

# Planting Trees and Shrubs

Reviewed by

**Tom Kalb**

Horticulturist, NDSU Extension Service

For more pride and enjoyment in a well-landscaped yard, plan carefully before buying and planting nursery stock. A scale drawing of your yard will provide a basic plan that you can use for many years. Trees and shrubs are essential elements of this plan. Invest wisely by planting them properly.

Purchase your stock from local nurseries. They know the problems and planting dates of your area and likely will have the species and cultivars suited to your needs. Trees and shrubs purchased out of our region may prove to be tender and entirely unsuited to North Dakota conditions. In addition, nursery grown plants are usually of better quality than native plants since they have benefited from pruning, watering and fertilization. Roots of these plants have been pruned frequently to stimulate branching which makes them easier to transplant than unpruned plants.

## Size

Trees and shrubs are available in sizes varying from seedlings to large trees. Modern tree-moving machines are available in some regions of North Dakota. They are capable of moving deciduous or evergreen trees with trunks 3 to 6 inches in diameter. These machines tend to leave glazed sides in their planting holes, especially where clay and moisture content is high. Such glazing can be almost impenetrable to roots. The sides and bottom of the hole should be scarified or roughened with a shovel to intermingle the backfill soil with the field soil to reduce this interface and provide easier access for developing roots.

The size of a tree or shrub at planting time often affects its ability to establish. For practical and economic reasons, consider buying medium sizes of trees and shrubs since they usually recover more readily from transplanting shock and establish faster than larger plants. A general rule of thumb is that for each inch in diameter of trunk size, a year is required to adjust for transplant shock or root loss.

## Five Forms Available

1. Bare-root (BR) trees and shrubs are the most economical type to buy but the most difficult to store and establish. With bare-root stock, care is necessary to protect plants until they are planted. Examine the condition of your stock upon arrival. Keep moist packing material around the roots and store plants in a cool place out of the sun and wind. Plant as soon as possible. Plant bare-root nursery stock in early spring before growth starts. The later bare-root stock is planted, the greater the danger of reduced survival and vigor.
2. Balled and burlapped stock (B&B) is plant material dug with a portion of the root system undisturbed. The soil ball is held intact by a burlap wrap. Evergreens as well as large non-evergreen trees may be handled and sold in this manner. It is desirable to plant B&B nursery stock in spring before growth starts. Pine and spruce may also be moved in late August and September and hardy non-evergreen trees upon leaf-drop. Research has shown that fall planted nursery stock, especially evergreens, should be planted four weeks before soil temperature drops below 40 degrees Fahrenheit. Soil temperatures below 40 F. inhibit new root growth.
3. Potted stock (P) is plant material that has been grown in a container for less than

one growing season. Local nurserymen obtain bare-root stock and pot prior to spring sale. Such stock can be planted throughout the growing season. Remove containers and take care to maintain the root ball intact at planting time.

4. Container-grown stock (CG) has been growing in a container for one or more seasons. Consequently, the soil medium in the container is usually bound well by dense roots, making transplanting an easier task. Always remove containers before planting. **Caution:** roots of vigorous container grown plants may grow around and around the inside of the container. Recent research shows that these "circling" roots may not develop strong new anchor roots, but continue growing in a circle around the soil-root ball and may eventually girdle the plant. We recommend that these roots be spread or cut at planting time to encourage normal root growth (*see planting illustration*).
5. "Instant trees" include large-sized stock transplanted by a machine. Large non-evergreen trees are best moved in early spring before growth starts. Hardy species can also be successfully moved in the fall upon leaf-drop. Large evergreens are also best moved in early spring. However, spruce and pine can be successfully moved in late August or September. **Caution:** Transplanting shock is severe when large trees are moved in active growth.

## Planting

Dig each hole about twice the diameter of the container or rootball. Remove clay subsoil from the bottom of the holes and replace with topsoil when planting. This is especially important near foundations where poor soil may have been used for backfill. Water thoroughly after planting to settle the soil. Supply water every 10 days during the establishment period. With larger size stock, attention to watering should extend through the second or additional growing seasons according to the rule of thumb above. Therefore a three-inch diameter tree may need watering for three years.

*This publication was authored by Ronald C. Smith, retired; and Dale E. Herman, retired.*

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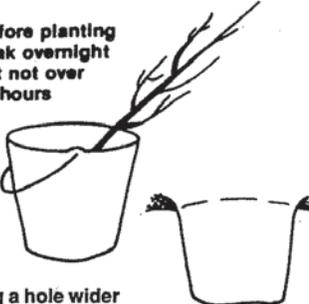
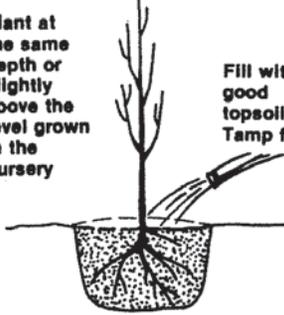
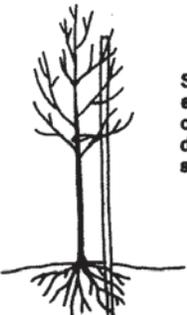
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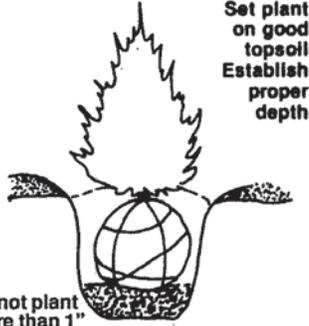
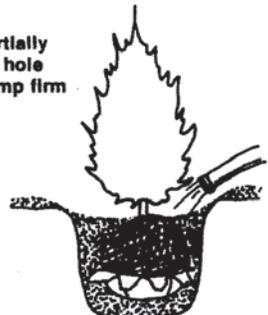
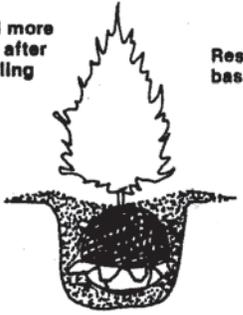
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# HOW TO PLANT BARE-ROOT PLANTS (BR)

<p>Before planting soak overnight but not over 24 hours</p>  <p>Dig a hole wider but at same depth as root length</p>	<p>Prune damaged or weak roots and branches</p>  <p>Set on firm mound of good topsoil, spread roots</p>	<p>Plant at the same depth or slightly above the level grown in the nursery</p>  <p>Fill with good topsoil Tamp firm</p> <p>Fill basin with water Add topsoil to reshape basin</p>	 <p>Small trees, eight feet tall or less, usually do not need support</p> <p>Support larger trees if necessary for one growing season only.</p>
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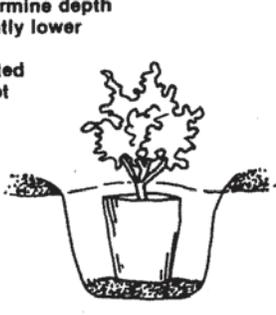
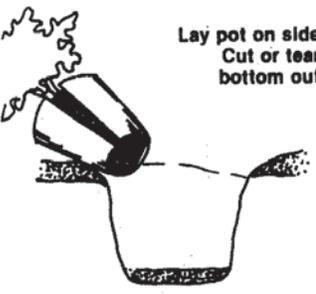
## HOW TO PLANT BALLED AND BURLAPPED PLANTS (B&B)

Handle **balled and burlapped** items carefully. Do not drop. Lift or carry by holding the soil ball-not the plant

 <p>Set plant on good topsoil Establish proper depth</p> <p>Do not plant more than 1" deeper than ground level or top of ball</p>	<p>Cut twine tie from around plant stem</p>  <p>Loosen and fold back burlap</p>	<p>Partially fill hole Tamp firm</p>  <p>Carefully fold back burlap to bottom of hole for total soil contact</p>	<p>Add more soil after settling</p>  <p>Reshape basin</p> <p>Water regularly</p>
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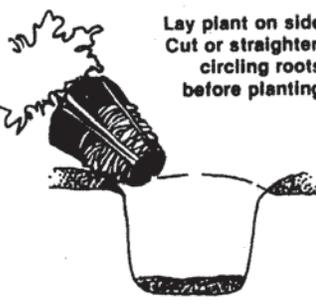
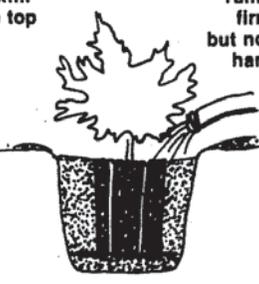
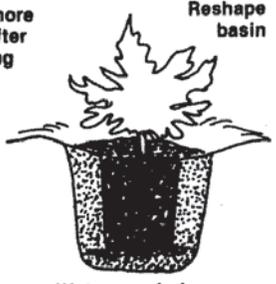
## HOW TO PLANT POTTED STOCK (P)

Always remove **pots** at planting time regardless of material. Maintain the rootball intact at planting time.

<p>Determine depth slightly lower than planted in pot</p>  <p>Dig a generous sized hole</p>	<p>Lay pot on side Cut or tear bottom out</p>  <p>Slit one side of pot Leave rest of pot intact</p>	<p>Place one hand on open bottom to hold soil</p>  <p>Hold cut pot together with other hand, lower into hole</p>	<p>Fill hole with loose soil</p>  <p>Gently slip pre-cut pot-ring out - Add more soil - Tamp - Water</p>
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## HOW TO PLANT CONTAINER-GROWN PLANTS (CG)

Roots of **container** grown stock usually bind the soil. However, careful handling at planting time will prevent injury. Always remove containers before planting. Cut encircling roots when present.

<p>Tapered cans: Turn upside down Tap rim sharply on edge of a raised surface</p>  <p>Straight cans: Cut on opposite sides and fold back metal</p>  <p>Dig hole before removing plant from container</p>	<p>Lay plant on side Cut or straighten circling roots before planting</p>  <p>Leave rest of roots intact</p>	<p>Backfill with top soil</p>  <p>Tamp firm but not hard</p> <p>Fill basin with water</p>	<p>Add more soil after settling</p>  <p>Reshape basin</p> <p>Water regularly</p>
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