

DUPLEX GRAFTING OF HEMLOCKS

RICHARD BUSH

*Richard Bush's Nursery
8051 S. Lone Elder Road
Canby, Oregon 97013*

Duplex grafting is a technique for avoiding possible delayed incompatibility in those cultivars classed as shy rooters from cuttings. A duplex graft is essentially using a nurse root provided by the understock. An approach graft is made in the normal manner on an understock established in a 4-in. pot. The first difference occurs when we tie with an $.016 \times \frac{1}{4} \times 4$ -in. long budding rubber and put the slip knot on top, spacing the wraps very open, about equal distance untied area to tied area.

In the next step, we use a small $\frac{1}{2}$ in. wide camel hair brush to apply an auxin over the entire cut areas. We use Wood's Rooting Compound $\frac{1}{10}$ strength, which is 5,000 ppm IBA and 2,500 ppm IAA. Now a "Twistem" is securely tied just below the base of the cut (this will girdle the rootstock as it grows). "Twistems" are small steel wires covered with paper.

Next, we transplant the rootstock into a pot 3 in. taller but with the same base dimensions as the above described pot. The top of this pot is filled with perlite or other rooting medium to the top of the bud strip which hangs out. When this method is used in summer we place the grafts under intermittent mist. When done in spring or fall, the grafts are placed in cold frames and, in winter, they are put in the greenhouse. The rootstock top should be removed in stages, as in any other method.

At the end of the first year the slip knot on the budding rubber is pulled and it is snaked out. Three or four months later the plant is transplanted into a 1-gal. container. At this time one will note that the rootstock is completely girdled by the "Twistem." If one is concerned by the new roots initiated by the rootstock above the "Twistem" they can be removed at this time, leaving the cultivar hemlock totally on its own roots.