



Extension Extra

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Horticulture

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Planting a Balled and Burlapped Tree

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A common means of transplanting trees, particularly 1- to 3-inch caliper (the trunk diameter measured 6 inches above the ground) trees is balled and burlapped (B&B). B&B trees are harvested with the original soil around the base kept intact. This soil ball is held in place with burlap and twine. A wire basket may be used to confine the burlap on larger trees. B&B trees are an excellent way to obtain trees that are large enough to provide a visual impact, yet small enough for homeowners to plant themselves.

When to Plant . . .

B&B trees can be transplanted from early spring to fall. In areas where the winter winds are strong and the soil open, late fall planting may not be wise, particularly for evergreens. The newly transplanted tree may not recover enough of its root system to survive the dry winter winds.

Before Bringing the Tree Home . . .

Carefully select the tree planting site. Too often people buy plants, then decide where to place them. When this happens trees are often placed in locations they soon outgrow. Find out how large the tree will become at maturity and leave adequate space.

Stand over the spot you have selected for planting and look up to check for power lines. Do not plant tall tree species beneath power lines. Once the tree begins to grow into the wires, the trees will become a nuisance to the utilities and require frequent pruning or perhaps even removal.

Utilities also may exist beneath the spot you want to plant. Contact local utilities before planting to be sure the

location you select is not directly over cable, phone or other utilities. Generally, if you do not clear the location with the utilities before digging, you are responsible for all damages.

When selecting trees to purchase, look for trees with a straight trunk and good form. Do not be concerned about a small crook near the base of the trunk. This is where the trunk was grafted to the root system. This crook will disappear as the tree grows older.

Inspect the lower trunk for cracks and other wounds. These injuries often result in frost cracks and sunscald when the tree is older. Look at the pruning cuts along the trunk; the cuts should not be flush with the trunk nor leave a large stub.

The trunk should not wobble in the soil ball.

Inspect the soil ball. It should not be broken, loose or dry. The size of the ball in relation to the tree is also important. A 1-inch caliper tree should have a minimum ball diameter of 16 to 18 inches, a 2-inch caliper tree 24 inches, and a 3-inch caliper tree 32 inches. If the ball diameter is below this minimum, the tree will have fewer roots and may take longer to recover.

After the Tree Is Home . . .

Check your tree or shrub for tags. Wire or plastic tags can girdle branches or the trunk if left on too long. Remove the tags, but keep them in a safe place for future reference. You also may want to note, on the back of the tag, where and when the tree was planted.

While B&B trees are easy to store and hold for planting, some precautions should be taken. The severed roots, just beneath the burlap, are the ones that will generate new roots after planting. These cut roots form callus tissue around the cut. New roots develop from this callus and penetrate the sides of the planting hole. It is very important to keep the B&B soil ball moist while storing it for planting in a few days or a week. If the callus tissue dries out, the new root generation must start from further back along the roots and this can delay establishment. The best way to store a B&B tree is to cover the soil ball with a mulch of wood chips or other coarse material. Keep the material moist. Do not delay planting too long, however, or you may find that new roots have grown out into the mulch material. Storing for a few weeks should not be a problem.

Preparing the Site . . .

One of the most common planting mistakes is digging the hole too deep and not wide enough. The planting hole should be no deeper than the distance from the top to the bottom of the ball and if the soil is a heavy clay, set the ball so it is slightly higher than the ground surface. The hole should be at least three times wider than the diameter of the ball.

The sides of the hole do not have to be straight but can be sloped. If the soil is heavy clay, the sides of the planting hole may become glazed during the digging. Break up the sides of the hole with a rake or shovel. If this is not done, the new roots may not be able to penetrate the sides of the hole and, instead, may circle.

Planting the Tree . . .

Planting B&B trees does require some forethought and skill, particularly if the tree is large. A 2-inch caliper tree may weigh several hundred pounds. The soil ball may weigh enough that once in the hole it is difficult to remove or re-position, so be sure to position the tree right the first time.

If the tree can be handled by two people, it can be lowered into the hole by lifting on the twine or basket. Do not lift from the trunk; doing so can break some of the roots. Lift only by the soil ball. If the tree is too large to be picked up, it can be rolled into the hole. Do not drop the ball, however, since this may cause it to crack. Instead, make a ramp into the hole and roll the tree down the ramp.

Once the tree is properly situated in the hole, remove the twine from around the base of the trunk. If left on, it may girdle the tree as it begins to grow. Also pull the burlap back from the top of the ball to allow for easier water penetration and prevent the burlap from acting as a wick and drying the soil ball.

While it may be beneficial, it is not necessary to remove

the burlap from around the ball. Generally the burlap will rot away fast enough to not interfere with root growth. If the burlap has been treated, or is synthetic burlap, it must be removed since this material will not degrade and can interfere with root growth.

Cut away the top 8 to 16 inches of the wire basket, removing it whenever possible. While some studies have shown that tree roots are not injured when girdled by the wire, the chance does exist. Be very careful while cutting away the basket since the cut wire is sharp.

Begin refilling the hole using the same soil you took out. Do not add soil amendments like sand or gravel to the planting hole. These can disrupt water movement between the surrounding soil and the planting hole, leaving the new plant too dry or too wet. If you feel you must add amendments, only mix in leaf or garden compost. They should make up more no than 20% of the backfill (by volume). Be sure to thoroughly mix the compost and backfill soil before re-adding it to the hole.

Fill the hole about one-third full and then add water to let the backfill soil settle around the roots. Continue adding the backfill until the hole is two-thirds filled, then add water again. After the soil has settled, continue adding backfill until it reaches the root collar (old soil-line). Add water again and a little more backfill if the soil settles. When the soil has settled it should be at the root collar and the soil should slope slightly away from the tree.

Do not build a soil saucer around the trunk. While it is important to keep the present root area moist, it is equally important to water the soil extending out from the planting hole. New tree roots can grow from the planting hole into the surrounding soil within the first growing season if this soil is kept moist. The sooner the roots move into the surrounding soil, the sooner the tree recovers from the transplant stress. However, be sure to check the moisture level of the soil ball and the surrounding backfill frequently. Depending upon the difference in soil texture between the two, the soil ball may dry out sooner.

A mulch circle around the tree can double its growth and speed reestablishment. Mulch lightly with about three to four inches of a composted material. Incorporate this material into the upper one inch of the backfill and extend out as far as the edge of the planting hole. Do not apply the mulch too deeply as this may interfere with the exchange of air between the soil and the atmosphere. Leave a 12-inch circle free of mulch around the trunk to discourage rodents. If weeds are a concern, place a porous weed barrier fabric beneath the mulch to reduce weed growth rather than incorporating the mulch into the soil.

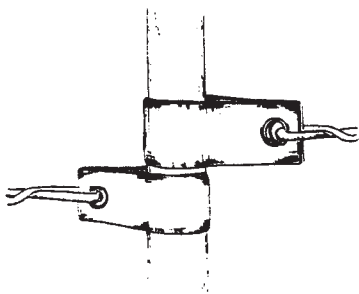
Do not wrap the trunk. The trunks of young trees often serve a similar function as the leaves, manufacturing food.

Wrapping the trunk may slow the rate of recovery for the tree. If you feel you must wrap the trunk, be sure to remove the wrap before the second growing season begins. Wrap left on more than one growing season can girdle the trunk.

Instead of wrapping the trunk, consider one of the following methods to protect from rodents, rabbits, weedwhips and mower damage. Slit a one foot length of plastic tile, and place it around the base of the trunk. Be sure the tile is at least several inches larger than the trunk. Or, use a ring of quarter-inch hardware cloth one to two feet high and several inches larger than the trunk. Whatever the method you choose, remove in a few years before it contacts the trunk.

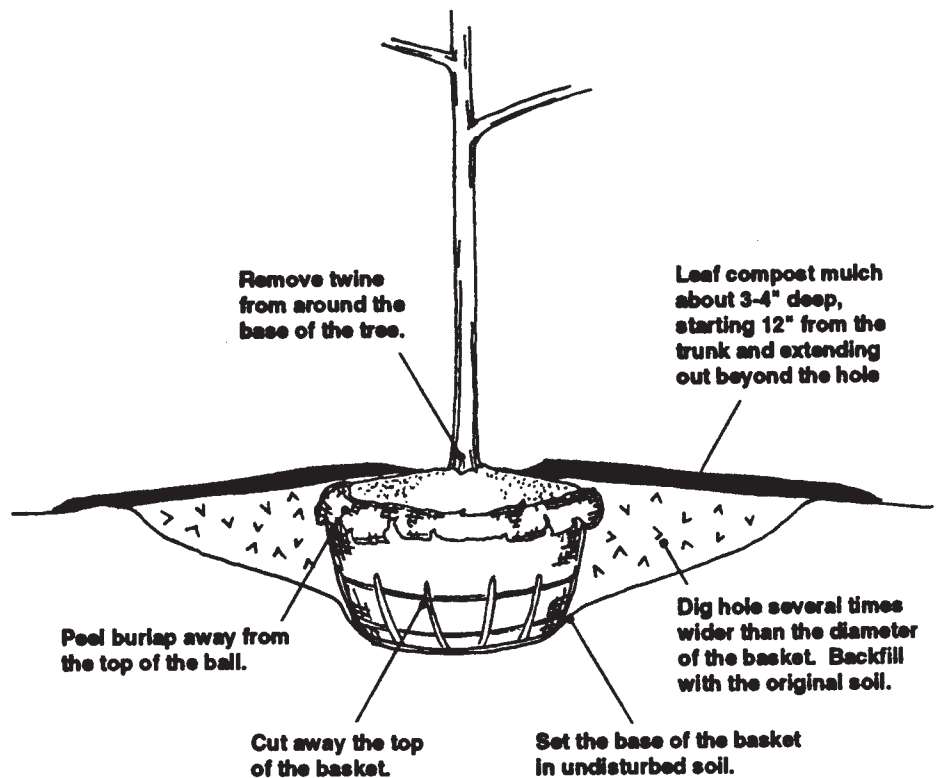
If the tree was planted in a windy location you may want to stake and brace the tree for the first growing season. Do not stake the trunk too high (never higher than one-half its height) or too tightly. Over-staking

may prevent the tree from developing a strong trunk and support roots. Use a wide, belt-like strap, attached by wire to two stakes. Position the stakes at least two feet away from the trunk. Do not use the wire itself to support the trunk.



After-planting Care . . .

Avoid pruning the tree heavily at planting. Confine pruning to removal of dead, broken, and misshaped branches. The more leaves the tree has, the more food it can produce and the faster new roots will develop. Do not prune back the branches; doing so will slow the root's recovery. After the tree becomes established, usually in two to three years, you can begin pruning to shape the tree.



Fertilizing generally is not necessary until the tree has recovered from transplanting. This usually takes several years for B&B trees. If you want to add fertilizer at planting, use a slow release granular fertilizer mixed in with the backfill or use fertilizer briquettes.

Watering is the most important form of after-care. Newly transplanted trees often die from too little or *too much* water. Check the soil around the tree once a week during the growing season. The top two to three inches of soil should stay moist enough to form a ball when gripped in your hand. If the soil is dry, add more water to saturate the top six to eight inches, then do not water again until the soil dries.

For More Information . . .

- ExEx 6018 -- Planting a Bare-Root Tree
- ExEx 6019 -- Planting a Container Tree
- ExEx 6021 -- Planting a Tree With a Tree Moving Machine



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