

**THE FOLLOWING TECHNIQUES WERE DEMONSTRATED:**

The shoot pointed out, the shoot for propping up, the pulled shoot and the standing style.

The basic technique for carefully pulling branches out and creating the tree style by winding copper wire around the stem and bending to shape.

The technique for making a sapling graft; top graft; cleft graft (split graft); spliced side graft (veneer side graft), root graft; up tree graft; down tree graft (peg graft) and a root base graft. Traditional specialist Japanese grafting tools were used for all grafts.

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**PLANT BREEDING AND SELECTION FORUM**

**PANEL MEMBERS:** Jack Hobbs, Jeff Elliot, Dennis Hughes, Keith Hammett, and Terry Dowdeswell

The panel members each gave a short presentation based on their own experience of plant breeding. A general discussion followed which covered the following:

**GERMPLASM FOR BREEDING AND SELECTION**

The “building blocks” of any breeding or selection, whether it is a chance find or a managed programme, is germplasm. Access is important to a wide range of germplasm. This germplasm may come from a range of sources including home gardens, hobby collectors, a breeder’s own resources, or directly from the centre of origin. A recent threat to the availability of germplasm from overseas are the new border restrictions on the importation of genera and species. The new legislation makes importation of some genera or species costly, complicated, and in some cases impossible. “Plant people” should be aware of these problems. It is unknown what the full impact will be of stricter border control legislation on plant breeding. However, if breeder’s and selector’s do not have reasonable access to imported germplasm, then this may result in a decrease in new plant introduction and a decline in these activities in the long term.

**BREEDING OF *HEBE*, *HELIOHEBE*, AND  $\times$ *HEOHEBE***

There is potential in the breeding of New Zealand native plants, particularly in the above genera. These genera offer the possibility of new cultivars with new flower and leaf colours and longer stems. With these genera as with all native plant breeding the surface has only been scratched as to the new cultivars that could be bred or selected. A view was expressed that Claim Wai 262 to the Waitangi Tribunal concerning Maori rights over native flora is a real or potential barrier to using native genera and species for breeding. This claim has yet to be determined and what the outcome will be is unknown.

## **APPROACHES TO BREEDING**

There is no exact method to breed or select new plants. The most important thing is to have a goal and identify what you are trying to achieve. How you get there depends very much on the breeder and the crop. The method can be structured and planned as in the breeding of deciduous azalea, a mix of chance and some planning as in the breeding of *Delphinium*, or chance and skilled observation in the selection of mutations and chance seedlings. All have special skills that should be recognised and value should be added to new plants to reward the breeder's efforts. In a planned breeding programme research is often critical. The barriers to what the breeder is trying to achieve need to be recognised and solved. An example is pollen incompatibility or pollen tube growth abortion. It is useful for plant breeders and selectors to have a list of criteria for making selections. This ties in with having a clear goal.

## **BREEDERS AND SELECTORS NEED THE ASSISTANCE OF OTHERS**

A plant industry needs new plants but breeders also need the industry. Breeders may not recognise value in a plant that another person will and breeders often need help to know the worth of their creations. Always be on the look out for surprises. The plants that a breeder discards may be of value to someone else. The criteria of novelty should not necessarily be the only breeding or selecting aim. It is good practice to involve other industry people in your breeding or selecting activities. These people may not be other breeders but could contribute skills such as commercial knowledge and market information to your breeding and selecting efforts.