PRECAUTIONS FOR DIGGING AND TRANSPLANTING OUT OF SEASON

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Spring and fall are typically when most ornamental trees and shrubs are planted and transplanted. Movement of plant materials in the summer is usually not advised because of extremely high temperatures, reduced amounts of moisture and rapid water losses. Yet it is known that professional horticulturists dig, move and plant throughout the summer and with a fairly high degree of success.

What is it that nurseries and landscape crews do to account for the high success rate at this time of the year? Most experienced nursery people who dig and plant trees and shrubs at this time say it is a matter of experience in knowing to do the right thing at the right time.

Not all nurseries will dig plant materials throughout the summer. Some dig until the temperature reaches 80 to 85 degrees F. while others carry on throughout the summer regardless of the temperature.

Some of the tricks of the trade of growers who dig and move trees and shrubs throughout the summer are:

Prior to digging, growers will root prune plant materials in a series of stages. By root pruning or gradually severing the roots, the plant will form a more compacted root ball with many feeder roots.

For large trees, the first step in root pruning is done the season prior to digging. A trench is dug around the tree at the distance of the desired root ball and about two feet deep. By the time the tree is actually dug or broken over, (which is the final stage of root pruning) the severed roots will have developed enough feeder roots to lessen the shock of moving the tree.

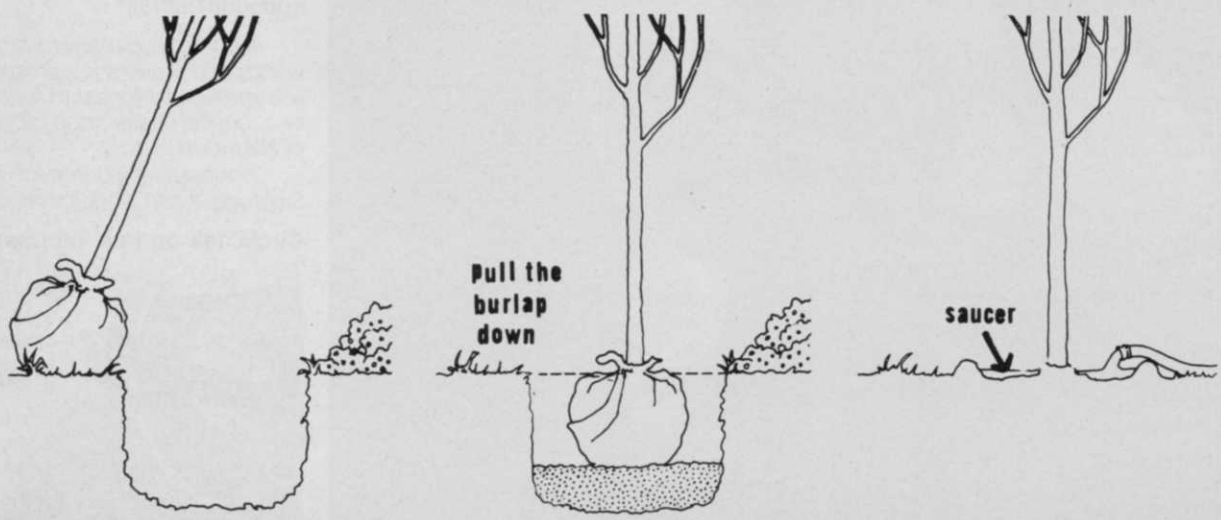
Some growers have indicated that they will wrap and lace the root ball while it is in the hole even though the tap root is still intact. In this case, the soil is kept dry and they are then hand dug while they are still dry. After digging the root balls are immediately saturated and the plants are placed in an area where they are continuously misted during the daylight hours. The plants are kept in this misting area until the new growth hardens off which may be anywhere from three to seven days.

Other growers mechanically dig their materials and prefer the soil to be on the moist side prior to digging. The plants are also placed in a misting area for hardening off. Plants are also hardened off by being placed in the shade for a period of time, without continuous misting, although the root ball is kept moist.

Since most plants are root pruned in the field prior to digging, it is therefore important to **reduce the amount of top growth.** The smaller root system cannot adequately support the same amount of top growth as the pre-pruned roots did. For deciduous materials, it is recommended that as much as one-third of the top growth be removed. Trimmed trees will usually surpass untrimmed trees in size within a two to three-year period. Some nurseries will literally pull the leaves off the trees to help them get through this rough period. Whether the leaves are pulled off or fall off on their own, the trees will break out again, in most cases.

It is best to **dig evergreens once the candles have hardened off,** whether this be in the field or in a misting area, as previously mentioned. It should be known that a way of reducing the top growth of evergreens is to remove the candles. This will eliminate further water losses and help the plant to maintain its turgidity.

Anti-transpirants, which are materials sprayed on the foliage of trees and shrubs, are used by some growers to reduce the rate of transpiration by the



Planting Guides: Hole should be twice the ball width and depth. Six inches of topsoil should be under ball. Backfill with two parts topsoil to one part peat to top of ball and make saucer diameter of hole.

plant. They are most known for their use in preventing winter injury, but they have successfully been used during transplanting. Some growers indicated that they applied anti-transpirants just prior to digging, while other preferred to make their applications just after removal. Some even indicated that if the material was properly cared for, root pruning, misting, etc., that anti-transpirants were not necessary at all.

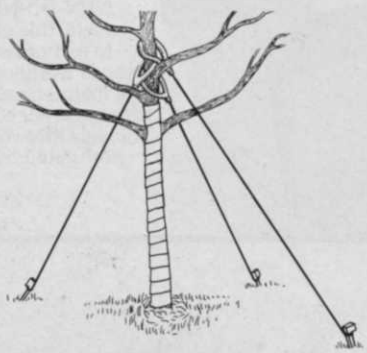
The summer is a very touchy time to move plant materials, especially for long distances. On hot sunny days, it is best to wait until late afternoon or early evening before loading trucks so that they can travel during the night when the temperatures are cool. Depending on the distance, the materials will still arrive in fairly good condition the following morning. It is, of course, unrealistic to expect all shipping to be done overnight, but it helps preserve the plants. In the case of tall trees which will not fit into enclosed trucks, open trucks must be used and the materials covered to prevent further water losses. Whenever possible, refrigerated trailers are used for materials that are transported long distances.

Water is the most critical factor in maintaining plant materials in the retail yard or Garden Center. If the plants are constantly allowed to dry out, their chances of survival are greatly reduced.

As for planting, it is wise to plant the same day or as close to the day of purchase as possible. This means knowing exactly where you or your customer want the trees or shrubs. Unfortunately, most homeowners are unknowledgeable when it comes to caring for nursery stock before it is planted. It has been my experience as an extension horticulturist that the homeowner feels it's okay to sprinkle them lightly with the hose whenever they think of it and that will suffice until they get around to planting them. They can get by with this in the spring or the fall, perhaps, but not in the summer.

Soil type and drainage are important factors in the survival of plant materials. Generally a porus soil is better than one with a high clay content, which tends to hold excessive amounts of water. If the soil has a lot of clay, a raised bed can be used to get around this problem. A raised bed consists of raising the area twelve to fifteen inches with a porus soil mixed with peat moss and surrounding the area with blocks or railroad ties to keep the soil from drifting. This method of raising the soil level should never be used if there are existing plant materials already in the bed.

Another way of dealing with wet soils is to plant trees and/or shrubs which will grow in moist soil conditions. Your Cooperative Extension Agent can help in providing a list of such materials for your area.



Protecting trees
after planting

Fertilizer can be added to the planting hole at the rate of two cupfuls per three foot of hole diameter. A complete fertilizer, higher in phosphate than the other two nutrients, should be used. These trees won't need to be fertilized again until next spring.

If the soil is well-drained, then dig a hole about twice the width and depth of the root ball. Then back fill with six inches of good top soil and place the rootball. Then backfill the hole with a mixture of one part peat to two parts of good top soil until the hole is the same depth as the root ball.

The top of the ball must be level with the ground. Remember to remove the rope or lace and pull down the burlap. If the burlap is not biodegradable remove it. Anything that will not degrade will hinder the plant's growth.

The hole can then be filled three-quarters full and tamped well, being careful not to damage the established soil ball. Then water and finish filling the hole, leaving a saucer type depression around the base of the tree or shrub. This will help to confine the water to the area around the root ball.

During the summer it is extremely important to water each plant immediately after planting. It is difficult to do when an entire area is being planted, but the extra effort will pay off in the long run.

Aftercare is extremely important and the homeowner should be made aware of that. New plantings should be thoroughly watered at least twice a week. For this can make the difference as to how well the material comes through the summer, or if it comes through at all.

Guying is usually recommended for newly planted trees to give them support and to prevent damage from heavy winds. Guy wires are attached to the tree and staked to the ground in three places. A plastic or rubber hose is used as a cushion between the wire and the trunk of the tree. They are placed in the area of the lower branches. This support should be taken off after one to two years after planting. By that time, the tree will be able to support itself. If guy wires are left on, they can girdle the trunk and eventually kill or weaken the tree so that it could easily break over during a storm.

Young trees — especially ones with thin bark, such as dogwoods, beeches and maples, and whose bark is susceptible to drying out or sunscald should be wrapped. Wrap them from the base of the tree to just below the lower branches. The wrap can be left on for one to three years.

Mulching can be a real asset to summer planting since the purpose of mulches are twofold: to conserve soil moisture and to prevent weeds from competing with plant materials for water supplies. Some good mulches are: wood chips, chopped bark, pine needles, small stones, peanut or cocoa hulls, black polyethylene or even sawdust.

All transplanted materials should be observed carefully, especially the first year. Make absolutely sure that they are watered well. If the water is neglected, the entire effort will be wasted. **WTT**