

terested in such a wide range of material — from unrooted Erica cuttings an inch long, to grafted plants of named macadamias over three feet tall, there can be no rules for treatment and each consignment must be dealt with according to its requirements. Success in getting the plants through the first few weeks of the quarantine period is a combination of common sense, instinct, and quite a bit of luck!

GRAFTING MAPLES FROM IMPORTED SCIONS

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Preparation. A suitable number of stocks of each cultivar are potted into large propagating tubes and left in a shadehouse to grow on as normal. This was done in mid-winter. A cold frame measuring approximately 4 ft. x 4 ft. and 2 ft. high at the back, falling to 18" in front, was built of 0.005 grade white plastic film and 2" x 2" battens. This was sited in a sheltered area with overhanging trees providing a moderate amount of dappled shade. This frame had a roll top with sufficient overhang so that it could be battened down at the sides so as to be made reasonably airtight. A layer of sawdust about 6" deep was laid in the bottom of the frame.

Grafting. During late spring in 1971 (the first week of November) a consignment of scions arrived from Hilliers in England and these were grafted immediately. By this time the stock plants had put on a lot of new growth, and a large number had to be cut back at the time of grafting — mainly to conserve space. For the *Acer negundo* and *A. palmatum* cultivars the side graft was used, but as some of the *A. pseudo-platanus* stocks and scions were quite thick, a few were done using the cleft graft. The grafts were tied with raffia, but no wax or grease was used. The grafted plants were then plunged into the sawdust, completely covering the grafted area. The top of the frame was then rolled down and battened in place.

Treatment. The frame was opened for the first time after four weeks. By this time the majority of the grafts were showing definite signs of growth, and those which had obviously failed were taken out and destroyed. The remainder were then sprayed with a fungicide to prevent the spread of fungus and mildew. During the next two months, the grafts were gradually hardened off by leaving the frame open for longer periods. They were also watered quite heavily during this time.

The growth was so good up to this stage that it was decided to pot them on into half-gallon containers, and they were then stood in the open in the same area. When they were cleared from quarantine in November 1972, they were planted outside in a sheltered area.

Conclusions. The results of this venture were excellent, about 90% of the grafts being successful, although the *A. negundo* cultivars proved to be the most difficult. As far as the *A. pseudo-platanus* cultivars were concerned there was no noticeable difference between those that were side-grafted and the few cleft grafts that were used.

We consider that the success can be attributed to the fact that the scions arrived in such an excellent condition from England and were immediately grafted onto vigorously growing stocks.

ASPECTS OF SEED SUPPLY AND GERMINATION PROBLEMS, SUCH AS DORMANCY, AND THEIR TREATMENTS

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One of the greatest disappointments in a nurseryman's experience, both economically and personally, is a failure in seeds germinating satisfactorily, especially if this failure occurs in a new and potentially interesting cultivar. This is even more so when expectations of a new or improved strain, resulting from a crossing personally initiated, fail due to the seeds to even germinate.

There are 4 basic factors that could cause poor or non-germination of seeds:

- (1) Was the seed viable prior to sowing?
- (2) Were dormancy factors taken into account?
- (3) Were the physical constituents of the seed bed at optimum levels?
- (4) Was there any evidence of pathogens, either externally or internally on the seed, in the germinating medium, or contained in the various ingredients added or surrounding the germinating medium at a later stage; for example, in the water or air?

Seed viability. Obviously it would be uneconomic to sow seed that does not even have the ability to germinate. Thus the first requirement becomes obvious. Will the seed grow if all other germi-