



## PLANTING AND CARE OF SHELTERBELTS

The tree and shrub seedlings provided by Agriculture and Agri-Food Canada's PFRA Shelterbelt Centre are perishable. Proper care prior to, during and after planting is important to increase seedling survival and growth.

### ***Care of Trees Prior to Planting***

- Plant the seedlings as soon as possible after pick-up.
- If planting is delayed, the packages should be left sealed and stored in a cool, dark location. A root cellar is ideal, but a corner in a quonset or shop could also be used. Properly stored packages of trees can be kept for up to five days with limited impact on survival. Cooler days with below-freezing evening temperatures allow seedlings to be kept in storage for a longer period of time. After a few days of storage, you may want to make a small cut in the packages to ensure the seedlings are moist. If the roots seem dry, spray a mist of water in the packages and then reseal them. **Do not store tree and shrub seedlings in water for more than four hours prior to planting or survival will be reduced.**
- If planting is delayed beyond five days, and the seedlings in the packages are starting to show signs of mold or bud break, then you need to get the seedlings planted in their permanent location or in a temporary site (called heeling in). The heeling-in method involves planting the seedlings at close spacings in soil trenches in a shaded field or garden plot. Ensure the roots do not dry out and are well covered with moist soil. Heeling in involves a significant amount of extra work, and you will need to replant the seedlings in their permanent location at a later date. These seedlings should only be moved again when they are dormant (before bud break that spring, later in the fall, or the following spring). **The best method is to plant the trees within days of arrival rather than having to plant them twice and risk seedling survival by using the heeling-in method.**

### ***Care of Seedlings During Planting***

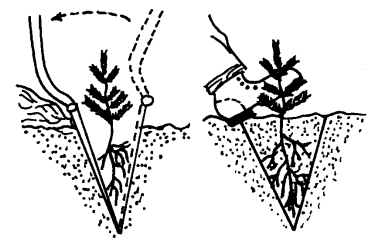
- Protect the roots from wind and sun by covering them with moist soil or peat moss to prevent drying. If possible, plant the trees on a cool, cloudy day or in the early morning or evening rather than on hot, windy days.
- The seedlings have been kept in freezer storage or in outdoor field plots for the winter prior to shipping. Spring planting on a cold, below -freezing day will not decrease the seedling survival, unless the roots dry out.
- Always plant seedlings in a cultivated, weed-free site.

### ***Care of Poplar and Willow Cuttings***

- Soak the cuttings by submerging them in water for up to three days prior to planting.
- Plant the cuttings by inserting them to their full depth in the soil, with the buds pointing up.
- Do not plant cuttings into trifluralin-treated soil.
- The cuttings can be rooted in a garden area for one season, and then transplanted to their permanent location the following fall or spring. Cuttings should be watered regularly in their first season.

### ***Hand Planting***

- Trees should be planted at the same depth as they were grown at the nursery. This is indicated by a change in color on the bark at the former soil line.
- Using a spade, work open a wedge-shaped hole by forcing the shovel forward. Place the tree in the space, ensuring the roots are evenly spread. Remove the spade. Replace the soil around the roots and pack firmly by tramping to remove air pockets. If the seedling has a spreading root system, a larger hole may be necessary, and the roots spread out prior to packing the soil.



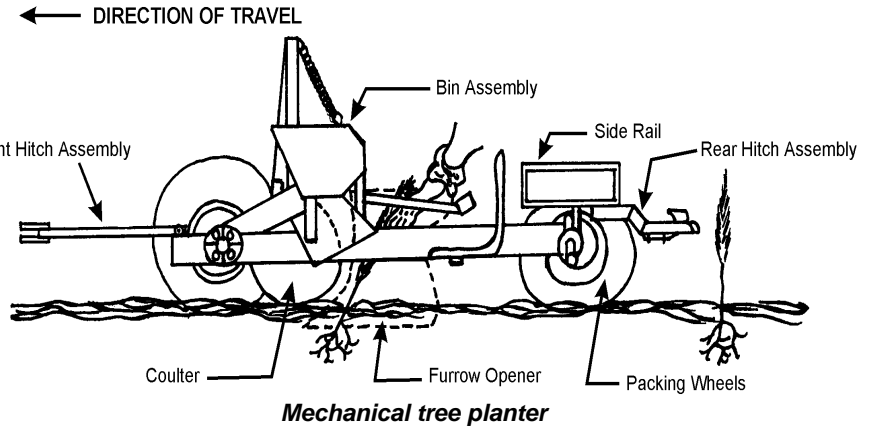
*Hand planting of tree seedlings*

**Mechanical Planting** is the most efficient method of planting large numbers of trees. Check with your rural municipality, ag fieldman, agricultural representative, extension agrologist or PFRA District Office to inquire if a tree planter is available. Plans for building a tree planter are available from the AAFC-PFRA Shelterbelt Centre. A standard operating procedure, providing information on safe use of a tree planter, is available from PFRA.

- Site preparation one year before planting is essential for all shelterbelt plantings.

- Stake the rows prior to planting to ensure trees are planted at the recommended distances. This allows for easier planting and maintenance.

- The tree planter is pulled by tractor with a minimum of 40 HP. The planter opens a furrow into which a seedling is lowered. Ensure the roots are not bent. If there is insufficient room for the roots, adjust the furrow opener. Plant the seedling at the same depth as it was grown at the nursery. Lower the seedling into the furrow immediately behind the furrow opener, at a 45° angle towards the packing wheel. Hold onto the seedling until soil falls in around the roots as it progresses towards the packing wheel. Release the seedling when it is held by the soil. The packing wheels will pull the seedling into an upright position.



- The speed of the tractor and the planter's rhythm control the spacing of the seedlings. Spacing can be gauged by a mechanical beeper or by dragging a light chain behind the planter with a flag attached at the recommended distance. Plant a seedling when the flag passes the previous seedling.
- Have someone walk behind the tree planter to pack the soil around each seedling, to cover the roots if necessary, or to uncover buried seedlings.

### Care of the Trees

- Water all trees immediately after planting. When watering, soak heavily because shallow watering encourages shallow rooting. Shallow-rooted trees cannot tolerate drought.
- Weed control is essential to reduce competition for moisture and nutrients. If cultivating between the rows, shallow, careful cultivation is required to prevent injury to tree roots. For more information on weed control, please refer to our brochures *Herbicides for Shelterbelt Weed Control* and *Non Chemical Weed Control Methods for Tree Planting*.
- Trees should be fenced off to prevent livestock from eating or trampling the seedlings. Damage by wildlife and rodents may be reduced by using tree guards or repellents.
- Pruning shelterbelt trees is required only to remove dead, diseased or broken branches. Any branches that are removed will not regrow and gaps will be left.
- Fertilizer applied at the soil surface is not recommended for newly planted shelterbelt trees. The fertilizer does not move deep in the soil, so root growth is promoted near the soil surface.
- Check trees often for evidence of afflictions. Assistance is available for insect and disease identification.
- Any seedlings that do not survive should be replaced the following spring to prevent gaps in the shelterbelt.

### For more information, contact:

Agriculture and Agri-Food Canada-PFRA Shelterbelt Centre  
 Box 940, Indian Head, SK S0G 2K0  
 Phone: (306) 695-2284 Fax: (306) 695-2568  
 Internet: [www.agr.gc.ca/pfra/shelterbelt.htm](http://www.agr.gc.ca/pfra/shelterbelt.htm)  
 E-mail: [pfratree@agr.gc.ca](mailto:pfratree@agr.gc.ca)

or the AAFC-PFRA District Office nearest you