

# Propagation of Japanese Maples by Softwood Cutting and Grafting

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## METHODS OF PROPAGATION

At Greenleaf Nursery in Park Hill, Oklahoma, we use two main methods of propagating Japanese maples (*Acer palmatum*), softwood cuttings and grafting. Although we are constantly experimenting with new techniques, the basic ideas remain the same.

We grow four main cultivars: 'Bloodgood', 'Oshio-beni', 'Ever Red', and 'Viridis'. Only two of these, 'Bloodgood' and 'Oshio-beni', produce a good enough root system to suit our needs when they are grown on their own roots. The other two cultivars are grafted because they root poorly and develop weak root systems when they do root.

## SOFTWOOD CUTTINGS

The cuttings for 'Bloodgood' and 'Oshio-beni' are taken when the new spring growth hardens, usually early June in our area. Approximately 6-in. cuttings are taken, and all but the last two leaves are stripped. We wound both sides of the stem, and the base is quick-dipped in an 1,800 ppm solution of IBA. The cuttings are then stuck in a 1 sand : 1 pine bark (v/v) mix. Mist is applied about every 15 min as weather conditions warrant.

In the fall the rooted cuttings are dug, potted in a pint pot, and placed in a quonset for overwintering. The quonset thermostat is set at 35°F to allow cuttings to become dormant but not freeze. The following spring, after the danger of frost, these Japanese maples are shifted into 3-gal containers and grown for three more years.

## GRAFTING

Grafting is the principal method of propagating the Japanese maples. A successful grafting program depends first of all on good understock.

**Producing Japanese Maple Understock.** To produce your own understock, you usually must buy seed from a commercial seed dealer. This is not a problem, but you might want to keep in mind that first, in my opinion, green-leaved types are a little more vigorous than the red-leaved types. Therefore, I like to use the green ones for understock. The red-leaved understock can be grown on just as a seedling. Some of these red seedlings can be outstanding and make excellent landscape material.

Another thing to remember is that seed dealers generally handle seed that has been dried so it can be stored. If you plant this dried seed directly in a flat or seed bed, you will get about 5% germination the first year, 25% the second year, and scattered germination for the next several years. To prevent this problem, plant fresh seed or soak the dried seed in water that starts at 120°F. Allow water to cool slowly. This soaking should last 24 to 48 h. Whether you use fresh or dried seed, it must be stratified for 60 to 120 days before planting.

Plant the maple seed about  $\frac{1}{4}$  to  $\frac{1}{2}$  in. deep. If everything cooperates, you should have usable understock by that fall. I like to use one-year seedlings with a caliper of  $\frac{3}{16}$  to  $\frac{1}{4}$  inch.

**Get Ready to Graft.** Finally, in early to mid-January we are close to the time to start grafting. Approximately 2 weeks before you want to start grafting, dig and pot the understock and place plants in a greenhouse with a temperature of about 65°F. When the buds start swelling but have not produced leaves, GRAFT! Do not wait. Timing is very critical. If you delay until the leaves form, the understock will be producing too much sap and the percentage take will drop significantly. I have been told by people in Oregon that they do their potting and grafting at the same time.

**Grafting Technique.** At Greenleaf, the method we use is a side graft, just like a juniper graft. The understock is just starting to grow and the scion is totally dormant. We use a 6-in. scion, and shape the base of the stem into a wedge by making a 1 to 1½-in. cut on both sides. It is very important to use an extremely sharp knife when doing any cutting on Japanese maples. This prevents bruising of the cambium. We use a utility knife that has replaceable razor blades for a cutting edge. Next make a slice into the base of the understock that is just slightly longer than the cut on the scion. Carefully slip the scion into the under stock and wrap the union with a grafting rubber. The cambiums must match on at least one side. Then we use a graft-sealing paint to cover the wound at the top of the scion.

Now, the freshly grafted plants are rushed into a greenhouse that has bottom heat. They are placed on the bench, and fine ground, moist pine bark is placed around the union. The pot temperature is maintained at 70°F. The pine bark is misted when it starts to dry out on top. When the union is well callused and the scion is vigorously growing, the understock above the graft can be cut off. Sunlight will break down grafting rubber, and it will fall off.

## SUMMARY

There are undoubtedly as many different methods of propagating Japanese maples as there are different propagators. These are the methods we use at Greenleaf Nursery. Just remember that you must have good understock, good scion material, good technique, and good timing for a successful program.