

ACERS FROM CUTTINGS

MISS J. M. ANSTEY

*Coblands Nursery,
Sevenoaks, Kent*

It seems ironical to me that such an acknowledged expert as Jim Wells can write a book in which he deals with a subject such as this and then you ask me to stand up and speak on the subject. Nevertheless, such is human nature that we had taken cuttings of *Acer palmatum* 'Atropurpureum' two years running before I thought of seeing what the experts had to say! Most of what I am going to say now concerns the difference between muddling through in our own way and learning from other people's mistakes.

Early in 1968 it was decided that we should try *Acer palmatum* 'Atropurpureum' from cuttings. Thirty-three stock plants were therefore taken under glass in February, bedded in a frame filled with peat and given regular doses of liquid feed throughout the growing season. The temperature was kept at a minimum of 45°F and, at the beginning of April, the first batch of cuttings were taken when the shoots were long enough and one pair of leaves had fully expanded. Cuttings were then taken at intervals until the beginning of May when the materials ran out and a long delay followed until more became available — from the same plants — in June.

The cuttings were made 3 to 4 inches long, some of them cut at a node in the usual manner, some cut at the base where the stipules leave a type of 'node' when they fall off. It didn't seem to make any difference one way or the other. All were treated with Seradix 1 and inserted in trays of 50/50 peat and sand then placed under mist where they rooted in three to four weeks. When they were potted in August, 65% had rooted. Most of these were potted in Arthur Bower's compost but some were put into 50% John Innes plus 50% peat and these were by far the best; most of those that survived the winter were from the latter batch. Overwintering, or encouraging them to grow on, is definitely the biggest problem, at least as far as we are concerned. Of the 900 or so plants potted, only 50 survived until spring, but even this was enough to encourage us to try again.

In the next trial the stock plants were left in the glasshouse. We didn't know whether we ought to leave them in or take them out but it does not seem to have done them any harm and they started into growth earlier in the year so that the cuttings could be taken over a much shorter period of time (in fact a fortnight instead of a month). They were treated as before — Seradix 1 and 50/50 peat and sand. They rooted in about a month and were potted during the second week of July. At this stage 50% had fairly good roots and these were potted. But those that were very poorly rooted and the ones that were not rooted at all were put back into the mist. Although Mr. Wells recommends this procedure it didn't really seem to be worthwhile in this case. Of the ones not already starting to root

only 26% responded. But this did boost the total 'take' to 63% — or more or less the same as last year. So far we had repeated the previous year's results but this time the whole lot was potted into a peaty John Innes mix.

Sometime in June, however, I decided to see what Mr. Wells said on the subject and we found several discrepancies between his method and ours. I'll just repeat the relevant parts of his summary —

1. Take cuttings early in the season.
2. Take strong vigorous tip cuttings of fairly thick wood from actively growing plants and make cuttings 8 to 9 inches long if possible.
3. Wound with a heavy wound.
4. Treat with 2% IBA
5. Use a rooting medium containing 80 - 90% peat, the remainder being coarse grit.
6. Maintain conditions of high humidity; this, of course, is provided by the mist unit.

We followed these instructions as closely as possible, making only two amendments. Firstly, as the season was already fairly well advanced we took our cuttings on July 3rd — but as our plants were under glass and Mr. Wells's were in the open there may have been some compensation here. Secondly, we continued to use 50/50 peat and sand, as our mist unit tends to get very wet. These cuttings were weaned on July 25th and potted last week. The percentage take was 74 which is not as good as Mr. Wells' 80% but it is acceptable. The really amazing thing, however, was the difference in the quality of rooting. The early batch produced two or three thick, brittle "water" roots; the later batch had good, healthy, fibrous root systems. I think the size of the cutting, the heavy wounding and, above all, the strong hormone, were responsible for this and, undoubtedly, the cuttings could have been potted a lot earlier had we had the time.

Of course, we still have the problem of getting them into growth and overwintering them. I feel that with root systems such as these have there ought to be a far better chance of survival than previously. But is it the roots that count or the top growth? Some of the early batch have already produced extension growth, some have only produced a couple of new leaves, and in some the buds haven't attempted to burst yet. I would think that cuttings with extension growth are more likely to overwinter than those without, but I don't really know. None of the second batch has made any new growth at all so far, though they look strong and healthy.

Two more things we are trying this year. Firstly, we were told that when we pot the cuttings we ought to take off the old leaves to force the plant into growth. With the first batch we took some off and left some on but the ones left died and dropped within a day or two so it made little difference anyway. With this second batch the leaves look so healthy that I dislike

removing any; nevertheless I have hardened my heart with some of them and wait now to see if it makes any difference.

Secondly, we are trying to encourage growth by the use of supplementary light; 200-watt lamps are suspended three feet above the plants and left on all night. And with this treatment goes a high potash feed. We hope by this means to overwinter a good batch of plants which will make the exercise worthwhile and also establish the routine to be followed next year. If anyone has any suggestions to make — particularly with regard to the problem of growing-on — we shall be very pleased to hear them.

MISS ANSTREY: Which type of rooted cutting overwinters best — plants with good root systems but no extension growth, or those which have made appreciable new growth?

BRIAN HUMPHREY: Why not leave them in the boxes until spring instead of potting them up? I would expect almost 100% survival this way without much difficulty.

C. E. SALTER: With long cuttings, take off the two top buds to get a break. Cuttings must be at least 3 nodes to be able to cut off the top and get good growth before winter.

PETER VERMEULEN: We use Jiffy pots under a plastic cover.

JIM WELLS: At Beltsville, Maryland, it has been shown that Acers react strongly to extra light. Never take the leaves off the cuttings and keep the plants at low temperatures overwinter.

PROBLEMS IN RAISING ORNAMENTAL STOCK FROM SEED

PETER DUMMER
*Hillier & Sons,
Winchester*

Over the past few years there has been an ever-increasing demand for large quantities of trees and shrubs and, as a result, we have had to change some of our methods of raising stock from seed.

Various reports, such as those of the I.P.P.S., and the Woody Plant Seed Manual (published by the Forestry Service of the U. S. Department of Agriculture) have been found particularly useful. This latter book is notable for its detailed work on the treatment of seeds with sulphuric acid. A visit a few years ago to the Forestry Commission Nursery at West Moors, near Ringwood in Hampshire, also provided us with ideas on different seed-raising techniques. These changed practices have increased the quality of the seedlings we have raised and reduced our production costs.

DORMANCY

In most cases dormancy originates in genetic conditions of the seed itself, or by improper handling of the seeds at harvest