

When the tree is large, we use a platform. The platform is a double layer of oak planks nailed together and laid at right angles to each other for added strength. At each corner a hole is drilled through the platform for a loop cable. The ball is then securely placed on the platform. When winching the tree out of the hole and on to the carrying vehicle or equipment, the stress is applied to the platform via the loop cables, not to the soil ball.

Once the tree is lifted out of the hole without damaging the ball, the ball is tied underneath and criss-crossed with twine until taut. All roots should be cut before the tree is tilted on its side.

Remember to have one flat side on the ball to facilitate transporting. If you do not have a flat side, chances are the ball will be damaged when tilting. Large trees need to be tilted in order to travel over roadways without coming in contact with overhead wires, cables, branches, and when going under bridges. The minimum height for utility wires are 17' and bridges from 13'6" to 17'. When moving a large tree check your route first and measure the heights of overhead wires, trees, and bridges. Occasionally an overhead blinker light or street light may prevent use of a logical route.

In New Jersey, permits from the state are required for oversized moves. For a governmental agency there is no cost but for a commercial operator there is a charge of \$75. The state transportation department must know your route, the time you are to move the tree, and how long it may take. The move must be properly flagged with warning lights flashing. The local police and nearest state police barracks must be notified before you start.

At the new site adjustments may be necessary to set the tree properly in the ground. I recommend the ball be slightly higher than originally found in case of settling and to insure good drainage. A three to four inch wood chip mulch should be spread over the ball area and over an additional two feet of diameter around the ball. This insures better moisture retention and helps control soil temperature throughout the year.

Guy large trees. We lost a large Colorado blue spruce because a guy cable broke during a severe windstorm. It went unnoticed for several weeks, and the ball had broken.

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ABSTRACT

REIL, W.O. 1979. **Pressure-injecting chemicals into trees.** California Agriculture 33(6): 16-19.

Equipment to inject pesticides or nutrients into trees under high pressures has been developed and used in the last five years. Because of such recent development, limited knowledge is available on techniques, procedures, and uses of injection. Observations and the experiences of researchers and farmers are summarized here to improve injection techniques. Drill holes on the thickest areas of the trunk (ridges). These areas are in active growth and will take up liquid rapidly. Liquids move more rapidly in the recently formed xylem directly underneath the bark and transfusion rate decreases with depth. The screw, therefore, needs to be set as shallowly as possible. Materials inject most readily when the tree is vegetatively active; therefore, late spring, summer, and early fall are the best times for maximum uptake. The ideal injection pressure is that amount that will provide the maximum movement of solution into the tree without physically damaging it; pressures may vary from 100 to 200 psi, depending on tree species. Water-soluble materials can generally be injected easily, although many of the larger-molecule organic materials go in at progressively slower rates.