

# HOME GROUNDS FACT SHEET



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## Suggested Practices for Planting Trees and Shrubs

This fact sheet explains how to plant deciduous and narrow-leaf evergreen trees and shrubs. Methods for planting rhododendrons and other ericaceous plants are covered in Cornell Bulletin 136.

Before any planting is undertaken and plants are selected, consideration must first be given to the planting site. Plants should always be chosen with the site in mind, as some plants have particular requirements. Consider the soil conditions (heavy clay, sandy, wet, dry and compaction/poor drainage) and the environment (prevailing winds, shade, sun). Some soil conditions can be modified before planting. For instance, organic matter can be added to sandy or heavy clay soil, and limestone added to an especially acidic soil. Other conditions that comprise a poor site and cannot be modified easily include root competition and poor drainage.

Although planting times vary from one locality to another, on Long Island planting can be done successfully in spring or fall. There are certain trees, however, that have a better establishment rate when planted in the spring. They include dogwood, magnolia and callery pear.

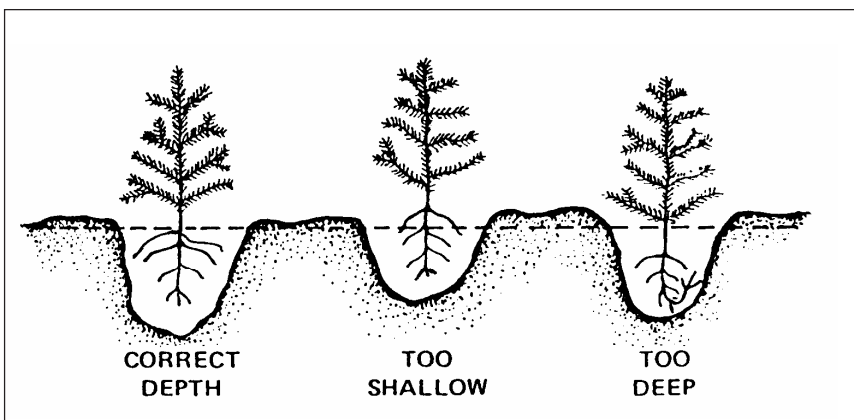
Trees and shrubs may be purchased with bare roots, in a pot or container, or as a ball wrapped in

burlap (B & B). Planting instructions for these three vary, but two important rules apply to all; the existing soil must be properly prepared (made suitable for the growing plant) and the hole to be dug must be as deep and twice as wide as the root mass of the tree or shrub being planted. Soil preparation is of primary importance at least. Both heavy and sandy soils can be improved by the addition of about 1/4 to 1/3 (by volume) of compost, peat moss or well-rotted manure to 3/4 to 2/3 of the soil removed from the planting hole. For very sandy soils, mix 1/3 of the soil from the hole with 1/3 loam soil and 1/3 compost. When the existing soil seems to be of a reasonably good quality, adding organic matter is unnecessary.

If, however, a bed planting of multiple shrubs and/or trees is being prepared and installed all at one time, amending the soil in the entire area is advantageous. Spread several inches (the more, the better) of compost, etc. on the surface and then roto-till in thoroughly to a 10 - 12" depth. Placing of the individual plants in the prepared bed can then occur.

Bare-rooted plants should be removed from the package and soaked for several hours or overnight. Dig a hole deep and wide enough for full spread of the roots. Prune off broken or overly long roots. Place tree at a depth so it is set at its original level. Fill about half full with the backfill (prepared soil) and water in. Add the remaining backfill and water again. Apply a mulch 2"-3" deep and stake the plant if it is over 4'-5' tall.

Plants grown in pots or containers should be handled in the container. Again, dig a hole equal to the depth of the ball and approximately two to three times the width.



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Be sure the plant is watered well in the container before removing it. Carefully remove the container (including ones made of fibrous material). Always tease out the roots. A hand cultivator works very well. Be sure the surface of the root ball is level with the ground. Fill the hole about half full with backfill and carefully tamp or water in. Add the remaining backfill, water again and apply a 2" - 3" layer of mulch.

For a plant in ball and burlap, the hole should be deep enough to accommodate the ball and two to three times its width. Handle the plant carefully and make sure the ball is at the proper level. Completely remove all rope or string surrounding the ball and/or encircling the stem. Leave the burlap on, but tuck the upper 2/3 down into the hole. If there are two or more layers of burlap, the top 2/3 must be cut off. If synthetic burlap is used, remove it completely. With backfill, fill the hole about half full and carefully tamp or water in. Add the rest of the backfill and water again. Apply a 2"-3" layer of mulch and stake the plant if it is more than 4'-5' tall.

### Important note

Do not add any complete fertilizer containing nitrogen to the planting hole or backfill - it can injure young roots and may lead to the death of the plant. Where a soil test indicates a need for additional limestone (and the plant is not of an acid-loving (low pH) type), incorporate into the backfill mix during planting. Likewise, a handful or two of phosphorus can be added to the backfill in the form of bone meal or superphosphate.

In situations where soil seems to be of poor quality, especially from a clayey standpoint, dig the hole 1/2 again as deep as the existing ball of soil. Mix with about 1/3 organic matter by volume and backfill to the proper level. Before placing the plant, be certain to tamp the backfill or the plant will eventually settle to a greater depth than desirable.

### Poor Drainage

**To determine potentially poor drainage, follow this procedure:**

Dig several post holes to a depth of 3 feet to reveal texture and soil structure; that is, clay, loam, sand or gravel. Unsatisfactory drainage is often associated with

mottled gray coloring. The rate at which water disappears from a test hole indicates drainage. In situations where poor soil drainage is suspected, fill the test hole with water and record the time required for the water to disappear. Repeat this procedure. If water remains in a test hole overnight, drainage should be improved by installing tile or using raised-bed plantings for trees and deep-rooted plants. If water remains within 1 foot of the soil surface for a week or more, grass and annual flowers are more likely to survive than trees and shrubs.

A few rather commonly-grown ornamental and deciduous shade trees do not respond well to fall planting. As a precaution, it's better to wait until spring for planting those listed below:

- *Acer rubrum* (red or swamp maple) \*
- *Betula* spp. (birch) \*
- *Carpinus* (hornbeam)
- *Carya* (hickory) \*
- *Cornus florida* (flowering dogwood) \*
- *Crataegus* sp. (hawthorne) \*
- *Gymnocladus dioicus* (Kentucky coffee tree)
- *Koelreuteria paniculata* (golden rain tree)
- *Lagerstroemia indica* (crepe myrtle)
- *Liriodendron tulipifera* (tulip tree or tulip poplar)
- *Magnolia*
- *Nyssa sylvatica* (sourgum, tupelo)
- *Ostrya virginica* (hop hornbeam)
- *Populus* (poplar)
- *Pyrus calleryana* (callery pear) \*
- *Quercus alba* (white oak)
- *Q. coccinea* (scarlet oak)
- *Q. macrocarpa* (bur oak)
- *Q. phellos* (willow oak)
- *Q. robus* (English oak)
- *Q. rubra* (red oak)
- *Tiliatomentosa* (silver linden) \*
- *Zelkova*

\* Risky, but none-the-less done frequently with success in the fall.