shape duplicates the American elm. Other promising cultivars offer elm leaf beetle resistance, ornamental bark, and a wide range of environmental tolerances.

The trees, planted every 20 ft in four rows at the Bowley Center plot, will be measured and evaluated annually for five years, then transplanted to various sites on campus and monitored for another five years. Students are assisting with annual evaluations.

Education and research

The elm tree plot plays an important role as an outdoor laboratory for two plant identification courses. Also, urban forestry courses will use the site for discussions on the importance of planting a diverse mix of species and selecting trees that are well-adapted to local growing conditions. Seeing these concepts in the field will help students manage more sustainable urban forests in the future.

UC Davis and Forest Service researchers will study the trees’ growth, health, and fall color. Other researchers will test resistance to elm leaf beetle and Dutch elm disease. The trees’ root

architecture will be examined using air-spades that expose roots with minimal disturbance. This technology makes it possible to identify cultivars with deep rooting patterns, thereby reducing future conflicts between tree roots and sidewalks.

The future

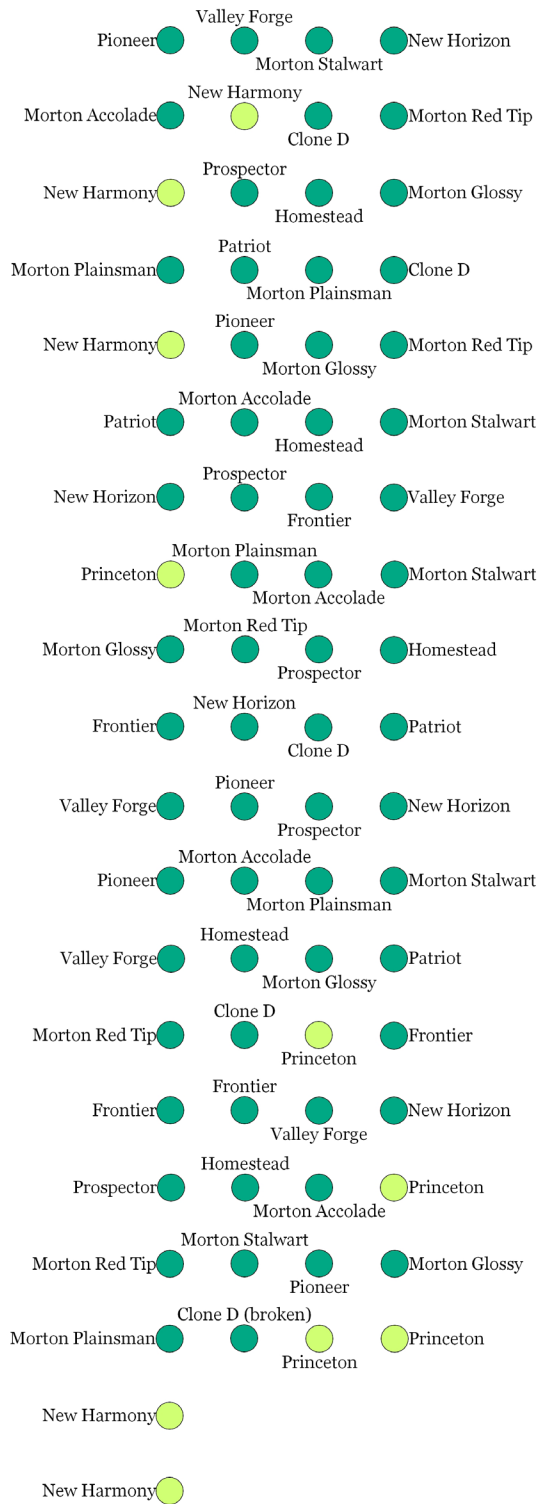
Cities in the San Francisco Bay area and Sacramento Valley may once again see elms arching over their streets and parks. This partnership between UC Davis Plant Science Department, Grounds Division, and USDA Forest Service, Center for Urban Forest Research is providing new information that will spur reintroduction of what was the crown jewel of cities across the United States—the elm tree.



NATIONAL ELM TRIAL

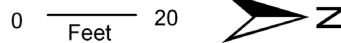
at the Bowley Plant Science Teaching Center
University of California Davis, Davis, CA

Center for Urban Forest Research
U.S. Forest Service



Variety & Trade Name	Parentage
Ulmus propinqua 'JFS-Bieberich' Emerald Sunshine™ Elm	<i>U. propinqua</i>
Ulmus parvifolia 'Emer II' Allee® Elm	<i>U. parvifolia</i>
Ulmus 'Frontier' Frontier Elm	<i>U. carpinifolia</i> X <i>U. parvifolia</i>
Ulmus 'Homestead' Homestead Elm	<i>U. glabra</i> X <i>U. carpinifolia</i> X <i>U. pumila</i>
Ulmus 'Morton Glossy' Triumph™ Elm	<i>U. pumila</i> X <i>U. japonica</i> X <i>U. wilsoniana</i>
Ulmus 'Morton Plainsman' Vanguard™ Elm	<i>U. pumila</i> X <i>U. japonica</i>
Ulmus 'Morton Red Tip' Danada Charm™ Elm	<i>U. japonica</i> X <i>U. wilsoniana</i>
Ulmus 'Morton Stalwart' Commendation™ Elm	<i>U. carpinifolia</i> X <i>U. pumila</i> X <i>U. wilsoniana</i>
Ulmus 'Morton' Accolade® Elm	<i>U. japonica</i> X <i>U. wilsoniana</i>
Ulmus 'New Horizon' PP8684 New Horizon Elm	<i>U. pumila</i> X <i>U. japonica</i>
Ulmus 'Patriot' Patriot Elm	(<i>U. glabra</i> X <i>U. carpinifolia</i> X <i>U. pumila</i>) X <i>U. wilsoniana</i>
Ulmus 'Pioneer' Pioneer Elm	<i>U. glabra</i> X <i>U. carpinifolia</i>
Ulmus wilsoniana 'Prospector' Prospector Elm	<i>U. wilsoniana</i>
Ulmus americana 'Valley Forge' Valley Forge Elm	<i>U. americana</i>
Ulmus americana 'Princeton' Princeton Elm	<i>U. americana</i>
Ulmus americana 'New Harmony' New Harmony Elm	<i>U. americana</i>
Clone D = Ulmus 'Emerald Sunshine' - Emerald Sunshine Elm	<i>U. propinqua</i>

Legend
 planted 2005
 planted 2006



For more information on this and other urban forestry projects, visit: <http://www.fs.fed.us/psw/programs/cufr/>

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