

# Botanic gardens and horticultural perspectives

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Here I provide my own views as Manager of the Botanic Gardens of Wellington, member of Botanic Gardens of Australia and New Zealand (BGANZ), and Chairman of the Royal New Zealand Institute of Horticulture (RNZIH).

The RNZIH's interest in this workshop largely stems from its involvement with the New Zealand Plant Collection Register, established 1989–1993 (Hammett, 1993), and currently in the process of being reviewed and updated.

Of necessity at the time, the focus of the previous Plant Collection Register was limited to relatively coarse information – an incomplete list of collections recorded at the genus level only. An online version of this register is at [www.rnzih.org.nz/pages/plantcollectionregister2.html](http://www.rnzih.org.nz/pages/plantcollectionregister2.html) and associated pages. This Plant Collection Register was never developed as a database.

For the current initiative, we consider that there is a need to capture a finer level of information – ideally, all collections of plants held throughout the country and also, if possible during the process, capture details of individual plants with heritage or cultural values, or which are now rare in cultivation in this country.

Botanic Gardens are and will remain traditional institutions holding plants both common and rare, though with an increasing focus on conservation. Other institutions holding plant collections include universities, Crown Research Institutes, commercial plant nurseries and private gardens.

When considered collectively, there is an invaluable repository of plants widely fragmented throughout the country that few people are aware of and which needs to be recognised and captured before they are lost.

The late David Given (Given et al., 2006) expressed the need for nationally networked plant collections very well:

“Good quality nationally important collections of plants, whether native or exotic, need to be recognised as national treasures just as much as works of art and buildings.”

The importance of recording and correctly identifying plants is listed below (though in no particular order of importance):

- There remain latent threats to the environment from non-native plant species as climate change continues. We need to be more aware of the exotic plants already in New Zealand and monitor them for potential invasiveness. Some we can predict, others we can make reasonable guesses about, but there is likely to be an unquantified body of exotic plants that pose a threat to our native flora.
  - There is a need to maintain genetic diversity – a single plant may not be able to give rise to a sustainable population and within a species there can be numerous different genotypes and cultivars. Maintaining genetic diversity is essential for plant conservation of species and heritage cultivars, as well as providing germplasm for plant breeding.
  - There has been a drastic loss in the range of species, hybrids, and cultivars in production with mass production of select few cultivars currently ‘in fashion’, the closing of long established and often specialist nurseries, the loss of skilled people from the industry, the dissipation of private collections, and loss of institutional and personal knowledge of plant collections.
- In times of financial constraints it is too easy to cut back on plant collections in the vain hope that someone else has them covered.
  - We don't all need to be growing the same plants. There needs to be better coordination between public and private gardens – coordination between those who can optimally grow particular species and especially better management of insurance populations either ‘in-’ or ‘ex situ’. We need to work together as one.
  - Plants have heritage and cultural values. As a nation we need to ensure that these are captured and perpetuated. New Zealand is a young nation. We are still learning and it is only now we are beginning to understand the cultural value of plants which has been recognised for so long in other parts of the world.
  - Many plants have untapped economic value. One of the founding premises for the establishment of ‘old world’ botanic gardens throughout the Northern Hemisphere was the economic exploitation of plants both directly and indirectly.
  - Plants have finite lives and material must be actively maintained and propagated – even horticulturists can be caught out and plants lost.
  - Good plant husbandry – we must not lose the skills fostered by exposure to a wide range of species, hybrids and cultivars, both native and exotic. Diversity stimulates and challenges.
  - Carelessness – we must all be vigilant about plants, plantsmanship and plant naming especially in public gardens. The credibility of the horticultural industry is particularly dependent on this.

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- Staff who are skilled in taxonomy or who are trained as botanists are essential. It has been too easy to move away from this in favour of generic horticultural practice.
- Disparate and/or stand alone databases. It is difficult to access and review a wide range of databases and plant names lists. Furthermore, despite the Internet age, there remains much valuable information on plants and plant names unavailable online (e.g., held in historic nursery catalogues, books, and authoritative cultivar checklists and registers). Some limited standardisation has begun with botanic gardens using *BG-BASE* plant data system. There are now five users in New Zealand and it is my hope that these eventually become linked to form a nationally accessible database of

plants held in botanic gardens in New Zealand. With the appropriate database development, it would be possible to extend this resource out into the public arena.

With current database and web delivery technologies, there are exciting opportunities to link databases such as the New Zealand Organisms Register (to act as a central repository of names) with initiatives that have their own unique information such as the forthcoming RNZIH Notable Trees Trust online database and management system and a new New Zealand Plant Collection Register.

There is no question that public gardens and organisations such as BGANZ and the RNZIH have strong roles to play in sustaining

the industry and preserving plants and horticultural practice for future generations.

#### References

- Given, D.R.; Eckehard, G.; Brockerhoff, E.G.; Palmer, J. (2006). Nationally networked plant collections are a necessity. *New Zealand Garden Journal* 9(1): 15–18. Available at [www.rnzih.org.nz/RNZIH\\_Journal/Pages\\_15-18\\_from\\_2006\\_Vol9\\_No1.pdf](http://www.rnzih.org.nz/RNZIH_Journal/Pages_15-18_from_2006_Vol9_No1.pdf).
- Hammett, K.R.W. (1993). New Zealand Plant Collection Register Update No. 3: 1st March 1993. *Horticulture in New Zealand (Journal of the Royal New Zealand Institute of Horticulture)* 4(1): 18–28.

