

## The Successful Planting Initiative Part II: Tree Selection

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After recounting what we learned in the site assessment phase [see the Citizen Forester March 2013 issue], we can move into the plant selection phase armed with important site-specific information. Some of these details include a better understanding about climactic/temperature conditions, light levels, spatial constraints and soil conditions that may be present in the new planting site. Knowing, for example, that trees require up to 2.0 cubic feet of useable soil space to develop 1 square foot of projected deciduous canopy can be essential in aligning tree selection objectives and site-assessment findings, relative to spatial constraints.

Understanding simple soil drainage rates (4" - 8" of downward water movement per hour is generally considered ideal) can allow for the selection of a tree species that will tolerate excessively moist conditions vs. excessively well-drained or dry conditions. In essence, the plant selection phase can allow for the proactive management of many issues that may arise as a result of establishing a tree in an urban setting, based on our now more thorough understanding of pre-existing conditions.

Plant selection can, for example, help to virtually eliminate any controversies associated with the need for pest management (i.e. the potential application of pesticides) through the selection of pest-resistant cultivars or species. The planting of crabapples, which was discouraged for many years due to their susceptibility to commonly-occurring diseases [fireblight (*Erwinia amylovora*), cedar-apple rust (*Gymnosporangium juniper-virginianae*), powdery mildew (*Podosphaera leucotricha*), and apple scab (*Venturia inaequalis*)] that detracted from their aesthetic appeal, can now be addressed through the selection of many disease-resistant varieties.



*In urban settings it is often important to select trees that will tolerate limited available growing space.*

Other relevant site factors including tolerance to available light levels, ornamental traits (i.e. flowering vs. non-flowering, fruit-bearing vs. non-fruit bearing, bark coloration), size, hardiness, tolerance to salt or pollution and compatibility with many - but not all - facets of existing soil conditions, can often be addressed to some degree, through proper plant selection.

Fortunately, there are many excellent resources to facilitate the selection of a new tree, or trees, compatible with the urban environment - these are just a few:

The Plant Database at the University of Connecticut  
<http://www.hort.uconn.edu/Plants/index.html>

University of Massachusetts, Landscape, Nursery & Urban Forestry Fact Sheets

<http://extension.umass.edu/landscape/factsheets/plant-materials>

University of Minnesota Sustainable Urban Landscape Information Series

<http://www.sustland.umn.edu/plant/default.html>

Cornell University Woody Plants Database

<http://woodyplants.cals.cornell.edu>

University of Florida 'Northern Trees'

<http://lyra.ifas.ufl.edu/NorthernTrees>

Virginia Urban Street Tree Selector

<http://dendro.cnre.vt.edu/treeselector/search.htm>

If we are planting many trees in a location it is important to give further consideration to diversifying the population. With upwards of 50% of the street trees in the Commonwealth of Massachusetts being maple (*Acer* spp.), adhering to the goal of establishing no more than 10% of any one genus of trees becomes a very important consideration for a community planting. Armed with

some knowledge about the site and an idea as to what type of tree – or trees – that we will be planting, we next look forward to the selection and establishment component of the successful planting initiative.



*Fruits of the Malus 'Prairiefire' crabapple – a small, disease-resistant flowering tree.*

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