

BAREROOT NURSERY STOCK HANDLING GUIDE

Planting Bareroot Stock:

When your stock arrives roots should be soaked before planting a minimum of 4 to 6 hours to ensure proper hydration, except conifers which should only be soaked for 20-30 minutes.

Plants should be transplanted within 2-3 days of receiving them or after sweating recommended species. Shade, supplemental irrigation and wind protection may benefit certain species.

Broadleaf Deciduous Nursery Stock:

Inspect the plants to see if they have broken dormancy (plants will often 'sweat' in transit). If buds are swelling the plants should not be stored for more than one or two days prior to planting. If deciduous plants are still dormant and in good condition, they can be kept unpacked in cold storage until approximately May 1st as long as storage temperatures are maintained between 34-38°F, relative humidity is kept above 85%, with good air circulation and stock is kept well hydrated without excess surface moisture.

Broadleaf Evergreen Nursery Stock:

We recommend that you process and plant these species immediately. Do not attempt to store them for extended periods. Keep plants cool, moist and shaded until ready to plant.

Conifer Nursery Stock:

Conifers can be held for short periods if stored immediately upon arrival in an area kept 34-38°F. Their roots should be kept moist and their tops shaded. In all cases they should be unpacked upon arrival.

Storing Stock:

If you must store your plants prior to planting, be sure the selected storage area maintains the correct temperature, has good ventilation and plants will be protected from drying out, heating or freezing. Remove the plants from their boxes and keep roots moist and the tops of plants dry. Do not store stock near fresh produce or cut flowers, both of which release ethylene gas which is deadly to live plant material.

Transplanting Broadleaf Evergreens:

Problems with transplanting broadleaf evergreens and some conifers usually result from desiccation of the stock after transplanting. This includes *Arctostaphylos*, *Mahonia*, long needle pines, and others. Your results with these species may be improved by utilizing the following procedures: For broadleaf evergreen species, remove or clip off most leaves prior to transplanting. Removal of leaves will help survival by reducing transpiration. As stock begins new root growth, new leaf buds will push and grow. Keep your transplanted material under shade and on a very frequent intermittent mist or overhead irrigation for two to six weeks. Once new leaves emerge and root systems have re-established, remove any covering and irrigate and care for the plants as you would any other newly transplanted deciduous tree or shrub.

Sweating of Nursery Stock:

Most broadleaf deciduous tree and shrub species can be stored bareroot all winter under refrigeration and develop normally once transplanted out in the spring season. For a few species, buds become extremely dormant during long periods of refrigerated storage. These must be forced into breaking bud before they are planted, or they will remain dormant in the ground and eventually

die. The process to force species out of dormancy and into bud break before planting is called "sweating". The main goal is to increase the humidity and temperature surrounding stock to force buds to swell. There are three methods commonly used.

Method 1 – Soak roots in water on arrival. Place the plants in a warm, humid environment as in a greenhouse or polyhouse until they break bud. If you do not have access to such a facility, the following methods are equally effective:

Method 2 – Soak roots in water on arrival. Place one or two layers of moist burlap, straw or similar material on the floor of a building that can be maintained at a temperature between 60-70°F. Even a shady location outside can be used if the proper temperature range can be maintained. Lay the plants side by side on the burlap or straw and moisten them if they appear dry. Avoid letting the plants become too wet. Completely cover the bundles with several layers of damp burlap, straw or similar material and moisten the covering with water. Check the plants daily to see if they have broken bud. Also check to see that the covering is kept moist and that no mold has developed. (If mold develops, rinse off with clear water, shake off excess moisture.)

Method 3 – Use the shipping box your plants arrived in. Unpack order upon arrival, saving moist packing material and the poly sheet used to line the box. Soak roots of the species requiring sweating in water overnight. Hold the sweating box in an area protected from sun, wind, heating and freezing, ideally with temperatures between 60°F and 70°F. Place the poly sheet back in the box, remoisten packing material and place in box. Shake excess water off plants and place them on top of wet packing material. Secure poly sheet over the plants to hold moisture in, close box and check every day or so, keeping packing material moist and watching for bud swell and mold formation. If surface mold begins to form, rinse off with clear water, shake off excess water and return plants to box. Plant stock when buds begin to swell or after about 14 to 21 days depending on temperatures (lower temps delay bud break).

Sweating plants before planting is relatively easy and usually only takes a few days. Far more important to the plants survival is when to begin sweating. Sweating forces new growth, after which the plants may be vulnerable to frost damage and to drying out. Species requiring sweating should be kept refrigerated until the danger of frost has passed and adequate irrigation is available in the field. If sweated plants are transplanted too early or when it is too dry, all the care taken to break their buds may be wasted as the new growth freezes or dries.

Please keep in mind that plants may be partially or completely sweated during shipment if temperatures are warm while stock is in transit. If buds have begun to swell on arrival, indicating that plants have broken dormancy, further sweating is not required.

Species that may need Sweating:

Acer	Cornus	Pyrus
Amelanchier	Crataegus	Quercus*
Betula*	Fraxinus	Rosa
Berberis	Malus	Salix
Carpinus	Morus	Sorbus
Celtis*	Potentilla	Syringa