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Burlapping

(Dr. A. Nirmala)

Department of Horticulture, College of Agriculture, Hyderabad, Professor Jayasankar
Telangana State Agricultural University, Rajendranagar, Hyderabad

*Corresponding Author's email: nirmala.puli@gmail.com

Moving an established tree from one location to another is called as burlapping. It is a significant procedure after which trees need time to recover. Tree transplantation often necessitates the removal of a significant amount of roots due to the extensive nature and shape of the tree root system. To reduce urban heat island effect, air, sound pollution, global warming etc. and conservation of endangered species, prevention of deforestation and installation of quick landscape effect, this method is used. Success rates are high. Different developing countries like India, China, Ethiopia, Turkey, Pakistan, USA and England are utilizing the technique in large numbers.

Hyderabad, Delhi, Chandigarh and Noida cities are adopting this technique to create quick vegetation. The Karnataka state govt. has taken a movement of tree transplanting in Gadag, Hubballi, Bangalore and Mysore areas. Tamilnadu State also initiated the same near Salem highways. Near Hyderabad area Ramachandra Appari relocated around 35000 trees along the highways and construction sites with nearly 80% success rate. (Green Morning Horticulture Pvt.Ltd.).The cost of tree transplantation is much more than sapling plantation but the age, aesthetic value and size of the plant are considerable aspects. There are some exceptional trees which are cannot be transplant.

Types of tree transplantation

1. Bare root: In the spring or fall, bare root plants are excavated from nursery fields. Plants are kept in humidity- and temperature-controlled storage during the winter once the soil is removed from their roots. Plant them in the early spring before they start to grow. Bare-root trees can be produced less expensively than trees produced in other systems due to easier digging, storing and shipping. (Vandergriff and Clatterbuck, 2012)
2. Packed stock: Packed trees and shrubs are bare root plants that have had their roots packed in peat moss or shingle tow, or another wet substance. Plant them in the early spring before they begin to grow. Before planting, keep the packaging cold and dark, and the contents wet. As bare root plants, handle these plants.
3. Field- Potted: Nursery stock that has been produced in the field and subsequently potted refers to plants that have been dug out with the ball of soil still attached. As field dirt won't support healthy plant development in a container, sell and plant them in the spring. As little as possible should be disturbed while planting and excavating.
4. Containerized: Containerized trees and shrubs are removed as bare root material from the nursery in the spring or fall. They are then put in a container with a unique growth media before being sold.

5. Container grown: The majority of the life of container-grown stock has been spent growing in a container. Because their roots are not disturbed when planting, container-grown plants have less transplant shock. At any point throughout the growing season, plant them. The root systems of plants that have outgrown their containers may be malformed, which can lead to girdling roots. In the container, large plants could have root rot. These plants' root balls must be split open or pulled apart in order to get rid of any girdling or circular roots that may form later.



6. Balled and Burlapped (B&B): Trees and shrubs that have been balled and burlapped are planted with a hard ball of earth around their roots and are then held firmly in place with burlap, twine, and occasionally a wire basket. The roots may suffer severe harm as a result of a fractured, damaged, or dry soil ball. In the soil ball, the stem shouldn't bob up and down. In the spring, summer, and fall, plant B&B stock. The primary disadvantage to B&B trees is that usually 95 percent of the original root system of the tree is left in the field. (Vandergriff and Clatterbuck, 2012).



7. Tree spade: A tree spade, a tool that digs up a mass of dirt that includes the plant and some of its roots, is frequently used to relocate larger plants. The diameters of tree spades for evergreen and deciduous trees differ. There are 2 types of tree spades available which are 90D and 100D.



The four stages of digging for uprooting the tree

- Dig a trench on the outside of the designated circumference in just two opposite segments for the first stage.
- For the second stage, dig a trench on the outside of the marked circumference in the adjacent two opposite segments at least one month after the first stage.
- The third step is digging a trench outside the indicated perimeter in the last two opposing segments, at least one month after the second root trimming.
- The fourth stage involves preparing the root ball, cutting the underside of the root ball, lifting the plant, and transplanting it after a further interval of at least one month following the third root pruning.

Steps for proper planting

1. Look up to see wiring or lights
2. Make a deep or broad hole
3. Locate the main root and correct any root flaws
4. Insert tree into hole
5. Set tree straight
6. Raise top root 1-2 inches above landscaping dirt
7. Eliminate artificial materials
8. Refill the hole with dirt and firm the root ball
9. Add mulch
10. If necessary, stake and trim.

Process of transplanting

Bare root and packaged stock

- Dig the appropriate pit and add some organic matter to the removed soil.
- The graft or trunk flare of trees should be positioned 1" above the soil line when they are planted.
- On the bottom of the hole, create a mound or "cone" of earth, and then spread the roots out over it.
- Backfill the soil into the hole a few inches at a time, firming the soil after each addition, and centre trees with the biggest branches pointing southwest.
- Be cautious not to injure the roots while backfilling and make sure the plant stays erect.

Container grown and containerized stock transplanting

- Lay the tree or shrub in a container on its side and carefully slide it out of the container once the planting hole has been created. The plant is root-bound if its roots spiral outward from the soil ball.
- These roots must be separated otherwise the plant will eventually become girdled.
- Set the tree and root ball into the pit, make a crisscross incision across the bottom of the ball, fill the pit with the remaining soil, and stake the tree.

Balled and burlapped (B & B) transplanting

- The slightly darker part of the trunk serves as an indication of where to place the root ball in the hole so that the soil surface will be at the same elevation.
- When planting trees, be sure that the flare or graft is 1" above the ground.
- These substances do not need to be taken out from under the root ball. They may be inserted into the planting hole along the edges of the root ball and buried. Be especially careful not to disturb or damage the soil ball. Using a tamper to eliminate air pockets, backfill the hole about one-third full.
- To thoroughly wet the soil ball and eliminate air pockets in the backfill, water carefully.

Watering

- Once every week, add 5-7 gallons to the root ball of a newly planted tree or shrub.
- The frequency with which water must be provided will vary depending on the soil and weather.
- To assess whether the soil needs water, check the moisture content 4–8 inches down.
- Water spray can be given if the weather is very harsh. Fertilizers and nutritional supplements can be given to enhance its establishment (Appleton, Bonnie and Susan French, 1995).

Mulching

Spread a layer of mulch about 2-3 inches thick around the plant in a circle with a diameter of 6 feet. Mulch shouldn't be piled up against the trunk. To remove mulch from the trunk, pull it at least 4" away.

Fertilization

- Applying nitrogen in the late summer might encourage new growth that may not adequately harden off and can be harmed by winter conditions, unless the plant is nutrition deficient.
- Apply P and K in the fall to improve acclimatization for the winter.
- Root growth promoters can be used (Harris, J, Roger and Nina L. Bassuck, 1993).

Pruning

Trees and bushes don't need to be pruned right away before or right after planting.

Prior to selling plants, the majority of nurseries remove co-dominant leaders, branches that rub against one another, and improperly oriented branches.

Staking

- Most newly planted trees will fare better if they are not staked. Young trees that are left alone with their crowns free to move grow stronger, more robust trunks than those that have been staked for several years. Staking is essential if a tree becomes unstable in high winds or is blown over. The girdling impact that the ties might have on the tree is a typical issue when staking trees. Soft nylon webbing or carpet strips grommated to a post can help to mitigate this harm. Often, wire is wrapped excessively tightly around the trunk, girdling and killing the tree.
- Transplanting date had significant impact on survival of *Eldarica pine*. The highest percent survival was observed for late-spring-transplanted trees (mean air temperature between 10°C–20°C). (Etemadi *et al.*, 2013)
- Palms that have been subjected to continued stresses caused by severe nutritional or water deficiencies often display a constriction of the trunk corresponding to the period of time during which the stress occurred (Watson and Himelick, 2013)

Treatment at the receptor/transplanting site

Name	Chemical	Active ingredient	Quantity Per Tree
Anti-termite	Chlorpyrifos 20% EC	4 ml / 3 L water	8 L
Antibacterial	Bactinash 200	17 gms / 3 L	2 L
Antifungal	Corbondazim (Bavistin)	2 gms / 3 L water	15 L
Root hormone	IBA	20 ppm	20 L
Vermi-compost	---	15-25 kg / pit	-

Source: Kshirsagar *et al.* (2013)

Trees suitable for transplant

Pipal, Banyan, Fig tree, Ashoka tree, Jujube tree, Arjun, *Dalberjiasissoo*, Pletophorum, Mahua, Amla, Semal, Teak, Pendula, Gulmohar and Mango, Pongamia tree, *Oredoxaregia*, *Phoneixsylvestris* and *Woodeyia bifurcate*, Amla, Jack fruit tree, Tamarind tree, Java plum tree, Oak trees, Mulberry, Pine trees, Shurbs, Hack berry

Trees unsuitable for transplant

Trees with minimal amenity value, unrecoverable shape after transplantation, and low transplant survival rates Large size, showing over-maturity or the beginnings of senescence, and having poor shape, structure, or health (e.g. imbalanced form, leaning, With major cavity/cracks/splits) not suitable. Undesirable species (e.g. *Leucaenaleucocephala* which is an invasive tree) like Poplar, Eucalyptus, *Prosopisjuliflora*, *Leucaenaleucocephala*, *Acacia tortilis*, Casuarina.

Key points

- The best season for transplanting is early winter or spring.
- Not suitable season for the transplanting is summer
- Among the methods bare root method is cost effective method.
- Balled and burlapped method is best method.
- Major damage will occur because of improper handling and transport.
- Native trees are well suited for tree transplanting but not exotic plants.

References

1. Appleton, Bonnie L. and Susan French.(1995). Tree and shrub planting guidelines.Publication Virginia Cooperative Extension, Virginia Tech University, Blacksburg, 430-295.
2. Gilman, E. F. (1997). Trees for Urban and Suburban Landscapes.*Delmar Publishers*, Albany, New York.

3. Harris, J, Roger and Nina L. Bassuck.(1993). Tree planting fundamentals.*Journal of Arboriculture* 19(2): 64-70.
4. VandergriffD. S. and ClatterbuckW. K.(2000).Transplanting Trees.Agricultural Extension Service, The University of Tennessee.SP 572 - 15M - 12 – 00.
5. Etemadi, N., Nezhad, R. M., & Zamani, N. (2013). Effect of Transplanting Date and Harvest Method on Growth and Survival of Three Urban Tree Species in an Arid Climate. *Arboriculture & Urban Forestry* 2013. 39(5): 211–217.
6. Watson, G. W. andHimelick, E. B. (2013).The Practical Science of Planting Tree. Champaign, IL: *International Society of Arboriculture*.