

## No-bull prizes for forestry

Piers Maclaren<sup>1</sup>

How successful is plantation forestry in New Zealand? It's a bit early to say. If history rules in forestry's favour, a few individuals and organisations will deserve a disproportionate share of the credit. This is sure to provoke readers (in a column that is supposed to be provocative) because nothing annoys people so much as having their work overlooked, or – worse – seeing rivals get all the kudos.

To what do we owe the “success” of forestry in New Zealand? To the availability of suitable land, to the sunshine, climate, and disease-free isolation. Mostly, the credit is due to radiata pine itself. What about the humans involved? The first No-Bull prize goes to the person chiefly responsible for recognising the potential of this remarkable species: Dr Leonard Cockayne, writing on behalf the 1913 Royal Commission. As well as pushing radiata, he also argued that it was “most essential” to afforest the Central North Island Plateau before the country's native forests were exhausted. He was a “visionary” before the word became a cliché.

Next, we must tip our hat to that much-maligned organisation – the New Zealand Forest Service – which put down roots in every nook and cranny of the country. It is unlikely that the private sector would have been prepared to take the risk of such major and long-term investments in unproven technologies.

Paradoxically, the people responsible for scrapping the NZFS also deserve a mention. Private growers could not compete with subsidised wood from state-owned forests, so the new planting boom could not start until this obstacle had been removed. The main intent, however, behind the privatisation of our state forests was to attract overseas capital to build value-added processing plants. This has not happened, so no No-Bull prize there.

What about tree breeding? Sorry, nice try but no No-Bull prize yet. The low density and other problems of the '850' series are still with us. Future generations will also be unimpressed with the current emphasis on multinodality in a world where the market for appearance grades is increasing and for structural grades is declining. Clonal forestry has great potential, and genetic engineering offers the greatest scope for future improvement, although I will wager New Zealand misses the boat on that one.

The establishment phase of plantation forestry is undoubtedly a triumph. We have grown accustomed to 98% survival and are increasingly relaxed about initial stockings of 600 s/ha or lower. The FRI nursery team were the main players, with their emphasis on well-conditioned bare-root stock, as was Robin Trewin for his fierce advocacy of good seedling care and proper planting techniques. But the high levels of toppling, particularly on farm sites, tell us that we may have gone too far with nursery conditioning. We don't need 98% survival, but we do need a tree (like the self-sown sort) that stays upright in a storm. Nobody gets a prize until this one is sorted out.

And what of fertilisation, herbicides, harvesting, timber drying, wood preservation and the myriad forms of processing? Good work, but arguably nothing of global significance. And what of agroforestry? A non-event, except for the fact that forestry is now popping up on easy, grass-covered sites. This is primarily because sheep farming has been struggling.

And what about pruning? With 69% of New Zealand's planted area pruned, or scheduled for pruning, the New Zealand plantation resource is unique. Pruned logs continue to sell well. Wink Sutton, you almost single-handedly deserve the top prize for this one. Critics, such as Carter Holt Harvey, say that the premium for pruned material will probably reduce in time, and that the massive investment in pruning cannot be justified. Perhaps I should hold back on Wink's award until it has been clearly demonstrated that pruning has enduring value. Or rather, until even CHH acknowledge the fact.

The key research tool backing the pruning effort was the model EARLY, developed by Graham West and Leith Knowles. This takes into account the interactions between stocking, pruning and thinning, and allows stands to be scheduled (to the nearest month!) to achieve a target DOS. It is widely used, and yes you guys deserve a medal. But only after Wink has received his. Of course, pruned wood is not necessarily clearwood. Resin and internal checking can downgrade appearance grades. The wood quality boys – such as Don McConchie – have made good progress, but until all these matters are resolved, no prizes yet.

Isn't it great how we can model the growth of radiata pine, down to incredible detail? You want to know the proportion of merchantable volume in pruned butts with more than a specified Pruned Log Index? No problem, STANDPAK will do it for you. But nobody who has had to wrestle with it actually praises the damn thing. Not to mince my words, it is a DOS-based dog. The results can be reasonably reliable, but you need the skill of a mud wrestler to get there. Fortunately, in the eleventh-hour Leith Knowles has built a simple program called *Honey* that condenses and optimises STANDPAK results into a single page of inputs and outputs. If and when Leith's program becomes widely used, he gets his second No-Bull prize. One essential, widely used home-grown forestry tool is MARVL. Great stuff, but the fiasco over its successor – Atlas Cruiser – puts the kibosh on that one.

So where does that leave us? Most of the credit goes to radiata pine itself. Cockayne, the NZFS, Wink Sutton, and a few FR modellers are the only definite No-Bull prize-winners. Tough luck, all you others.

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