

Tree Transplanting (Burlapping): A Comprehensive Guide

S. Swagatha Kumar¹, Seepana Anil Kumar², Chigilipalli Mounika³

¹Village Horticulture Assistant, Department of Horticulture, Andhra Pradesh

²Professor Jayshankar Telangana Agriculture University, Rangareddy, Telangana 500030

³Uttar Banga Krishi Viswavidyalaya, Pundibari, Coochbehar, West Bengal 736165

suryahorti97@gmail.com

Transplanting a mature tree—commonly referred to as burlapping—is a complex and delicate operation, as it involves significant root removal due to the tree's extensive root system. Trees recover slowly from this process, and successful transplantation depends on the tree's overall health, structure, and ability to re-establish roots. Trees in poor health or with weak structure should not be considered for transplanting. Additionally, the expected lifespan and post-transplant health of the tree must be evaluated to determine whether the operation is cost-effective.

Timing:

Transplanting should ideally be done in early spring when the evapotranspiration rate is low. Summer is typically avoided due to the high water loss and stress on the tree.

Selecting Trees for Transplanting

• **Not Recommended:** Avoid transplanting invasive exotic species such as Poplar, *Eucalyptus*, *Prosopis juliflora*, *Leucaena leucocephala*, *Acacia tortilis*, and *Casuarina*.

• **Recommended:** Native and high-conservation-value trees should be prioritized, especially if they cannot be preserved in situ. Commonly transplanted species in India include heritage and culturally significant trees like Neem, Pungamia, Mango, Sacred Fig, Jamun, Ashoka, Jackfruit, Tamarind, Banyan, and Sandalwood.

• **Palms:** Species like *Oreodoxa regia*, *Phoenix sylvestris*, and *Wodyetia bifurcata* are also commonly transplanted.

Selecting the Transplant Site

- The receptor site should be close to the original location to retain landscape and amenity value.
- The site must accommodate a large root ball, following international standards with a root ball diameter to trunk diameter ratio of 8:1 to 10:1 for mature trees.
- The location should provide enough space, proper soil conditions, and stability for tree recovery.

Tools and Equipment Required

- Mechanical diggers and root pruners
- Lifting cables, chains, straps/slings
- Cranes, trolleys, and transport trucks
- JCB machines for pit preparation

Root Ball Preparation

Root ball size varies by species, size, and location, but should always be as large as practical to increase survival chances. Root balls are typically wider than they are deep, with depth rarely exceeding 1 meter.

Four-Stage Root Pruning Process (For Mature Trees):

1. Stage 1: Dig trenches on two opposing segments outside the marked circumference.

2. Stage 2 (After 1 month): Prune roots and dig adjacent opposing segments.

3. Stage 3 (After another month): Dig the remaining two opposing segments.

4. Stage 4 (After another month): Shape and cut the underside of the root ball, then uplift and transplant the tree.

Pre-Lifting Preparations

- Ensure the receptor site or holding nursery is fully ready before beginning.
- Water the tree before lifting.
- Loosen and shape the trench edge and taper the root ball inward.
- Wrap the entire root ball in hessian cloth and secure it with a metal mesh for transport.
- Provide temporary support such as guying or props to stabilize the tree before moving it.

Lifting and Transport

- Trees should be lifted using padded support attached to the root ball, not the trunk, to prevent damage.
- Improperly wrapped root balls risk collapsing during transit.
- Containerized root balls offer additional protection and ease of handling, promoting better post-transplant establishment.

Preparing the Receptor Site

- Avoid compacted soil; loosen the area widely to support new root growth.
- Provide adequate drainage in planting pits.
- The planting hole should be no deeper than the root ball and at least 1.5 times wider.
- Scarify the pit sides to encourage outward root growth.
- Avoid placing the root ball's top below the soil surface.

Planting Process

- Reorient the tree in the same direction it previously grew.

- Remove all wrapping and support materials before backfilling.
- Tamp the soil firmly around the root ball and water immediately to settle the soil.
- Create a soil saucer to retain irrigation and rainfall near the roots.
- Use appropriate staking or underground guying to stabilize the tree.

Post-Planting Care

1. Protection and Support:

- Protect the tree with fencing.
- Provide external support (e.g., scaffolding or staking) for 30–45 days until new growth begins.
- Remove supports as soon as the tree stabilizes to encourage strength development.

2. Mulching:

- Apply a 5 cm thick organic mulch around the root zone, avoiding direct contact with the trunk.
- Mulch retains moisture, regulates temperature, and adds nutrients.

3. Watering:

- Essential for root establishment, especially in the first two years.
- Keep the root zone clear of other plants to avoid competition.

4. Fertilization:

- Chemical fertilizers are not necessary unless deficiencies are confirmed.
- Decomposing mulch and organic matter typically provide sufficient nutrients.
- If needed, apply slow-release fertilizers only after the tree is established.
- Avoid fertilizer burn by ensuring adequate watering.

5. Monitoring and Adjusting Supports:

- Regularly inspect guys and ties.
- Adjust or remove them to prevent girdling or abrasion.