

# Planting Guidelines for Containerized and Balled & Burlapped Stock

Proper planting is an important step in the successful establishment of landscape plants. The process begins with selecting a plant well adapted to the planting site and its intended landscape use. Consult with professionals when designing a landscape and choosing species. Make sure that the plant, when fully grown, will not interfere with overhead power lines, adjacent buildings, or vehicular or pedestrian traffic. Purchase healthy stock from a reputable nursery and inspect the stock for damage, insects, and disease upon delivery. Provide proper care and protection of nursery stock before and after planting. Remember, a plant should thrive in its new home, not merely survive.

By following a few basic principles of plant care, your healthy landscape plant will provide benefits far beyond beautifying your home. Plants also create wildlife habitat, protect the soil from erosion, provide shade, produce oxygen, build organic matter, and improve water quality. With proper planting and care, your family will enjoy your new landscape plant for many years.

**Always call your local utility company before digging.**

**Step 10:** Use soft, biodegradable ties to prevent damage to the trunk.

**Step 11:** Install woven, water-permeable landscape fabric.

**Step 12:** Spread 1-3 inches of high quality coarse, organic mulch. Avoid mulching against trunk.

**Step 9:** For tall stock, install 2-4 stakes to prevent wind damage; bury stakes 1/3 to 1/2 their length.

**Step 8:** Use protective devices to protect trunks from mechanical damage from mowers and trimmers.

**Step 7:** Construct a small berm to retain water in rootball zone.

**Step 1:** Dig hole 1.5 times wider than the rootball. Hole should be as deep as rootball, slightly shallower on heavy textured soils.

**Step 2:** If present, break through impervious soil layers to allow root expansion.

**Step 3:** Remove pot and carefully place rootball in hole. Top of rootball should be level with existing soil grade.

**Step 4:** Make sure trunk is vertical.

**Step 5:** Remove synthetic wrapping materials and discard. Roll burlap into bottom of hole and bury with soil.

**Step 6:** Backfill hole with native, loose soil and then saturate to remove air pockets.



# Planting Guidelines for Containerized and Balled & Burlapped Stock

## Step 1

**Excavate the hole** - The hole should be at least 1.5 times wider than the diameter of the rootball to assure that the rootball is not damaged during placement in the hole and to facilitate root expansion into the backfilled area. The depth of the hole should equal the depth of the rootball or be 1-3 inches shallower on heavy textured soils (high clay). If soil has been mounded around the root collar (swollen section of trunk where above ground stem(s) meets the top of the root system), gently clear away excess soil to determine the true top of the rootball.

## Step 2

**Break through impervious soil layers** - Impervious soil layers act like a pot to limit root expansion and may result in poor stability of the tree in high winds, flooding of roots by perched water, drought-induced stress, or overall poor plant growth.

## Step 3

**Placement in the hole** - Remove pots, including fiber pots, now if using containerized stock. Carefully place, roll or slide the rootball into the hole. Move and position large trees by handling the rootball-never move by the trunk. Make sure that the top of the rootball is level with the existing grade, or slightly higher (1-3 inches) on heavy textured soils (high clay).

## Step 4

**Straighten trunk** - Straighten the trunks of large, single-stemmed trees before final backfilling. Visually align the trunk with the edge of a building or other vertical edges to assure proper positioning. Walk completely around the tree, sighting the trunk from various perspectives to assure vertical positioning. Use a long level if necessary. Never attempt to straighten the trunk after final planting.

## Step 5

**Remove wrapping material** - It is best to remove and discard all wrapping materials prior to final planting. Wire baskets should be untied from the trunk, clipped, and rolled back into the hole. Biodegradable materials, such as untreated burlap, may be untied from the trunk and rolled into the bottom of the hole and buried with soil. Be sure to completely bury biodegradable materials since they may wick moisture from the rootball if left partially exposed to surface air.

## Step 6

**Backfill then saturate** - Backfill the entire hole with native, loose soil or a mixture of soil and compost. Soil amendments are generally unnecessary, although the addition of peat moss to sandy soils helps improve water and nutrient retention, and low rates of phosphorus improve rooting. Saturate the soil periodically with water as it is added to the hole and until it reaches a soupy consistency. Saturating the soil removes air pockets that stress or kill fine roots. Lightly firm the soil with your foot after the hole has been filled. Avoid heavy "stomping" or "heeling" of the backfill, it causes root damage and loss of desirable soil structure.

## Step 7

**Build a berm** - A small (1-3 inch high) berm constructed just outside of the planting hole collects natural precipitation and prevents surface runoff of irrigation water. It may be necessary to remove the berm in the fall if it is likely to collect enough water to cause trunk or root injury upon freezing, or during the growing season if the rootball remains excessively wet. Remove the berm after 1-2 years to encourage lateral root expansion.

## Step 8

**Protect the trunk** - Various materials and construction methods can be used to prevent mechanical damage to tree trunks from lawn mowers, trimmers, deer, people and other sources. Rigid plastic guards that are large enough not to injure the trunk are best. Fences may also be constructed around the entire plant.

## Step 9

**Support the trunk, if necessary** - Support may be needed for tall stock, particularly conifers, in windy locations. Use 2-3 stakes to prevent tall trees from moving excessively in high winds. Do not drive the stakes through the rootball. Improper staking is a major source of injury to newly planted trees, so consult with an expert before installation.

## Step 10

**Support material** - Use soft, biodegradable ties to attach the trunk to the stakes. The ties should be attached to the tree at a point 2/3 of its height above the ground. Allow enough slack in the ties so that the canopy moves moderately in the wind, encouraging natural trunk taper and strengthening. Remove all ties after one year if the tree can withstand wind and the rootball is secure. If not, check and adjust ties and leave in place until the tree can support itself (2-3 years).

## Step 11

**Use landscape fabric** - Install a high quality water-permeable, woven landscape fabric to control weeds and retain soil moisture. Landscape fabric helps prevent trunk damage by eliminating the need for trimming close to the trunk.

## Step 12

**Use organic mulch** - Place 1-3 inches of high quality coarse organic mulch, such as bark, on top of the landscape fabric to retain soil and rootball moisture. Keep mulches away from the immediate trunk to avoid problems with rodents, insects and disease.

*For additional information, contact your local nursery, arborist, DNRC Community Forester, county Extension Agent or USDA Service Center.*

■ Before digging, always contact your local utility company to locate underground utilities!

■ Always make sure that a plant's mature size will be appropriate for the site.

■ Do not locate plants where they may eventually interfere with overhead power lines, pedestrian or vehicular traffic, or buildings.

### Information for these planting guidelines provided by:

Montana Community Forestry  
USDA/NRCS Plant Materials Program

### Illustration by:

Mary Myers, USDA-NRCS

The United States Department of Agriculture (USDA) prohibits discrimination in its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC, 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.