

Harsh realities of the nursery industry

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Do not rely on the nursery industry to deliver our biodiversity success stories.

What does that statement mean?

The term 'biodiversity' is one that has become an emotive catchcry that elicits a response from many, for often quite different reasons.

In its purest sense biodiversity is the degree of variation of life. In embracing this meaning of the term biodiversity the nursery industry has been totally complicit, in years gone by.

In the 1950s and 1960s the challenge to gather and cultivate plants from the four corners of the world was the goal of many nursery folk. Sir Harold Hillier (Hillier Nurseries, Winchester, England), Sir Victor Davies (Duncan and Davies, New Plymouth, New Zealand) and Douglas Cook (Eastwoodhill Arboretum, Gisborne, New Zealand) are names that typified an era of a remarkable exchange of plant material from all around the world.

Prior to 1965 there were few limits to the free exchange of plant material around the world, and the gentlemen and institutions mentioned earlier were legendary in their appetite and ability to trade and exchange plants.

It was not inconceivable for advanced trees to be dug out of the fertile soils of New Plymouth, dispatched on a sea voyage of some six weeks and end up growing in the Hillier arboretum in Jermyn's Winchester grounds and vice versa.

Eastwoodhill – now the National Arboretum of New Zealand – is said to have the largest collection of trees relating to the northern hemisphere temperate climate zone. It includes some 4000 different trees, shrubs and climbers.

This is a tremendous example of the passionate plantmen and women who had a vision to collect and retain

as many species of trees that could be grown in the climatic zone in which they lived and worked.

While the names of Hillier and Duncan and Davies survive today, the direction and aims of those that manage the businesses now are very different to that bygone era of free exchange of plant material. But more on that later.

In 1965 the concept of biosecurity was introduced. I pick that year, as prior to that there was freedom to move plant material, complete with soil attached, around the world.

In 1965 the Australian government succumbed to pressure from the nursery industry of Victoria, to effectively create a trade barrier to protect them from the likes of Duncan and Davies, who at the time were the largest nursery in the southern hemisphere.

From 1965 an exporter was still free to deliver most plant material to Australia, but (and it's a big 'but') all material was to be fumigated with methyl bromide prior to being released into quarantine.

So let's recap at this point: the global nursery industry had done a sterling job of gathering plant material into its respective countries, and protecting many plants that were threatened with extinction in their home country.

New Zealand with its benign temperate climate did especially well in this area, as we developed a large germplasm bank to feed future breeding projects, and to preserve many species and genera under threat in their native habitats.

After 1965, and prior to 1998, nurseries in New Zealand grew both physically and professionally.

It is within this time frame that some of our most threatened native plants became commercialised and moved from being threatened in their native environment to becoming quite commonly found in the home garden.

I refer to plants such as *Meryta sinclairii*, *Tecomathe speciosa*, *Xeronema callistemon* and somewhat more recently *Clianthus maximus*, *Elingamita johnsonii*, and *Pennantia baylisiana* (Fig. 1A–E).

This is arguably the nursery industry at its best, aiding the preservation of biodiversity by propagation and distribution. In other words, by the act of propagating and distributing plants to all those who want to purchase them, the nursery industry is capable of preserving biodiversity.

I now leap forward to 1996 when the Hazardous Substances and New Organisms Act, or HSNO, was passed through parliament.

This act effectively achieved three things:

- identified plants as hazardous organisms subject to the full gambit of the HSNO Act
- created a biosecurity awareness
- killed any future representative expansion of our global biodiversity.

In effect this meant that if a plant species was not known to be present in New Zealand immediately before 29 July 1998 then it was considered to be a new organism and subject to a rigorous procedure prior to any possible release into the country.

So under this regime we effectively have **no** new plants or germplasm coming into New Zealand.

That's not to say that variations of what we have already (e.g., cultivars of a species already in New Zealand) are not allowed to be imported. They are permitted and are actively traded.

To understand the big picture we need to appreciate that from 1998 to the present day, the nursery industry worldwide has been turned on its ear.

The way plants are sold has changed in a short period of time as the 'big-box' mega-stores of the world have

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A



D



B



E



C

Fig. 1 New Zealand native species that are threatened in the wild but now common in cultivation. **A**, *Meryta sinclairii*. Image: Lyndale Nurseries. **B**, *Tecomanthe speciosa*. Image: Lyndale Nurseries. **C**, *Xeronema callistemon*. Image: Jack Hobbs. **D**, *Clianthus maximus*. Image: Jack Hobbs. **E**, *Elingamita johnsonii*. Image: Lyndale Nurseries.

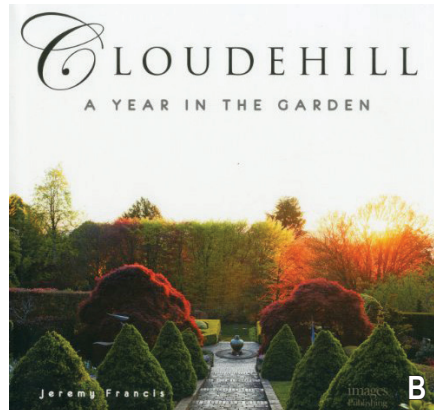
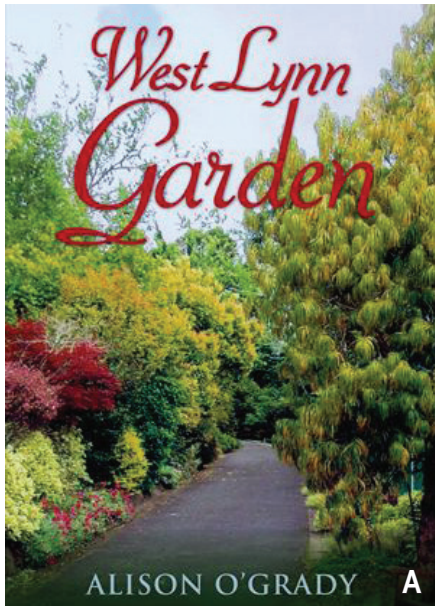


Fig. 2 Two books (published in 2010) that cover gardens originating as plant nurseries. **A**, *West Lynn Garden: a place of beauty*, by Alison O'Grady. This garden has been developed and maintained for more than 30 years by dedicated volunteers. **B**, *Cloudehill: a year in the garden*, by garden owner and author Jeremy Francis.



Fig. 3 A portion of the stock beds at Lyndale Nurseries showing recently reassessed and replanted material with representatives of only the commercially desirable plants.

seen the opportunity that garden retailing brings. This significant change has led to a huge reduction in biodiversity as production nurseries have altered their product mix to reflect what is in fact sold.

Now the perfect retail plant is a bomb-proof product that can sit on a shelf indefinitely in flower, requiring no water or attention; it can ideally be handled and transported throughout the country without damage and has great 'curb' appeal. This plant probably does not exist just yet but there are a few candidates that run close.

So time for another recap: the nursery industry's ability to import new genetic stock into New Zealand has effectively ceased.

Modern retail trends have seen DIY stores become the main distributors of green goods at a retail level. And this is part of a world-wide trend.

So what does this mean to biodiversity?

It means that all our stock beds which previously contained a wealth of plant material that had, was, or could be propagated was rapidly becoming an expensive luxury as these plants no longer were what the retail market thought it required.

In some fortunate cases some of these nursery stock beds became gardens, hence preserving the plants within them. Two examples of this that come to mind (Fig. 2A–B) are Lyndale Nurseries original site in New Lynn, now West Lynn Gardens, and for those who get the chance to visit the Dandenong Ranges in Victoria, Cloudehill Gardens is well worth a visit. Originally a nursery that began in the 1920s, Cloudehill Gardens is now a wonderful and dynamic garden built around the large trees that were originally nursery stock plants.

Those are but a couple of positive examples; the sad reality is that as nursery propagation requirements are fine tuned to minimize costs, nursery stock beds are re-evaluated and reduced. Lyndale went from some 10 hectares of stock plants to retaining only one hectare (Fig. 3).

At the same time the overall number of plants produced in the nursery increased but the range of genera, species and cultivars has diminished markedly.

The sad reality is that nurseries have evolved from the grand collections that Sir Harold Hillier's nursery represented so well in the early 1960s, to production factories that no longer can afford to maintain hectares of 'library' plants that do not make a positive return on the investment.

Nurseries, those still in business, have become market driven animals that respond to the fashion dictated demands of the modern retail market place.

In summary, it is a mistake to rely on the nursery industry to preserve genera, species and cultivars for posterity. This is the role of plant collections held in arboreta, and botanic and private gardens.

The nursery industry has an important role to play in propagating and disseminating the botanical diversity that we have, but please do not rely on us to maintain the collections.