Handling Bareroot Tree Whips at Greenleaf Nursery

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INTRODUCTION

High quality, vigorous-growing bareroot tree whips {1.2 to 1.8 m (4 to 6 ft) tall ornamental tree liners} are the ultimate goal of the Hidden Lake Division of Greenleaf Nursery.

All of the time and effort of producing such a plant can quickly turn into a total loss if the tree whips are not properly cared for during the digging and storing process. What may seem like a small, minor procedure can quickly become vitally important to the quality and survival of the plant—particularly since the exposed root system of a dug, bareroot whip is very vulnerable to the environment.

The Digging Process. The initial steps in preparing for the actual digging process include:

1) Removing any suckers.
2) Grading the tree tops for size and quality.
3) Marking the base of the trunk with paint for later identification.

Any tree that does not have a satisfactory top is simply broken off and destroyed, so it cannot be sold. Also at this time, any trees that are to be sold are tagged with a cultivar label.

Our digging season for bareroot whips starts in mid-Dec. when the flowering pears drop their leaves. Since it is approximately 50 km (30 mi) from the Hidden Lake Division to the cold storage building at the main nursery, we must constantly monitor the moisture and temperature of the plants.

A track digger does the actual undercutting and lifts the trees out of the soil. Then a series of crews follow closely to shake any remaining soil off the roots and to load the plants on a flat bed trailer. Each crew picks up only one certain size of a cultivar. For example, the first crew will only pick up 5- to 6-ft whips while the second crew just picks up 4- to 5-ft whips. Each crew throws out any culls as they go through. In this way, only trees of the same size reach the grading barn together plus they will have been graded several times before reaching the grading barn. A final crew goes through to collect culled and damaged plants and discards them. This leaves the field clean of nursery stock and ready to be worked and planted with cover crops in preparation for future production of new tree-whip generations.

Every tractor and trailer being used in the digging process is equipped with a sprayer so that the tree roots can be kept moist while they are still in the field. If the soil is too wet to shake off easily, the trailer is driven under a large overhead water pipe to wash the extra soil off and clean the bare roots.

Processing in the Grading Barn. As the trailers are driven through the grading barn, the trees are quickly unloaded so the trailer can return to the field for another load. The trees are once again graded, counted into groups of five, and loaded into racks. The number of trees put in each rack is recorded. Then the rack number, cultivar, size of the trees, number of trees, and whether they are to be planted at Greenleaf Nursery or sold are recorded.

From this time until planting, the trees are handled only by fork lift. The tree racks are loaded into a temperature-controlled semi-trailer which takes them to the cold storage building at the main nursery. The trailer temperature is maintained at 10 C (50F).

Cold Storage Facilities. When the trailer reaches the cold storage building the tree racks are off-loaded by fork lift. They are separated by cultivar and also separated for sale or for transplanting and internal use at the nursery. The tree racks are stacked in bays, and the bay number is recorded on the same sheet that has the cultivar, size, and other information already on it. A copy of this sheet goes to inventory control and two more copies go into notebooks for future reference.

The cold storage building is maintained at a constant 1C (34F). An intermittent fog system keeps the humidity at 95%. When whips are sold, it is a simple matter to check the records to find where selected cultivars at given sizes are stored. The required tree rack, which contains the requested cultivar and tree size, is brought into a grading room. The liners are then regraded and tied into bundles for shipment.

Planting Whips into Containers. Planting is also a fairly simple ordeal. For instance, if we want to plant 1.2- to 1.5-m (4- to 5- ft) Bradford pears, they are located by using the written records and whole racks of whips are moved to the tree planting machine by fork lift. Workers with pneumatic pruners trim the roots so the liner will fit into the desired container. Water hoses are in constant use to ensure the roots never dry out. The whip is placed in a container and an auger adds the soil mix. The newly containerized plants are loaded on to a wing-ding (converted flat-bed pick-up truck) and taken to the field. They are set off into beds, thoroughly watered, and grown under standard container-production practices for 1 year.

Keeping the Whips Alive. Perhaps the single most important factor in handling bareroot whips is to **never** let the roots dry out—not even momentarily. The liveability and overall vigor quickly drops if the plants are allowed to desiccate. An extremely well-formed whip can turn into a lost product to be discarded into the dump pile if adequate moisture of the bare roots is not maintained.