

# A Guide for Selection and Maintenance

Courtesy of the TRE Nursery Team  
 Jeff Gillman, Gary Johnson, Chad Giblin, Dave Hanson and Patrick Weicherding

## Why Elms?

For much of the past century, American elms have been a very important part of our urban forest, especially in the Twin Cities. Since the outbreak of Dutch Elm Disease (DED), however, urban foresters and nursery growers have been scrambling to find suitable replacements for these tough specimens. The Minneapolis Park and Recreation Board (MPRB) has been involved in trying out the resistant elm varieties for many years. This interest helped establish a cooperative research project between the MPRB and the University of Minnesota Teaching, Research, and Extension (TRE) Nursery to evaluate the various elms available in the nursery trade. The goal was to find as many new elm selections as possible and get a feel for their suitability in the city of Minneapolis. Since 1999, over 1,000 elms selected from 20+ different varieties have been evaluated.

## Variety is the Spice of Life!

Moderation is always a wise choice. Accordingly, MPRB is taking a cautious approach to replanting large numbers of any particular tree on the city streets. For example, Minneapolis has approximately 19% ash trees on the streets and is trying to limit the over-planting of any one particular species or variety. City foresters are conscious of the role increased tree diversity plays in preventing infestations such as the emerald ash borer in ash. Species diversity, combined with a good tree inventory, allows for quicker more efficient planning and response to exotic pest introductions or disease outbreaks. The multi-specific parentage of these elms will contribute high levels of genetic diversity to the urban forest and may help stop or delay major outbreaks of disease and insect infestations.

## Maintenance

Elms require unique levels of maintenance for long-term health. Many varieties will require pruning and training throughout the growing season for the first few years of their lives outside of the nursery. Maintenance of strong central leaders is of critical importance, especially for boulevard plantings. In many cases it appears that elm bark beetle feeding sites may create branch inclusions that may tear out under stress in the future. Scouting for these dysfunctional branch attachments is critical when trees are young to avoid "tear-outs" which, in many cases, send an otherwise good tree to the chipper!

Because pruning young elms is so important, several new research sites will examine both traditional and relatively unconventional pruning methods and their effects on tree health and performance.

Elms for the Twin Cities: A Guide for Selection and Maintenance (rev. 2/27/2007)

	DED Resistance <sup>1</sup>	Growth Rate	Hardiness	Insect Resistance	Form	Maintenance Requirement	Storm Breakage	Blvd. Use <sup>2</sup>
<b>Accolade™</b>	very good	fast	excellent	excellent	vase	moderate	excellent	***
<b>Danada Charm™</b>	very good	v. fast	good	fair	vase	high	fair	***
<b>Commendation™</b>	very good	v. fast	excellent	fair	oval/vase	moderate	good	****
<b>Camperdown</b>	unknown	slow	poor	good	weeping	moderate	excellent	n/a
<b>Cathedral</b>	good	v. fast	excellent	good	vase	high	fair	***
<b>Discovery</b>	good	slow	excellent	good	upright	moderate	excellent	***
<b>Frontier</b>	good	slow	poor	fair	upright	low	excellent	n/a
<b>Homestead</b>	good	v. fast	good	fair	upright	moderate	good	**
<b>New Horizon</b>	excellent	v. fast	excellent	excellent	upright	high	good	***
<b>Patriot</b>	excellent	fast	excellent	excellent	vase	low	excellent	****
<b>Pioneer</b>	good	moderate	fair	fair	globe	low	excellent	**
<b>Princeton</b>	good	fast	good	fair	vase	high	fair	****
<b>Prospector</b>	excellent	moderate	fair	good	vase	high	fair	*
<b>Triumph™</b>	very good	v. fast	excellent	fair	vase	moderate	moderate	***
<b>Valley Forge</b>	excellent	v. fast	good	fair	vase	high	fair	**
<b>Vanguard™</b>	very good	fast	excellent	fair	vase	high	fair	**

1 Dutch Elm Disease resistance and some of the insect resistance recommendations are based on data and observations at the University of Minnesota combined with previously published work. Please refer to the *Elms for the Twin Cities: A Guide for Selection and Maintenance* for a complete list of citations.

2 This column rates suitability for use in boulevard planting strips. Four stars indicate high suitability; one star indicates little or no suitability. This rating is based primarily on form and growth characteristics observed in the research nursery setting, but may also include exceptional salt, heat, and drought tolerance. Extremely high-maintenance varieties and those with spreading forms might be precluded from use in these areas.