PLANTING MATURE TREES

Cut years off your landscaping schedule with the right equipment and transplanting know-how.

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Nothing can grace a yard like well-established trees,but if you're starting with saplings, it can take a generation or more for your trees to reach full bloom. Of course, you'll enjoy the benefits of maturing trees along the way, but it can still be a long wait for real summer shade and the balanced visual heft your landscaping needs.

This helps explain the increasing popularity of truck-mounted tree spades. A large tree spade can uproot a fairly mature tree and plunk it down in your yard in a matter of hours, and in the process shave a decade or more from the wait. It's an appealing option.

1--The first step takes place at the planting site. Here, the truck-mounted tree spade prepares to remove a plug of soil for the new tree.

If you've been thinking of having a large tree transplanted, there's really quite a lot to consider. Not every property is right for mature transplants, and not every tree will survive the ordeal. Cost is also an issue. Still, transplanting mature trees makes good sense in many cases, so let's consider the process, from the ground up.

The equipment

A tree spade is a machine that

uses hydraulics to force triangular blades into the ground so a conical plug of earth can be removed. Most larger tree spades are mounted on modified trucks with outrigger stabilizers that support and level the four blades. The two rear blades are mounted on a hinged framework that allows the back of the machine to swing open when approaching a tree.

Tree spades come in a variety of sizes to accommodate a wide range of trees. Because the size of the tree influences the machine that's used, make your requirements clear before you hire someone to do the work. Standard equipment ranges from 20-in.-dia. nursery machines to 92-in. behemoths. The diameter refers to the width of the soil plug as measured at the surface. This measurement divided by 10 defines the size of tree that can be moved successfully. A 20-in. spade, for example, is pretty much limited to a tree with a 2-in.-dia. trunk as measured 12 in. from the ground.

At the other extreme, a 92-in. spade, mounted on a semitrailer, can transplant a 30-ft.-tall tree. The very size of these rigs is limiting, however. Job-site maneuverability can be a problem, and with a 92-in. bite the soil plug alone can weigh 12,000 to 14,000 pounds. Greater equipment costs, plus higher prices for really big trees, substantially limit the customer base. The final bill for a single transplant can exceed a couple of thousand dollars.

2--With the tree centered within the spade assembly, the hydraulically powered blades sever the soil and roots around the tree.

3--The tree must be strapped to the spade to hold it in place for travel. Then, the root plug is lifted from the ground.

Because of this, market pressures generally dictate smaller spades, usually in the 40- to 60-in. range. These work well on trees 6 to 12 years old, 4 to 6 in. in diameter and 12 to 20 ft. tall, depending on the species. The good news is that trees of these sizes have very good survival rates.

The process

Each planting requires the operator to first remove a soil plug from your yard, thereby creating a hole for the new tree (Photo 1). Typically, this plug is then hauled to the nursery and dropped into the hole left by a previous removal.

At the nursery, the operator opens the gate-like rear half of the spade assembly and centers the blades around the tree. With the gates closed, the operator engages the hydraulics that drive the pointed blades into the ground (Photo 2). The trunk is strapped to the machine to keep it from shifting as it's transported (Photo 3).

Then, the operator uses a second set of hydraulics to lift the root plug from the ground, arching it over the back of the vehicle. In this way, the captured tree lies horizontally across the top of the truck for transport (lead photo).

At the planting site, the truck swings the tree back to a vertical position and centers the plug over the hole (Photo 4). After the plug has been lowered into place the blades are withdrawn.

4--With the truck positioned near the hole, the tree is lowered into place, and the blades withdrawn.

5--After planting, stake the tree and secure it with wire or nylon cord. Run the wire through lengths of garden hose around the trunk to prevent abrasion.

When planning the job, keep in mind that a truck-mounted tree spade requires room to maneuver. Steep grades, overhead wires, the proximity of buildings and other location features can affect the feasibility of the transplant.

Note, too, that the combined weight of the truck and tree can crack sidewalks and make a mess of wet lawns or new sod. In new construction, it's best to plant trees before landscaping. Also, be sure to have your operator make the appropriate contact to see if buried utilities are present.

6--Fill the seam with sand or soil, then flood it with water. With well-draining soils, repeat in a few days. Avoid overwatering in clay soils.

Ensuring success

The 10:1 ratio of spade diameter to tree diameter is less a mechanical limitation than a root-mass requirement. A tree that is uprooted must retain enough undisturbed root mass to replace moisture lost through the leaf structure by transpiration. This also explains why survival rates decrease in summer and increase during the cooler months of autumn.

To improve survivability in spring and summer, you might use a larger machine to transplant smaller trees. There are also commercial products that can be sprayed on leaves to temporarily reduce transpiration. And finally, tree species vary in transplant hardiness. A spruce, for example, transplants well, so you might get away with planting a 6-in.-dia. spruce with a 50-in. spade.

In fact, most evergreens transplant easily because they have shallow root systems. Some other species, including oak and walnut trees, send down deep tap roots that take much longer to regenerate.

To complicate matters further, dry, rocky soil will encourage shallow-rooted trees to grow deep, while rich, loamy soil will encourage shallow growth in deep-rooted trees. None of these factors forecloses transplanting altogether, but they are points to discuss with your nursery. Certain trees may be better planted as saplings.

Deep tap roots also pose a mechanical problem. A tree spade's four blades don't come together completely when fully extended. Therefore, they don't always sever the tap root as far below ground level as possible, but break it off–sometimes fairly close to the surface–when the root ball is lifted. If you'll be planting a lot of these trees, or fairly large ones, look for an operator whose equipment has a spade extension designed to sever tap roots.

Ballpark pricing

Local conditions vary substantially, so it's not possible to say exactly how much you'll pay to have a mature tree planted in your yard. The two variables are the cost of the tree and the cost of moving it to your site. Unless you're transplanting a tree from your own property or have been offered one for free, you'll probably buy from a

local nursery. And, while prices vary widely, it's a good bet that you'll spend at least $200 for a locally common species seven to 10 years old. On the other hand, a perfectly shaped blue spruce can run $350 to $500. In other words, the tree can be the wild card in your pricing estimates.

As for the moving costs, where you live will influence what you pay. Operators who have to deal with heavy traffic, long distances or rocky soil that takes its toll on equipment, will charge more. Some charge by the hour (often $60 to $70), while some set a basic fee and add mileage, and others fix a price for the entire job. In most cases, you can expect a volume discount. If the moving costs for one tree were $100, you might get six trees transplanted for a moving fee of $30 apiece. In our case, we paid $125 for our tree and $100 for the move.

Aftercare

The care you give your new tree after it's planted will greatly affect its chances of surviving that first, crucial year. The two most important steps to take initially are to stake the tree so it's adequately supported and to backfill the seam between the root ball and the surrounding soil.

Drive at least three heavy stakes into the ground, well beyond the root ball, and anchor the tree to the stakes with wire or nylon cord (Photo 5). To keep from abrading the tree trunk with the support ties,

run the wire or cord through a short length of garden hose where it meets the tree. You can also buy products for this purpose.

As for the root-ball seam, the goal is to eliminate any air pockets between the ball and the surrounding soil. In loam or sandy soil, simply flooding the gap may do it, but in most cases you'll need to pour soil or sand around the seam and then flood the area with water. If you see the gap opening later, repeat the process.

Adequate water is another critical factor. Because it's just as easy to kill a tree with too much water as with too little, you'll need to watch the situation carefully. Soil type is the biggest factor. Heavy clay soils don't absorb water very well, so overwatering is more likely in clay. A good test of soil percolation is to flood the hole one-third full of water just after it's dug. If most of the water soaks away in about an hour, overwatering will be less likely.

In any case, after the tree is planted and backfilled, flood the seam thoroughly (Photo 6). With non-clay soils, repeat the process a few days later, then water normally, just as you would your lawn.

As for fertilizer, wait until the following growing season. The goal in the beginning is not tree growth but root healing. If you add anything, make it a root stimulator, which is primarily vitamin B-1. These common plant starters may

contain some fertilizer, but will have little or no nitrogen. The best time to add a root stimulator is when you flood the seam initially.