

course, we have had the experience of training 3,500 instructors to date.

May I leave you one final thought that has been proved by experience: that if training is a part of the management function, then management should be seen to regularly guide, influence, and take an active interest in the programme of training agreed.

PROPAGATION OF JAPANESE MAPLES BY GRAFTING

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Several earlier papers presented at IPPS conferences concerning the propagation of Japanese maples have specifically described propagation by cuttings or winter grafting. At Exbury we propagate by summer grafting so a summary of our technique may help to complete the overall picture.

Understocks. Two-year seedlings of *Acer palmatum* are potted into 8 cm rigid plastic pots during the dormant season and stood pot thick in a cold frame or on a protected open bed until required for moving under glass. Towards late spring or just after new growth has started to appear the plants are cut back to 40-50 cm in order to facilitate handling at time of grafting. If this early pruning is overlooked the tops of the understocks can be cut back later in the year but it has been observed that late cutting shortly before grafting can severely reduce the foliar area at a critical time and weaken the plants. During mid- to late-June the potted understocks are transferred to a well-ventilated glasshouse and kept as dry as possible, without allowing the plants to wilt, for three to four weeks. Temperatures are maintained below 65°F, as practicable, by ventilation and shading.

Selection of scion material. Scions 10-20 cm long, preferably with three to four pairs of leaves, are selected from current season's shoots with a base of two-year wood 3-5 mm in diameter. One year wood with a firm base is also suitable, especially towards the end of the season when shoots are mature. Terminal growth should have ceased by the time scions are collected. All leaves are removed with secateurs, leaving 5-10 mm of petiole.

Grafting. Ideally grafting is undertaken between the last week in July and the end of August using a side veneer graft

2-4 cm long tied with 6 mm wide rubber tape. It is not necessary to completely cover the union and narrow gaps between each turn of the tie are acceptable. The small flap at the base of the cut on each understock should not be tied into the scion or bruising and rotting may occur at this point. The union is not waxed. To reduce risk of disease transference from one plant to another on the graft surfaces the knife blade is wiped on a linen pad soaked in a solution of 4% formalin before each new understock is cut. The height of the union above soil level varies with customer requirement and cultivar, but upright-growing plants such as *Acer palmatum* 'Involuta' and *Acer palmatum* 'Senkaki' are commonly grafted at a height of 10 cms while more lax growing cultivars, such as *Acer palmatum* 'Dissectum' and *Acer palmatum* 'Linearilobum' are grafted at a height of 20-30 cm.

Aftercare. The new grafts are laid pot thick on their sides at an approximate angle of 45° in a closed case or polythene tent and shaded. Temperatures should preferably not rise above 70°F. The placing of plants at an oblique angle restricts bleeding from the cut surfaces of the understocks and subsequent separation of the graft unions. No water is given during this period. Callus starts to form after two weeks and if the petioles on the scions absciss this is an indication that the scions are alive and progressing favorably. After a further two or three weeks, when the grafts are firm, the plants are watered as required and given free ventilation. A week later the glass or protecting polythene tent is removed and the understocks are shortened back to 20 cms above the unions. Temperatures at this stage are reduced to 60°F. During November the tops of the understocks are cut back to 5 cm stubs and the new plants stood out in a protected frame until spring. The plants are snagged completely during the following March and thereafter grown on in a shaded site. Take varies from 80-95%. Best results occur on the stronger growing cultivars such as *Acer japonicum* 'Aconitifolium' and *Acer palmatum* 'Osakazuki'.

Cultivars commonly and successfully grafted include:

- Acer japonicum* 'Aconitifolium'
- A.j. 'Aureum'
- A. palmatum 'Chitoseyama'
- A.p. 'Corallinum'
- A.p. 'Dissectum' (and purple forms)
- A.p. 'Heptalobum Elegans'
- A.p. 'Heptalobum Osakazuki'
- A.p. 'Involuta'
- A.p. 'Ribesifolium'
- A.p. 'Roseomarginatum'
- A.p. 'Senkaki'