

Elite Native Plants for Contemporary Gardens

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Gardening, at least in my view, is one of the great art forms

To achieve the ultimate expression of this art, it is of course necessary to utilise plants with some aesthetic appeal.

Put simply, the more attractive the plants are, the more beautiful the completed garden or landscape can potentially become.

Trying to define beauty is fraught with difficulties, but there are aspects of the appearance of plants that can usually be agreed upon.

It seems to me that in recent years gardeners have increasingly been demanding plants that are attractive in all their characteristics.

Previously, it often seemed that the appearance of flowers alone determined a plants popularity. Two hundred years of dahlia breeding, for example, produced numerous tall straggly cultivars of unsightly appearance, which were esteemed for the few perfect prize winning blooms they produced with great cossetting.

Although flowers are still an important consideration, it is not uncommon today to see beautiful gardens dominated by foliage with barely a bloom in sight.

As a plant breeder I consider my job is to produce plants capable of contributing to the overall quality of contemporary gardens.

Sometimes this is achieved by producing plants of particularly attractive appearance. On other occasions it is performance characteristics that contribute most to a new plants appeal.

Ultimately any new hybrid must be successful in the market if it is to be commercially viable, and therefore ultimately support the breeding programme from which it came.

In Europe it is vital that new cultivars must be suitable for mass production, a trend that is becoming more apparent in this country.

Growers want plants that propagate readily, are not too prone to disease, and that most importantly look great at point of sale.

Home gardeners are also increasingly buying those plants that look great in garden centres (i.e. usually in flower at point of sale)

The days when gardeners were prepared to wait for a plant to mature into something impressive at a future

time seem to have largely disappeared.

My own plant breeding objectives have modified considerably over the years simply to meet the commercial requirements of the market.

For any new hybrid to be successful it must exhibit numerous worthwhile characteristics and very few faults.

Often a single fault, such as an open leggy habit, is enough to see a promising new seedling discarded to the compost bin.

Sometimes a batch of several hundred *Hebe* seedlings will not produce even one worthwhile seedling.

The golden rule of plant breeding, I have found, is to use genetically superior clones as parent stock.

I have worked mainly with native plants, many of which exhibit considerable variation even within species.

Many *Hebe* species, for example, are remarkably variable. A population of about twenty clones of *H. obtusata* that I collected from a single location in west Auckland exhibited enormous variation in leaf size, plant habit, flower size and colour, and even susceptibility to disease.

Every plant was a distinctive individual.

When a parent plant contains worthwhile characteristics, such as resistance to disease, these qualities have a reasonably high chance of being passed on to any offspring.

Realisation of this saw me putting considerable emphasis upon the selection of elite plant material for inclusion in our breeding programmes.

The qualities that these foundation parents imparted to early generations of hybrid seedlings were still being expressed in the relatively complex hybrids produced several generations later.

Another key aspect of breeding programmes is to develop clear objectives from the outset.

My perfect *Hebe* would go something like this: a prolonged and appealing floral display, handsome healthy foliage, fully hardy, and all of this on a compact shrub that does not require pruning or spraying. It may not seem much to ask, but it has proven remarkably difficult to achieve.

To capture the imagination of the market, any new hybrid must also be distinctively different in appear-

ance from anything currently available.

'Wiri Mist' is probably the closest I have come to achieving my ideal, although 'First Light' is a recent release that is even more distinct and that may eventually prove to be just as useful.

The simple hybrids (eg F1 hybrids between two species) that emerged early in our breeding programme proved to be extremely uniform, with most individuals being of good quality but few being outstanding.

As the programme progressed, and complex hybrids containing numerous species in their pedigree were produced, the appearance and quality of the individual hybrid seedlings became considerably more variable.

A batch of say 100 of these complex hybrid seedlings could often contain so many unappealing 'rogues' that some 95 could be discarded at the first cull.

The payoff was that the remaining handful of seedlings could contain some remarkably new and different characteristics.

Various techniques were applied to increase this variability further, in the hope that some great change could be affected.

Irradiation was discarded as being too unpredictable after a few trials.

Crosses were attempted between distantly related species, but although these produced some interesting offspring, in most cases they produced little or no viable seed.

Breeding of *Leptospermum* produced results in stark contrast to those from parallel programmes on Hebe.

The programme concentrated on just one species, *L. scoparium*, albeit one that exhibits enormous variation.

Even the earliest *Leptospermum* crosses produced extremely variable populations of seedlings.

Once again, the success of the programme depended largely on the use of exceptional parent material selected from the wild. Notable parents included the

Graeme Platt selections 'Karekare' (White single) and 'Sherryl Lee' (pink single).

Probably the best hybrids to yet emerge, from the programme have been 'Wiri Sandra' (pink single) and 'Wiri Susan' (white single), although these have not necessarily proven to be the most successful commercially.

I believe that many other native plants can be transformed through a combination of selection and breeding into subjects more suitable for both commercial production and use in ornamental situations.

Metrosideros excelsa, our beloved Pohutukawa, is a remarkably variable tree.

At one extreme are trees with dull flowers of relative insignificance, and at the other end of the scale are individuals producing spectacular clusters of brilliantly coloured stamens.

Other characteristics such as the size, shape and habit of individual trees fluctuate wildly, as does foliage size and hue.

Even a relatively unattractive pohutukawa is a good tree, but the very best of them are superb and must rate amongst the most desirable of all the world's flowering trees.

To date the best pohutukawa selection available is 'Vibrance', a relatively small upright tree with large clusters of brilliant scarlet/red stamens sometimes smothering the entire tree.

Kowhai (*Sophora microphylla*) would benefit greatly from the selection and introduction of superior forms from the wild.

In fact, the potential for increasing the use, and ultimately the economic worth, of our native flora is immense.

Breeding programmes undertaken to date have been rudimentary at best.

A properly funded breeding initiative with clear goals that utilised our best plant breeding talents could lift the status and popularity of native plants to even greater heights.