

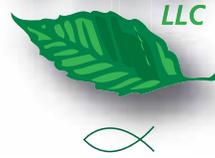
Sherdec Tree Service

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Tree Selection Based on Site Conditions

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EVALUATING THE SITE:

Exposure

The amount and time of day a tree receives sunlight can limit the type of tree that can be planted. Although some trees require full sun, it may be too intense on some sites where heat and light are reflected from nearby buildings or pavement.

Importance of soils

Soil conditions frequently limit planting success; planting methods must be adjusted to accommodate various soil types. Poorly drained clay soils, typical of urban developments, require procedures much different from the well-drained, organic soils found in older neighborhoods. The degree to which soils drain under natural conditions can be described as follows: **Somewhat excessively drained soils** are characterized by rapid drainage and low available moisture that subject plants to serious drought stress during periods of low rainfall; **well-drained soils** have optimal drainage to support plants and provide adequate moisture during most growing seasons; **somewhat poorly drained soils** are wet for extended periods of time and restrict the root development and growth of most plants; **poorly drained soils** are wet throughout most of the year and restrict the root development and growth of all species of plants except wetland plants.

Soil Reaction or pH

This is a general indicator of nutrient availability. In slightly acid to neutral soils (pH between 5.5 and 7.2) most nutrients are available at optimal levels. Some nutrients, such as iron and manganese, become less available in alkaline soils (pH above 7.2) because of chemical changes caused by alkalinity. Other nutrients become less available in highly acid soils (pH less than 5.5), but these soils are not often encountered in Ohio.

SELECTING TREES:

There are several factors to consider when deciding what size tree to plant. Large trees provide immediate visual impact but are expensive and slow to establish. Small trees are more economical and will establish more rapidly. This quick recovery allows smaller trees to grow rapidly during a time that a larger tree is still struggling to become established, causing the size difference to decrease over time. New tree establishment takes 1-2 years per inch of trunk caliper:

Characteristics to consider:

Useful Geographic Range - climate limits the variety of plants that can be grown in any region. The Cincinnati area is Zone 5a, according to the US Hardiness Zone Map.

Drought Tolerance - The urban environment is warmer and drier than the surrounding open countryside. These urban areas sometimes require the selection of more drought-tolerant trees, particularly in areas with extensive hard surfaces.

Salt Tolerance - Air borne pollutants can damage plants. Highly susceptible species should not be planted near major roads that are frequently salted.

Disease and Insect Susceptibility - Most plants are susceptible to various insect and disease problems. Some plants have problems that are serious enough to advise against planting them.

Form & Mature Height - The height, width, and branching pattern of a tree are important and consideration must be given to the mature size of the tree in relation to buildings, roadways, sidewalks, and other trees. Low branching, spreading trees are not appropriate along the street, but are desired when privacy is needed. Check the site for overhead wires that may cause concern in the future.

Growth Rate - Growth rate should not be the most important consideration when selecting a tree. Many fast-growing trees have certain other undesirable characteristics such as weak branch unions, and brittle or softwood.

Longevity - Urban trees have shorter life spans than woodland trees. Ten to thirty years is considered average for an urban street tree. With proper maintenance (i.e. watering, fertilization and pruning), you can expect them to live much larger.

The following are some of our favorite species.

Deciduous Trees	Latin Name	Suitable Site
Ash, Black	<i>Fraxinus nigra</i>	Moist varied types of soils. Avoid soils over pH 7.0.
Birch, River	<i>Betula nigra</i>	Wet or high moisture site only. Avoid soils over pH 7.0.
Buckeye, Ohio	<i>Aesculus glabra</i>	Moist well drained soil. Avoid soils over pH 7.0.
Horsechestnut, Common	<i>Aesculus hippocastanum</i>	Well drained soil. Avoid soils over pH 7.3. Salt tolerant.
Coffeetree, Kentucky	<i>Gymnocladus dioicus</i>	Tolerates a wide range of site conditions. Full Sun. Messy - seed pods.
Corktree, Amur	<i>Phellodendron amurense</i>	Tolerant of many types of soils, full sun, drought tolerant.
Elm, Cathedral	<i>Ulmus Cathedral</i>	Newer variety. Resistant to Dutch Elm disease Tolerates many site condition.
Ginkgo	<i>Ginkgo biloba</i>	Anywhere - few known problems. Oldest known tree. Thin canopy at first.
Hackberry, Common	<i>Celtis occidentalis</i>	Good on most sites. Avoid soils over pH 7.5. Watch for poor structure.
Honeylocust, Thornless	<i>Gleditsia triacanthos var. inermis</i>	Tolerates wide range of site conditions. Full sun. Easier to grow grass under.
Linden, American	<i>Tilia americana</i>	Moist site, high organic matter - tolerates dry site. Intolerant of salt.
Maple, Freeman	<i>Acer X freemanii</i>	Tolerates many soil conditions. Avoid soils over pH 7.5. Brilliant fall color.
Maple, Red	<i>Acer rubrum</i>	Wet OK, do no plant if soil pH is over 7.5. Not salt tolerant.
Maple, Sugar	<i>Acer saccharum</i>	Good drainage needed. Not full sun. High organic matter needed.
Oak, Bur	<i>Quercus macrocarpa</i>	Will tolerate a wide variety of conditions. Drought tolerant.
Oak, Northern Red	<i>Quercus rubra</i>	Well drained. Full sun. Avoid soils over pH 7.5.
Oak, Swamp White	<i>Quercus bicolor</i>	Wet or dry sites OK. Does well in urban sites.
Oak, White	<i>Quercus alba</i>	Wet or dry sites OK. Avoid soils over pH 7.0.

Coniferous Trees	Latin Name	Suitable Site
Fir, Douglas	<i>Pseudotsuga menziesii</i>	Moist well drained soil. Avoid soils over pH 7.5.
Fir, White	<i>Abies concolor</i>	Well drained. Full to part sun. Sandy loam soils. Drought tolerance.
Hemlock, Canadian	<i>Tsuga canadensis</i>	Grown in full shade. Moist soils in a cool location.
Larch, Common	<i>Larix decidua</i>	Full sun. Wet or moist site. Avoid soils over pH 7.5. Loses its needles in winter.
Pine, Austrian	<i>Pinus nigra</i>	Well drained soil. Full sun. Avoid soils over pH 7.2.
Pine, White	<i>Pinus strobus</i>	Well-drained loam soils. Avoid soils over pH 7.2 & Blvd (salt).
Spruce, Norway	<i>Picea abies</i>	Moist well drained soil. Avoid soils over pH 7.2. Not salt tolerant.
Spruce, White	<i>Picea glauca</i>	Moist well drained soil. Avoid soils over pH 7.5. Includes Black Hills Spruce.

Ornamentals	Latin Name	Suitable Site
Amur Bird Cherry	<i>Maackia amurensis</i>	Well drained soil. Full or partial sun. Form - often wider than tall.
Amur Maple	<i>Acer ginnala</i>	Partial shade. Tolerates a wide range of site conditions.
Crabapple species	<i>Malus</i>	Scab resistant varieties only. Well-drained site. Full sun.
Hawthorn, Thornless	<i>Crataegus</i>	Full sun. Tolerates a wide range of site conditions.
Ironwood	<i>Ostrya virginiana</i>	Partial shade - few known problems. Spring planting best.
Japanese Tree Lilac	<i>Syringa reticulata</i>	Tolerant of many soil conditions. Full sun. Tree or clump form.
Pagoda Dogwood	<i>Cornus alternifolia</i>	Well drained. Part shade preferred. Pruned to shrub or tree form.
Serviceberry	<i>Amelanchier</i>	Well drained, acid soil. Full to partial shade. Not pollution tolerant.