

Propagating Material: Getting It Right From the Start®

Richard Ware

Plant Production, 47 Oak Rd, Poraiti, RD2, Napier

Email: r.ware@inhb.co.nz

SOME QUESTIONS THAT SHOULD BE CONSIDERED

Where do plant propagators get their stock and how good is it?

What needs to be done to remedy problems of poor strikes and poor resultant crops due to inferior material? What sort of cutting do we need to be successful?

Most of you will have the ideal cutting in mind, a bit like a fresh, succulent, plump salad that makes your mouth water, and no one wants a limp, pale, washed out thing that will become a gooey heap. You may laugh but I have seen bags of cuttings exactly like that. So now we see this ideal cutting, brilliant green, plump, fully nourished, close noddled with no stretch, firm and ready to root at a minute's notice.

How do we go about getting it?

You could take cuttings from leftover stock or from old bushes in someone's garden, but this is not really a good answer. To produce quality plants from cuttings you need to take ownership of the source of plant material. That's right, you have to own the process from the start. We at Plant Production Ltd. have lacked a stand-alone facility to do just that, and with producing the ideal cutting in mind, we set our goal towards the steps needed to accomplish this.

CREATING A STOCK PLANT BLOCK

First was the purchase of suitable land to grow our stock plants. As growers we seem to be blessed with an inherent knowing in our field when things seem just right. That was the case with the block of land we chose after looking at many properties where many of the factors of a good stock block weren't inherent, we knew as soon as we walked onto our new block, some 5 ha, this had wonderful growing potential and it just felt right. The soil was high colloidal alluvial silt, the best of all the land around, washed down over centuries, metres deep and currently in pasture after recent cropping. The preferred block required evaluation of the soil and climate, using the services of an environmental resource consultant before purchase. The convincing, factors included:

Climate. The site had good air flow near a river mouth, had a low incidence of frost, was known for early production periods, and had reasonable shelter from the strong cold southerly winds. There was also some existing shelter on the block providing protection from the hot, dry northwest winds. Planting of further shelter will be carried out as soon as practical.

Water. Bore water was of good quality with low iron incidence and very good flows even in drought periods. In addition, the proximity of the river allows for possibility of extra irrigation. A 100-cm bore was sunk with pumps put in to supply the selected trickle irrigation under weed mat.

Soils. Soils were found to be very free draining sandy loam, some metres deep in places, due to centuries of fertile alluvium washed off the hills. Using a specialist soil analysis it was found these soils were very high in trace minerals that were

lacking in most New Zealand soils. This, we found, was to be one of our great assets in stock growth and success in rooting. It was explained to us that these silt soils do not leach important minerals needed for successful cutting formation. These are the minerals of magnesium, especially potassium, boron, and zinc. They are very important in giving a solid structure to the ensuing cutting and provide turgidity, high chlorophyll content, close noded, and contributing to overall health.

The report found one negative, which we can live with, that there was some risk of flooding; but the land would dry very quickly. The decision was made to purchase, ancillaries were brought in, and working up the first hectare of land started.

Cultivation. This included increasing the biological activity by incorporating biocompost, addition of part organic fertiliser (fish meal, blood and bone, and rock dust), and a balanced NPK fertiliser. The rows were mulched using weed matt for effective in-row weed control, and two runs of irrigation drip tape were laid at the same time under the matt.

Planting Time and Plant Growth. Planting began in late spring to give maximum benefit to our new plants, allowing them to become established in the spring growth period, growing through the summer and maturing in the autumn, ready for our first harvest of cuttings. Most of the selected stock plants were in 12.5-cm containers at planting. The plants selected for stock were the best liners we could identify out of each batch for health, strength, and vigour. These stock liners were potted on into 12.5-cm squares in the previous autumn. Where we could not meet the criteria we bought in stock from reputable growers. We were amazed at the rate of growth of these new stock plants, and it far surpassed our expectations. In February (late summer) we had to trim over a quarter of a metre off our *Pittosporum* plants, which had grown over $\frac{1}{2}$ m in just over 3 months and had never seen such even, healthy plants. By May (late autumn) they had furnished themselves with multiples of fresh shoots ready to be harvested.

Harvesting and Propagation. At the end of May (late autumn), that knowing a good propagator has told us they were ready for harvesting and a model of our vision for the ultimate cutting. The cuttings were turgid, well furnished, fat for a *Pittosporum*, with excellent colour, even grade, close noded, and quick and easy to harvest.

Sticking and Rooting of Cuttings. The resultant cuttings were certainly easy to process. We stuck the cuttings, 150 to a tray in a peat, bark, and sand medium (6 : 3 : 1, by vol.), with bottom heat and mist. First rooting started within 4 to 6 weeks, with an amazing strike rate of near 100% in most taxa. Rooting was very good so we were able to pot them into 5-cm tubes in 12 weeks from sticking with even rooting, even grades, even growth, and a top quality plant. The resultant potted 5-cm liners had a carry on of performance, shown all the way through the process.

IN CONCLUSION

We certainly felt the work we had put into planning, preparation, and selection of our new stock bed site was justified and certainly paid dividends, judging by the results we obtained. We could say that without a doubt, the investment we have put into the block not only gave us a superior product but gave us huge savings, advantages, or improvements in the following:

- Saving in labour.
- Ease of processing cuttings.
- Faster rooting.
- Higher percentage of rooting.
- Minimal cutting leaf drop.
- No resticking.
- Superior plants.
- Quicker turn round.
- Able to process more crops in the propagation area.
- Greater confidence for our staff.
- Greater confidence for our customers.

All this and more was achieved because we spent time, planning, and investing in a specific stock plant block and in our stock plants.