

## Bare-root Hand Plant Information

### Handling & Storage:

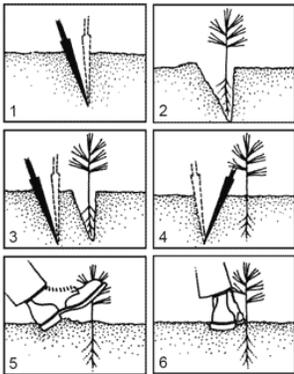
Reforestation surveys indicate that the most common problems facing seedling survival are moisture stress, poor handling and physical damage before planting. Seedlings should be planted as soon as possible and never store longer than 4 weeks. From the time seedlings are lifted from the nursery bed, to the time they are planted, it is critically important to keep the seedlings moist (not wet) and cool (34-36 F). Seedlings must remain in a state of dormancy during this period. As temperatures rise, plants begin to respire and can quickly deplete their energy reserves. Damaging molds can also grow on seedling roots under warm conditions. If seedlings are allowed to dry out, the root hairs become permanently damaged and are unable to absorb adequate water and nutrients. Physical damage from handling can impair root hairs, shoot tips, and buds, which will slow initial growth of the seedlings.

### Planting:

Do not wash or shake gel from seedling roots. Gel applied to roots at the nursery prevents drying out during transport, decreases planting shock and improves acclimation to the planting site.

Do not trim or prune seedling roots. Seedlings need every single tiny root to absorb moisture and nutrients from the ground. More root surface equals better growth.

Plant seedlings deeply. Greater exposure to the soil and its water content - even one-half inch of added depth of planting - significantly improves survival rates.



1. Insert dibble\* at angle shown and push forward to upright position. A sturdy spade may be substituted for a planting bar using this technique.
2. Place seedling to depth grown at nursery. Make sure root is straight.
3. Insert dibble two inches from seedling, then pull back to pack the soil around roots.
4. Push handle toward the seedling to finish packing soil at top of roots.
5. Fill in second hole by stomping with heel.
6. Pack soil around seedling with feet.

### Common Causes of Seedling Mortality:

Roots exposed to hot, dry air; Roots tangled or not spread out; Improper storage; Seedlings planted too deep or too shallow; Lack of water ;Grasshoppers; Livestock trampling; Rodents; Deer; Poor control of competing weeds/vegetation