



# Mountain Planting Instructions

1) In moist (never wet) soil, *dig a hole* at least 2-3 times as wide as, and **NO DEEPER than, the pot** or root-ball of your tree. Most plants should be planted with the top of the roots (the root-flare of the trunk) *slightly above* the level of the surrounding soil (grade). Large trees can be planted 3-4" above grade. Remove large rocks and store the loosened native soil to one side.

2) Carefully pull the pot off the root-ball and install a root-guard before sliding the roots into the hole. Orient the lowest branches to the **southwest** (to shade the trunk). Deciduous trees benefit by having some periphery of the root-ball shaved off (~15% of the circumference, ~1/2" deep off the outer edge - top to bottom) with a knife, hoe, or shovel. Don't disturb the roots of native evergreens. **Staking** may be done now with **one (1) sturdy 2" lodgepole stake** just outside the root-ball on the southwest side of the tree (trunk shade) and tie very loosely (support in prevailing winds).

3) **Backfill** the bottom 1/3 to 1/2 of the hole around the root ball with only loosened native soil. Do not stamp or compact the soil. It is important this soil remains well aerated.

4) If the tree is B&B (balled in burlap) it was grown and root-pruned in a field, dug-up, wrapped in burlap and set in a pot for sale. Cut off all twine, string, wire and burlap around or near the trunk. Burlap below the soil line will rapidly decay. Many trees are B&B, then placed in pots. Look for twine at the base of your trees at or above the rootball.

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The ***Backfill Soil Blend*** is  $\geq 2/3$  native soil mixed with  $\leq 1/3$  mature, finished compost like Kellogg's Gromulch, (add pre-hydrated water-holding gel.) with **organic slow-release fertilizers (G&B and Biosol)**. **Lime** should be added for calcicole plants like lilac and peony.

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5) Continue to **backfill with a soil compost blend**. Using biologically active mature composts is essential. Sierra snowpack recompresses our mineral soils that have merely been turned. Composted amendments prevent compaction, enhance aeration and drainage, improve moisture and nutrient retention, support microorganisms, and create a transition from the coarse organic medium of container-grown plants into our fine textured, poorly structured native mineral soils.

6) **Mulch** - Spread 4-8” of wood chips from the outer top of the root ball to far out past the drip-line of the new tree. **This is essential.** The hard working shallow roots function most effectively when protected with a blanket of woody mulch. **Rules-of-thumb: NO bare soil in a diameter equal to twice the height of the tree. Dig the hole three times as wide as the root ball and mulch five times as wide as the hole. or just “No Bare Soil”... anywhere!**

7) **Irrigate** slowly and thoroughly. Newly planted trees and shrubs should be watered 3x/wk. during the first summer. Approximately the “gallon” size of the pot in water each week, divided into three separate waterings (i.e. one 15 “gallon” tree needs  $\geq 3$ , 5 gallon waterings per week) and ~once a week in fall. Consider using microspray AND drip. Always send your garden into winter with moist soil. Even dormant trees need water. **Water-holding gel** will reduce irrigation demands. Plants will require less supplemental water every year but few will ever be entirely self-sufficient. *Even your surrounding native forest will benefit from irrigation once or twice a month in summer.*

8) **Fertilizer** - From our local soil tests: micronutrients, potassium, & phosphorus are adequate; calcium and sulfur are low; and **organic matter and nitrogen are almost absent and need to be added for plantings to thrive.** We prefer organic fertilizers that enhance soil biology, add humus to the soil, and provide long-lasting nutrient essentials. **We use Biosol + G&B fertilizers.**

9) **Pruning** - *Pruning is best done in late winter and through summer, for the first few years, in order to promote a strong tapered trunk, reduce excessive growth, create stout branches, and produce strong branch shoulders. Sturdier trees tolerate heavy snow-loads without needing tying. Avoid fall pruning.* (see [urbantree.org: tree training cue card](http://urbantree.org: tree training cue card))



10) **Tree Tying** - After the leaves have fallen from your more brittle or vulnerable trees and shrubs, tie them up for the winter. Starting at the bottom, wrap the branches and trunk together as tightly as possible, using **heavy-duty (1” x 8mil Villager-brown) tree tape** to the top. Then wrap down, binding the wrapped tree to the sturdy stake. In extreme snow-load areas an extra bamboo stake may be tied up the center of the tree (i.e. conifers) to splint the leaders. **Only wrap for the first few winters** or until they grow above the settling snow level.

**Untying** - Late winter snows are often wet and damaging to young trees that have been untied too early. Late April is a common time for local gardeners to begin removing the tree tape. Be careful of any tender new buds.



11) **Protect trunks** of young trees by shading them with **trunk protectors.** Our low-angle Sierra winter sun will damage thin-barked deciduous trees with temperature swings and desiccation. Trunks thaw during sunny days and when our temperatures drop precipitously in clear evenings, water in the cells turns to ice and cells rupture. Most trunk protectors also protect trees from winter damage by rabbits, rodents, and deer. Solid trunk protectors are removed during the growing season and grid-types are usually left on. **Root guards** are used to prevent damage from burrowing gophers and voles. These stainless-steel mesh “socks” fit over the root balls and last for years, breaking only when expanding roots push through it.

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