



**LAWYER NURSERY, INC.**

1-800-551-9875

## Plant Care

### How to Handle Bareroot Stock

Before planting, keep roots moist, cool and in the dark. Roots should be soaked before planting a minimum of 4 to 6 hours to ensure proper hydration. If possible, continue to soak roots while transplanting. Plants should be transplanted within 24 to 48 hours of receiving them (see sweating note). Do not soak longer than overnight since plant roots need oxygen too.

Remove dead or withered roots and stems with a sharp knife or shears. Trees need no other pruning, but shrubs can be topped at 8" to encourage branching. Dig a hole wide enough so the roots aren't crowded or bent and as deep as the root system, usually twice as wide as deep. Roughen the sides of the hole with a spading fork. Make a cone of soil in the center of the hole, place the plant on it and spread the roots evenly around the hole. Twisted or circling roots may eventually girdle or choke the plant. Position the plant so the line between the root and stem (called the crown line) is at ground level and the plant is vertical.

A plant is better off in the same soil in which it will be growing. Peat moss, perlite or other soil additives are not needed. Don't fertilize until the second year. Backfill the hole half full, firm with your fingers and add water. If the plant settles, pull it up gently while the soil settles beneath it. This prevents air pockets. Continue backfilling until the hole is full and the plant's crown line is at or just above the surrounding soil level.

Form a low 2' diameter soil ring around the plant to create a watering basin. Water slowly to wet the soil thoroughly. Add soil as needed and a 1"-2" layer of bark mulch to help keep the soil cool and moist. Stake the plant only if it cannot stand up by itself under normal wind conditions. Most whips and small trees or shrubs should not be staked.

After planting, do not overwater! Before watering, test the soil with your finger to see if it is dry. Too much water can prevent root growth and drown the plant; too little will dehydrate it. The first two weeks after planting will be the most crucial to survival, so keep your plant material properly irrigated. Additional shade and wind protection may benefit certain species.

As a general rule, large shade and fruit trees should be planted about 20' apart; semi-dwarf fruit trees about 15' apart; windbreaks about 5-10' apart; and hedges about 2-4' apart. Bareroot plant material needs to be handled efficiently in order to promote the best health and survival rate for your seedlings. Paying close attention to keeping stock cool, roots moist and protected from direct sunlight, wind and extreme temperatures will ensure the best results.

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## **Maintenance**

For the first year or two, especially after a week or so of especially hot or dry weather, watch your trees closely for signs of moisture stress. If you see leaf wilting or hard, caked soil, water the trees well and slowly enough to allow the water to soak in. This will encourage deep root growth. Keep the area under the trees mulched and remove weeds and grass.

Some species of evergreen trees may need protection against winter sun and wind. A thorough watering in the fall before the ground freezes is recommended. Spray solutions are available to help prevent drying of foliage during the winter.

Fertilization is usually not needed for newly planted trees. Depending on soil and growing conditions, fertilizer may be beneficial at a later time. Young trees need protection against rodents, frost cracks, sunscald, lawn mowers and weed whackers. Mice and rabbits frequently girdle small trees by chewing away the bark at snow level. Since the tissues that transport nutrients in the tree are located just under the bark, a girdled tree often dies in the spring when growth resumes. Weed whackers are also a common cause of girdling.

Plastic guards are an inexpensive and easy protection method. Frost cracking is caused by the sunny side of the tree expanding at a different rate than the colder, shaded side. This can cause large splits in the trunk. Sunscald can occur when a young tree is suddenly moved from a shady spot into direct sun. Light colored tree wraps can be used to protect the trunk from sunscald. Wait two or more years to gradually begin removing a tree's lower branches. During early growth, these branches provide leaves for nutrition and encourage trunk strength.

Don't top trees (shrubs yes, trees no) during their entire life... ever: It weakens them and shortens their life. When you must prune a tree or shrub, first cut out all dead branches, then those which get in the way, then those which grow in the wrong direction or cross others, and finally those which don't maintain the tree or shrub's natural shape.

## **Sweating**

Most trees and shrubs show little or no adverse effects after being harvested in the fall and stored under refrigeration all winter. When they're planted or potted out in the spring, they break bud and develop normally. These species need to be forced into bud just before being lined out in the field, or they'll sit in the ground after being planted and eventually die.

There are two ways to force these species into bud just before they're lined out in a field or planted out in containers. The process is known as sweating. The first method is to place the plants in the dark in the warm, humid environment of a greenhouse or polyhouse until they break bud. Unfortunately, not everyone has a greenhouse or polyhouse, so the second method is more often used, which simulates the warm, dark, moist environment.

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1. Lay one or two layers of burlap or straw on the floor of a garage or shed which stays fairly temperate between 55° and 75°F.
2. Remove the plant bundles from their packing boxes.
3. Place the unbroken bundles side by side on the burlap.
4. Moisten the plants if they seem dry or let them dry out if they seem overly wet.
5. Completely cover the bundles with several layers of burlap or straw.
6. Moisten the burlap or straw with water.

Check the plants daily to see if buds have broken, the cover is moist and no mold is developing on the plants. Should mold develop, dip the bundles in Benomil and continue the sweating process.

The sweating process is relatively easy and usually takes only a few days. What is critical, however, is when to begin sweating the plant material. Sweating forces new growth to begin after which the plants are vulnerable to frost damage and drying out. Species requiring sweating should be kept under refrigeration until the danger of frost is past and adequate irrigation is available in the field.

Otherwise all the care in sweating will be wasted as the plants revert to their dormant state after planting and cannot be forced to break bud again.

### **Species that may need sweating:**

<b>Maple</b>	<b>Serviceberry</b>	<b>Birch</b>	<b>Barberry</b>	<b>Hackberry</b>
<b>Green Ash</b>	<b>Mountain Ash</b>	<b>Pear</b>	<b>Potentilla</b>	<b>Oak</b>
<b>Rose</b>	<b>Weeping Willow</b>	<b>Lilac</b>	<b>Apple</b>	<b>Hawthorn</b>

### **Transplanting Broadleaf Evergreens**

Problems with transplanting broadleaf evergreens and some conifers usually stem from desiccation (drying out) of the stock after transplanting. This includes Arctostaphylos, Mahonia, Gaultheria, long needle pines and others. Your results with these species may be improved by utilizing the following procedures:

For broadleaf species, remove or clip off most leaves prior to transplanting. This may seem severe, as the plants are often purchased for their foliage. Removal of leaves will help survival by reducing water loss. As stock begins new root growth, new leaf buds will push and grow.

Soak the root systems for 4 to 6 hours before transplanting to make sure that the plants are properly hydrated.



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Keep your transplanted material under shade and on a very frequent intermittent mist or overhead irrigation. If possible, feed the plants consistently at a very light nutrient level during establishment, which may take 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.

### **USDA Plant Hardiness Zone - Average Annual Minimum Temperature**

<b>-45.6 and Below</b>	<b>1</b>	<b>Below -50</b>
<b>-42.8 to -45.5</b>	<b>2a</b>	<b>-45 to -40</b>
<b>-40.0 to -42.7</b>	<b>2b</b>	<b>-40 to -45</b>
<b>-37.3 to -40.0</b>	<b>3a</b>	<b>-35 to -40</b>
<b>-34.5 to -37.2</b>	<b>3b</b>	<b>-30 to -35</b>
<b>-31.7 to -34.4</b>	<b>4a</b>	<b>-25 to -30</b>
<b>-28.9 to -31.8</b>	<b>4b</b>	<b>-20 to -25</b>
<b>-26.2 to -28.8</b>	<b>5a</b>	<b>-15 to -20</b>
<b>-23.4 to -26.1</b>	<b>5b</b>	<b>-10 to -15</b>
<b>-20.6 to -23.3</b>	<b>6a</b>	<b>-5 to -10</b>
<b>-17.8 to -20.5</b>	<b>6b</b>	<b>1 to -5</b>
<b>-15.0 to -17.7</b>	<b>7c</b>	<b>5 to 0</b>
<b>-12.3 to -15.0</b>	<b>7b</b>	<b>5 to 0</b>
<b>-9.5 to -12.2</b>	<b>8a</b>	<b>15 to 10</b>
<b>-6.7 to -9.4</b>	<b>8b</b>	<b>20 to 15</b>
<b>-3.9 to -6.6</b>	<b>9a</b>	<b>25 to 20</b>
<b>-1.2 to -3.8</b>	<b>9b</b>	<b>30 to 25</b>
<b>1.6 to -1.1</b>	<b>10a</b>	<b>35 to 30</b>
<b>4.4 to 1.7</b>	<b>10b</b>	<b>40 to 35</b>
<b>4.5 and Above</b>	<b>11</b>	<b>40 and Above</b>