

## Conventional Propagation of *Cordyline australis*®

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The New Zealand cabbage tree, *Cordyline australis*, rates internationally as one of our most famous indigenous plants. Its popularity is based not only on its distinctive habit, shape and deliciously fragrant flowers but also the relatively recent advancement of coloured foliage forms. The purple foliated ‘Purple Tower’ was famously crossed with one of the first striped leaved forms ‘Albertii’ at Duncan & Davies in the early 1980s. The resulting Pandora’s box of colours and variegations this cross produced was an eye opener in terms of what foliage possibilities existed in the genetics of the humble cabbage tree. Since this time, through either seed variation or sports from tissue cultured plants, a plethora of different forms have emerged here and overseas. There was a time when a nursery visit to a fellow grower always seemed to include a quick peek round the back at the owner’s latest *Cordyline* find. I, too, was one of those vigilant nurserymen on the look out for new forms, and I found one. I called it ‘Whero’, which is Te reo (Maori) for red (Fig. 1).



Fig. 1. Plant of *Cordyline australis* ‘Whero’.

‘Whero’ was in my view pretty spectacular and it was my duty to make it available to the world, hopefully clipping the ticket in the process. In fact it is possible that I had delusions of wealth and fame in the early days based on the fact that I had a sure fired winner. Age and experience has confirmed that there is no such certainty in the “new plants” world. Attempts by various plant tissue culture laboratories to initiate ‘Whero’ were not totally successful. The best I got, after quite a period, was ‘Whero’ in culture but with only about half of the cultures staying true to type. The other half turned out a plain, but not unpleasant, brown. This made the young plants twice as expensive as other new cultivars and so the plug was pulled on tissue culture production after the first thousand or so plants were deflasked. The brown ones, renamed ‘Chocolate Brownie’, were sold/given away and the true ‘Whero’ were potted up and left to their own devices at the back of the nursery. Some years later, when the plants were well established, I looked at them again with a view of trying to increase their number by more conventional forms of propagation. The results of my attempts follow.

### INITIATING CUTTINGS

Those who have cut down mature cabbage trees are very aware of their capacity to produce shoots from the stem. These shoots would not normally develop unless forced by the removal of the growing point. Being monocotyledons, and essentially the tallest growing members of the Liliaceae, their growth is a bit different from most other tree or shrubby species. I hoped that the many shoots I could generate would make good cuttings and I could use these to make new plants. Firstly, I wanted to see what the best time to force these shoots was. Past experiences suggested the spring-summer period. So I cut half of my mature plants off in November and the other half in December. The cutting process removed all the foliage, leaving me with a naked trunk about 1 m tall. The foliage and stem I removed were like “giant” cuttings at least 2 cm in diameter and about 30 cm long. I removed most of the leaves of these “giant” cuttings and set them in a free draining medium of coarse pumice.

After 4 weeks of the hard cutting back process new shoots started to show, after 7 weeks these new shoots were 10-12 cm long.



Fig. 2. Shoot development on cut-back plants.

More and better quality shoots resulted from the November cut back. Those plants cut back in December produced fewer shoots but did force some shoots to emerge from below medium level from the base of the parent plant. I concluded that the earlier the cutting back in the season probably the better.

### THE CUTTINGS

So we had two types of cuttings, taken at two times, these being the “giant” cuttings taken in November and a second lot in December and the “generated shoots” taken 7 weeks after the hard trimming (Fig. 2), these dates being late December and late January. All cuttings were treated in pretty much the same way, with most of the foliage removed and the balance trimmed to half their original length (Fig. 3). They were then dipped in Seradix no. 2 (0.3% indole-3-butyric acid in the form of a dust) and set in coarse pumice and placed on heat and were watered/misted manually.



Fig. 3. Cuttings ready to be stuck in propagation medium.

The results were very contrasting. In the simplest of terms the “giant” cuttings rooted well, the “generated” cuttings didn’t. To be more specific the earlier set “giant” cuttings rooted almost 100% and grew on quickly into good plants. The later set “giant” cuttings rooted about 70% and also went on to make good plants albeit a little slower. The earliest set “generated” shoots gave about 20% rooting, the later set ones produced almost no roots at all. The rate of growth of plants from these smaller “generated” cuttings was, as expected, very much slower than their larger sized counterparts.

### CONCLUSIONS

Firstly, we were easily able to generate shoots on large parent plants by severe heading back. The earlier date of this treatment produced better quality shoots.

Secondly, cuttings made from the “giant” headed back portion of the plant made good solid cuttings that rooted well. The earlier set of these “giant” cuttings being better than later set ones.

Thirdly, smaller cuttings made from the generated shoots, rooted poorly although the earlier ones were better than later ones.

In general for this clone of *C. australis*, bigger cuttings performed very much better than smaller ones and earlier set cuttings were better than later set ones.

## **DISCUSSION**

I know from other people’s experiences that some cultivars will root reasonably well from small “generated” shoots. For those forms, this method of propagation may well be a useful technique. We have clearly demonstrated those shoots can very easily be generated from mature plants. As size of the cutting seemed to be an important issue, I would recommend that earlier heading back, say in the beginning of October, may be a better time to generate these types of cuttings. For ‘Whero’ I will, in future, try and head back earlier to generate larger cuttings to see if this will improve their rooting percentage. However, for the moment, unless I can see considerable improvement in this method I won’t be rushing in to full scale production.