



Good Planting Practices

Fall is the best season for planting new trees, shrubs and perennials. The cooler temperatures slow the growth rate of the above ground portion of plants and reduce demand for water. This allows an ideal time for the roots themselves to grow and they naturally use the combination of lower temperatures and the increase in rainfall for their own vigorous growth. A strong well established root system is necessary for plants to cope with the stresses caused by drought, disease and insect pests that occur at other times during the year. Following good planting practices will help encourage rapid, successful root growth.

Cultural requirements differ among plants and must be considered when selecting plant material for a particular site. Before planting anything it is important to match the correct plant with the particular location. Inspect the intended location, taking note of the sunlight, wind, compass exposure, soil type, and drainage. For example, planning to install a yew (*Taxus, spp.*) hedge in a location that is sunny, with light wind, southern exposure, with a heavy clay soil that drains poorly will eventually result in a dead hedge. Yews will not tolerate “wet feet”, their roots require excellent drainage. If yews were to be planted in this location the drainage would have to be improved first. A plant out of place will always be a problem.

To understand the existing soil conditions for a particular site a soil test should be done. The basic test will determine the soil type (texture), nutrient level, and pH of the soil. In the above example of the yew hedge, the soil could be very acidic, there is no way to tell through visual inspection. Without the benefit of a soil test, you are just guessing. Yews do best in soils that are more neutral. If the test proved the soil to be acidic it should be corrected before planting.

For information regarding soil testing, see fact sheet titled: HG #11 "[Soil Test Basics](http://www.hgic.umd.edu/_media/documents/hg11.pdf)" (http://www.hgic.umd.edu/_media/documents/hg11.pdf) and HG #42 "[Soil Amendments and Fertilizers](http://www.hgic.umd.edu/content/documents/hg42_001.pdf)" (http://www.hgic.umd.edu/content/documents/hg42_001.pdf), For a list of soil testing labs see http://www.hgic.umd.edu/_media/documents/hg110a_007.pdf

After evaluating the site and selecting the best plant for that location, it is time to prepare for planting. The soil test results will show the deficiencies that need correction. Fertilizer is added to correct nutrient deficiencies, organic matter and other products to improve pH, drainage/compaction, and beneficial organism populations. Soil amendments and fertilizers should be mixed into the soil as thoroughly and deeply as possible. Prepare large areas with a gasoline powered mechanical roto-tiller to mix soil amendments in well. This will save time and energy as well. When replacing or adding one or two plants in small areas, mix by hand.

Begin planting by digging a hole that is somewhat funnel shaped, the sides should slope out slightly at the top and angle in towards the bottom. Over dig the width by at least two times the size of the root ball. The depth should be dug so that when the plant is placed in the hole, the existing soil grade is equal to or slightly (1- 2" for heavy clay soils) below the top of the root ball. Thoroughly mix soil amendments into the soil that was removed from the oversized hole.

Remove the pot or container covering the roots and slice down the sides of the root ball with a trowel or spade shovel to loosen the roots, then set in hole. Slicing the sides stimulates the roots to grow out from the ball. For large shrubs and trees this is done after they are placed in the hole to avoid splitting apart the root ball. Place them in the hole, cut all rope from around root ball and trunk and pull burlap down or cut away to expose top and sides.

Often plastic or other synthetic material is used in place of natural fiber burlap and jute rope, wire baskets are also added to large trees. These materials *do not* break down over time in the soil like the natural fiber materials and should be removed while planting. Use wire cutting pliers and a utility knife to remove them.

Arrange the plant in the hole to show the best side and set it straight. Back fill around the root ball with the amended soil lightly packing it until the entire hole is filled. Grade any remaining soil out from the trunk towards the undisturbed soil. Although it is not required, if desired, mound soil in a circle at the edge of the hole creating a well to hold water and force it down around the roots. Mulch the area to a depth of two to three inches.

Newly planted trees should not be staked, as research has shown that the natural movement of the trunk by the wind actually stimulates root growth and increases trunk caliper. Do not prune after planting, there is no need to balance top growth with root mass as many believed in the past. The best thing to do is to keep newly planted material properly watered, not too much or too little.

The goal when planting is to provide an area of ideal soil conditions that is at least double the size of the existing root ball. This outer band of good soil will provide an ideal environment for the roots to move into, and in so doing double the root mass, firmly establishing the plant. Too often plants are squeezed into holes with straight sides barely wide enough to accommodate them. It is important to remember that a well-developed root system is the key to the health and vigor of all plants.

For more information about horticulture or the Master Gardener Program in Frederick County, call the Frederick County Office of the Maryland Cooperative Extension, 301- 600-1596, or visit <http://www.frederick.umd.edu/>. Our mission is to educate Maryland residents about safe, effective and sustainable horticultural practices that build healthy gardens, landscapes and communities.