

PROPAGATION AND PRODUCTION OF *ACER PALMATUM* 'DISSECTUM' CULTIVARS

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In Oregon, we use two successful methods for increasing the several named clones of *Acer palmatum*. The older method is the side graft, used in the grafting of many ornamentals. This operation is done in the greenhouse during late winter — January and February. For a number of years several nurserymen have been using a modified budding method called "The Bud Stick" method. Those who are doing it this way are getting excellent results. I will cover both methods in this paper.

We use *Acer palmatum* for understock, shifting a heavy seedling or rooted cutting from a 2¾ inch rose pot to a standard 1 gallon container. This is done in the early spring to assure growth by the dormant season of the following fall. This understock is grown in a covered plastic structure and reaches a height of 3 to 4 feet with a caliper of a lead pencil size or larger by the time it is budded. In the Southeast the shade house would do the same job.

Side graft. About two weeks before we are ready to graft, we shift the understock to a heated house, cutting the understock back to a height of 2 feet. We trim off the side branches, leaving a few close to the tip of the understock with an eye or two to encourage sap uptake to the area where we will be placing the side graft or bud stick. While in the process of shifting the understock to the grafting house, we segregate according to caliper and height of standard. The understock of smaller caliper is set aside for grafting the upright cultivars. We label each block of understock so that we know beforehand how many of a cultivar we will graft.

Just as soon as the buds begin to swell, we start grafting. In the meantime we cut the scion wood and store it in plastic bags in a cool place. We use some wood from the field; however, the majority of our scion wood comes from several large stock trees. We take only enough wood from storage for 2 hours grafting. Some of the wood is of small caliper, and the buds are small. If kept warm it could easily become dry. We use a heavy scion with one pair of "eyes," or on lighter understock we may use a scion with 3 pairs of "eyes" or more.

A thin, long cut is made in the understock about 1¼ to 1½ inches in length. At the base of the cut we go a little deeper to help hold the scion in place as the graft is wrapped with budding rubber. A long slim wedge cut is made on the scion 1¼ to

1½ inches in length. A little of the lower end of the wedge is “dubbed” off and pushed down firmly into the cut on the understock. The cambium of the understock and the scion must match on one side. If possible, match both sides. Starting at the top of the graft, we wrap down with some tension on the budding rubber. We use Tree Seal, undiluted, applied with a narrow brush, to cover the entire graft. A good grafter can get by without the Tree Seal; however, it is good insurance.

We use the same side graft method in grafting the upright Japanese maples. The upright Japanese maples are grafted low, yet high enough to make it easy to make the cut and properly wrap the graft. The upright maples are a great deal easier to graft. They also grow faster. Some ‘Sango-kaku’ and ‘Sherwood Flame’ will be 3 to 4 feet after one year in the field.

Following completion of the grafting, aftercare is most important. The understock will send out new growth from top to bottom. Cut back half of this new growth to reduce competition. Since new growth helps the movement of sap, we save at least one side shoot close to the graft until the graft is in vigorous growth.

The newly grafted plants are kept in a covered plastic building until early fall. They are then lined out in the field in rows, 4 feet apart, with 2 feet spacing in the row. The lighter standards can be staked for the first year.

Stick budding and regular budding. Both methods of budding are done during the late summer months in the field on established understock. A “T” cut is made on the understock used for stick budding just as in regular budding. A small diameter wedge shaped scion about 1 inch long is inserted in the “T” cut and wrapped with a budding rubber. On large understock we use several buds, which sometimes will give a saleable tree sooner than the greenhouse side graft.

We who are a little old fashioned feel that this large understock may not transplant too well, for it has been in the nursery row too long without being root pruned. There are several other drawbacks to “T” budding. If budded early enough, several inches of new growth may develop. A hard frost in mid-September can kill the buds or so injure the new growth that the supposed advantage is wiped out. Some years it is a problem to get mature wood or buds at budding time. Besides, it is most pleasant grafting in a warm house when the weather is unpleasant outside.

It has been reported that rooted cuttings of *Acer palmatum* lack the vigor of the seedlings and should not be used for understock. We have used both and see no difference in the end results. We stick dormant node cuttings in flats of sand:perlite,

1:1, 300 to 400 per flat. We use Hormodin #3 for the rooting compound and bottom heat of 70°F. A supply of cuttings is insurance against the time when *Acer palmatum* seedlings are not available.

PROPAGATION OF *PICEA GLAUCA* 'CONICA'

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We began experimental production of *Picea glauca* 'Conica,' dwarf alberta or dwarf white spruce, about 3 years ago in search of some new items to add to our production. It was our opinion that we could propagate this plant without too much difficulty, but we were not sure that we could adapt it to our operation. Our production is such that it is not feasible for us to root any plant that we cannot propagate in quantity.

We began by sticking a limited number of cuttings in December in the manner that we stick *Taxus* cuttings. The cuttings were stuck in ground beds in a poly house. The medium consisted of soil, finely ground pine bark and coarse sand. Since there was no heat in the house, the cuttings did not root until early summer after the soil had warmed to about 70°F. During the winter, the cuttings were kept turgid by light intermittent mist. The mist was removed after rooting had been accomplished. The plants were grown under 50 percent shade and responded well to fairly heavy applications of fertilizer. During the following winter, the plants were kept in a poly house with no heat. During the second summer, the plants were grown under shade in the same beds in which they were rooted. By the end of the summer the plants were 3 to 6 inches tall and large enough to go into a gallon can.

Now that we were fairly sure of our procedure, we were ready to put this plant into production. Our big problem was finding enough cuttings to justify propagating the plant. We were able to purchase some unrooted cuttings and continue our experiments for an additional two years. During the intervening period we talked with as many propagators as we could to gain more knowledge about the plant and about its propagation procedures. We were of the opinion that taking dormant cuttings during the winter was the best method. However, we discovered that some people were rooting cuttings in pure sand during the summer with excellent results.

This year we decided to purchase sufficient plants for cut-