GROWING ACER PALMATUM FROM CUTTINGS

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Propagation of maples has always been considered a difficult task. Some maples, such as *Acer platanoides* and *Acer saccharum*, can be readily grown from seed, while others, such as *Acer griseum*, produce few fertile seeds, and these are difficult to germinate. Some maples, such as *Acer saccharinum* and *Acer rubrum*, produce seeds which will germinate soon after falling to the ground in midsummer, while seed of other species, such as *Acer negundo* and *Acer triflorum*, develop a hard seed coat which must be treated by scarification and they also need to be stratified. Most maples available in nurseries today have been grafted.

Only in recent years has the propagation of maples from softwood cuttings become practical. Two new techniques, the use of controlled mist and the availability of polyethylene plastics, have made this possible. The use of controlled mist in rooting softwood cuttings is not new, but its use on a widespread scale is. When a polyethylene cover is used, mist is unnecessary.

One maple currently being propagated from softwood cuttings with great success is *Acer palmatum* and its many forms. Several factors are involved in making this a successful operation: the type of cuttings taken, their preparation, the rooting medium, and, perhaps most important of all, proper timing to enable newly-rooted plants to be set out in cold frames or lathhouses early enough in the season so as to establish new growth before the dormancy period is encountered in the fall.

Softwood cuttings are made from actively growing wood collected from young plants; in many instances the age of the stock plant determines whether or not the cuttings will root. The younger the plant from which the cutting is taken, the better are the chances of success. Tip cuttings are used because they root readily.

Cuttings are cut four to six inches in length with basal leaves removed from that portion of the stem which is to be inserted in the rooting medium. The cutting is wounded on one side through the cambium layer, and is then dipped in Hormodin #3 or in a full-strength solution of Jiffy Grow, then inserted into the rooting medium. If Hormodin is used, it is advisable to use one part Captan to three parts Hormodin to prevent damping-off. If Captan is not mixed with the Hormodin, cuttings may be dusted with Captan.

A good rooting medium consists of 3 parts peat to 1 part sand or perlite. Vermiculite is unacceptable because it becomes slimy if too much water is used. The medium should be crumbly-damp and about six inches deep. Perhaps the most essential requirement is that it have good drainage. Bottom heat is used.

After the properly prepared cuttings are carefully inserted in the medium, the entire bench is covered with polyethylene and sealed with laths. If plastic is not used, mist is necessary. Experimentation with lights — fluorescent, red, and Grolux, has indicated no great differences or advantage in rooting. Rooting normally occurs in three to five weeks.

As soon as adequate roots have formed, plants are transferred to individual pots, hardened off, and sunk in a cold frame with shade overhead. They are left out all winter. A mulch is unnecessary. The important thing is to have the plants rooted as early as possible to permit them to make some new growth before the dormancy period. Plants which do not continue to grow and develop some new growth after being potted will not break dormancy in the spring.

To summarize — if cuttings are taken as early as possible, are properly prepared, and are set out in sufficient time to make some new growth before they go dormant in the fall, 80 to 90 percent will root, and 60 percent of those rooted will grow through the first year after potting.

MODERATOR CLARKE: Thank you very much. Our next speaker is a horticulturist at the Santa Barbara Botanic Garden located at Santa Barbara, California. Mr. Dara Emery will speak on some native plants of the Santa Barbara area and their propagation. Mr. Emery.

THE PROPAGATION OF SOME NATIVE CALIFORNIA PLANTS

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The Santa Barbara Botanic Garden is devoted exclusively to native California plants. The propagation unit at the garden consists of a small glass house, a lathhouse with a hotbed inside, and an intermittent mist unit with bottom heat located outside in nearly full sun. A modified U.C. mix is used for seed flats and pots. The canning soil, sterilized, is variable depending on what is obtainable. Cuttings, after being prepared are totally immersed in a malathion-Captan solution and, in most cases, the basal portion is dusted with Rootone. Because of our highly mineralized water, cuttings in the mist unit not rooted by 2½ to 3 months have very little chance of rooting and by 4 months are dumped. As soon as cuttings are rooted in the mist unit they are potted in plastic pots and placed in a hotbed with extra shade for two weeks to harden-off. The following eight native California species have presented propagation problems of one type or another.

Tree anemone, *Carpenteria californica;* this is an attractive evergreen shrub which grows 4 to 7 feet tall and as much across. Its foliage is dark green, and the flowers, borne in