

a garden setting. *P. a.* 'Nidiformis', *P. a.* 'Pumila Glauca' and *P. a.* 'Repens' are examples, but the latter two showed much reduced rooting in this observational trial; the consistently high rooting percentages of *P. a.* 'Nidiformis' over the entire period of the trial suggests it would be a suitable nurseryman's cultivar. The attainment of a saleable size quickly is also an important consideration; plants of cultivars, Barryi, Capitata, and Dumosa, after two growing seasons, are 20 cm, 24 cm and 18 cm across respectively.

#### ACKNOWLEDGEMENT

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#### LITERATURE CITED

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#### VEGETATIVE PROPAGATION OF JAPANESE MAPLES AT KINSEALY

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In earlier trials on the propagation of *Acer palmatum* cultivars the methods similar to those described by Wells (1) and Anstey (2) gave satisfactory rooting percentages. Young, actively growing, shoots from outdoor trees wounded and treated with Seradix 3, rooted well in a mist unit but it soon became apparent that overwintering losses were high. Subsequent trials, therefore, dealt with cultivar difference in rooting ability and treatments to ensure better winter survival.

Over the three seasons, 1970-1972, the cultivar, *Atropurpureum*, has been one of the easiest to root. In April, 1970, cuttings were taken from mother bushes forced under glass. After potting the rooted cuttings, subsequent development was observed under three treatments:

- 1) Pots plunged in a sheltered and shaded bed out of doors.
- 2) Kept under glass, minimum temperature 15° C, ventilating at 27° C (sun heat)
- 3) Same as for (2), but given a 17 hour day by means of 75 watt tungsten filament bulbs from August 19 to October 14

Overwintering losses were heavy in the plants kept out of doors. Those kept under glass made up to 30 cm extension growth before leaf fall, with further extension up to 80 cm in the illuminated plants. No losses occurred in these plants.

Similar results were obtained under glass in 1971, from cuttings taken in March. By leaf fall the plants averaged 49 cm (not illuminated) and 63 cm (illuminated July to October).

In 1972 mother plants were placed on January 29 in:

- 1) Glasshouse heated as in 1971
- 2) A plastic house with no artificial heat

Cuttings in the glasshouse were taken from February 7 to February 28. Those in the plastic house (sun heat only) were not ready until April 4. Rooting was good in all cases (80 to 90% in 22 to 36 days).

The rooted cuttings were grown-on in pots in the heated house. By mid-July the February cuttings had developed into plants 30 to 50 cm in height, while those from the plastic house were 20 to 30 cm high.

These results indicate that while forcing in heat to get early cuttings will give bigger plants before the end of the year, mother plants of cv. *Atropurpureum* forced in a plastic house will give cuttings sufficiently early to ensure good shoot growth the same season, an essential for good overwintering potential. Though further work is needed to check the point, observation suggests that mother plants forced in an unheated plastic house give a more uniform flush of cuttings. Three such plants gave 100 cuttings on April 4, as compared with 90 cuttings over the period February 7 to February 28 from three similar plants grown under glass. The mother plants were purchased specimens, grafted, and apparently four years old.

Under conditions in U.S.A., Wells (1) recommends that cuttings be taken from actively growing plants. We have had 100% rooting of cuttings of '*Atropurpureum*' taken at the first stop stage. In our experience the/earliness of taking the cuttings is more important than waiting for a stop in growth.

In other trials the cultivars, *Atrosanguineum* (outdoor cuttings in May) and *dissectum* Inabashidare (forced under glass in April and May), rooted 90 to 92% in 25 to 45 days. By July the April cuttings of the latter had made 10 to 14 cm new growth but the May cuttings had scarcely started to make extension growth. Notable has been the ease of rooting of 'Senkaki'. Even comparatively poor material taken in June rooted well, made good growth, and overwintered without loss.

Cultivars of *A. palmatum* that have been comparatively difficult to root at Kinsealy include var. *heptalobum* 'Osakazuki' and var. *dissectum* 'Paucum'. Though the final percentages of the former have been from 43% to 90%, rooting has been prolonged (heated house cuttings) necessitating two lifting dates (30 and 70 days). Rooting from mother plants in the plastic house has so far been low (26%, 50 days). *A. p.* var. *dissectum* 'Paucum' in initial trials (April, plastic house) has given 28 to 55% rooting after 40 to 50 days, but by July the cuttings had not made new growth freely.

*A. japonicum* 'Aureum' has given good rooting (83 to 100% in 22 to 43 days) from mother plants forced in March and April. Growing-on has been difficult owing to leaf scorch, attributed to greater susceptibility to salt concentration in the compost. Insertions of *A. japonicum* 'Vitifolium' rooted readily (87 to 93% in 29 to 40 days) and have made good extension growth.

In our trials with Japanese maples we noted that they respond readily and quickly to forcing. Both mother plants and young stock have grown well in plastic structures. The deeper colour of cv. *Atropurpureum* has been notable under plastic as compared with similar plants under glass. Overwintering in the plastic house has been satisfactory. Though *Botrytis* infection of the shoots appeared, a spray with Captan gave good control. Loamless composts have proved good for container grown specimens but vine weevils appear to be especially attracted to these plants and have caused losses unless controlled.

By the methods described it has proved feasible to produce container grown *A. palmatum* in bush form of saleable size in 12-15 months. We have also had good success in the production in one year of standard (60-75 cm) specimens of 'Atropurpureum' from early (March) cuttings. A single stem is run up, side shoots being pinched and finally removed during the winter.

#### LITERATURE CITED

1. Wells, J. S. 1955. *Plant Propagation Practices*, Macmillan, New York.
2. Anstey, J. M. 1969. Acers from cuttings. *Proc. Int. Plant. Prop. Soc.* 19:211-213.