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TIPS FOR STORAGE AND PLANTING BARE-ROOT TREE SEEDLINGS

Transplanting seedlings bare-root is an effective and economical means of establishing a windbreak or tree grove. Bare-root tree seedlings actually can have a higher survival rate and establish sooner than container stock. Difference in the container media and the surrounding soil often means the roots dry out too quickly. This is not a problem with bare-root as there is no shift in soil texture.

However, bare-root trees must be handled carefully. The two most common problems that contribute to lower seedling survival and performance are 1) root desiccation and 2) rough handling.

Desiccation injury – a common killer of bare-root tree seedlings

The roots of bare-root seedlings must never dry out. If the fine roots, those the size of yarn or smaller threads, dry out, survival is reduced and those that survive often grow much slower. The height growth difference between seedlings that did not dry out versus those that did can be noticed even four years later. Desiccation injury occurs at two time period 1) during storage and 2) while planting.

Reducing desiccation injury during storage

Seedlings are delivered to the conservation districts in heavy, wax-lined, cardboard boxes. These boxes are designed to hold moisture and raise the humidity surrounding the seedlings. The thick box also insulates the seedlings from temperature fluctuations. If possible, the seedlings should be kept in this box until planting. If the seedlings cannot be stored in the original box, their roots must be protected by a plastic bag packed with damp moisture-holding material such as sphagnum peat and sealed at the stem to avoid further loss of moisture. Regardless of whether the seedlings are in the original box or bundled in a plastic bag, the trees should be stored in a wind-protected, shaded location where the air temperature is between 33 to 39°F and the relative humidity above 85%. Temperatures between 40 and 50°F can be tolerated for a short time, perhaps a day or two, but exposure to temperatures above 50°F can quickly result in root injury. The sooner the trees are planted, the better the survival.

Reducing desiccation injury during planting

The day of planting the seedling's roots should be first soaked in water. Conifers should have their roots soaked in water for 20 minutes, but no more than 1 hour. Deciduous tree seedlings benefit from soaking for 2 to 4 hours prior to planting. Once removed from the water, the seedlings should be planted as soon as possible. An exposure time longer than 20 to 60 minutes can result in severe root injury. Once planted, provide the seedling with about 20 to 30 ounces of water. Keeping the roots cool and moist before planting and watering at planting are the two most important steps in starting your tree seedlings off right. Using a root-dip is not a substitute for either practice. Root dips provide only limited benefits and are not a replacement for good care.

Watering schedule for the first year

After planting, water every 3 to 4 days with a similar amount of water for the first growing season. The frequency is as important as the amount and providing a single watering of 40 to 60 ounces once a week is not the same as watering a smaller amount every three days. While watering this frequently may not always be possible, the closer this schedule is adhered to, the better the survival.

The overlooked killer of seedlings – rough handling

Rough handling is also detrimental to seedling survival and is a far more important consideration that most realize. Dropping a bag of seedlings on the ground or tossing them into the back of a truck can injure the fine roots which will reduce survival and growth. Keeping the seedlings in the cardboard box will prevent this problem. If the seedlings are being kept in other packaging, they must be handled gently.