

Ultra – a specialty crop for K grade radiata

Graham West



500 stems/ha unthinned but pruned aged 26 near Taradale, Hawke's Bay

Forestry in New Zealand has so many positives, yet it struggles to have any profile in the media or in the minds of investors or landowners. I think we have a short-term opportunity, with the current government, to catch the wave their billion-tree aspirational policy gives us by suggesting new exiting management regimes that address some key issues.

Most regions in New Zealand have a wood supply forecast (Wood Availability Forecasts, 2014–15, MPI), which shows a very large wave (6–8 million m³/yr) flowing through it that will provide rapid increases in the next six years and a rapid drop off after approximately 16 years. This drop off has disastrous effects for ports, harvesting crews and truck drivers, but it could represent an opportunity. Forestry is seen as a very long-term investment, but that does not appeal in this era of instant gratification.

In my own farm forestry joint venture we planted 400 stems/ha GF22 juvenile cuttings (in 1990) and

never thinned. With the next block we lost our nerve a bit and planted 500 stems/ha GF 25 juvenile cuttings (see photo) and hoped to production thin. This never happened. The third block was planted with GF 28 cuttings at 500 stems/ha. The stands were all 6 m pruned on 350 stems/ha, but never thinned, and they now have excellent form and are currently being harvested.

From this experience, and a reasonable amount of computer modelling, a new management regime is proposed for growing radiata pine for export logs on a short rotation. The Ultra regime is to plant 500 stems/ha using best quality genetic stock on good sites and to not prune or thin. Good genetics, good sites and good establishment are important, as this is a specialty crop that requires expertise, but only for the first one or two years. For farm foresters it is very simple to follow, but good advice is essential as there is no allowance for gaps and toppling.

The aim is to cash in on an expected wood flow shortfall in 16 years' time when presumably export log prices rise due to their shortage. I suggest that land of LUC 6 is targeted for this regime, less than 100 km from port, to moderate the roading, harvesting and transport costs. For the computer modelling I used the Radiata Pine Calculator v4.0 Pro. Predicted returns are excellent, merchantable volume of 500/m³, giving an expected net stumpage of \$20,000/ha after 16 years, equivalent to a Land Expectation Value of \$5,300/ha or an annuity of \$430/ha/year at 8% discount rate.

This is based on assumed annual fixed costs (rates, insurance, management etc) of \$65/ha/yr, roading \$3/t, log and load \$35/t and log transport \$20/t. Most of the merchantable volume is K grade. As most K grade is from the top logs of a tree, I have been advised this crop would be no different in wood quality to the current K grade exported, mainly used for construction formwork in China. The export log prices assumed were: (delivered to port and based on MPI 12 quarter average) A grade \$119/m³, K grade \$113/m³, KS grade \$75/m³ and pulp \$50/m³. Obviously JAS conversion would reduce merchantable volumes below what was

modelled for such young stands, but hopefully that unit of measure is changed in the next 16 years.

With carbon sales added to the cashflow (35%, i.e. safe carbon only), the internal rate of return (excluding land costs) is just under 20%. Some modifications to the regime could tailor it to better suit the site. If desired, edge trees could be pruned, fertile areas planted at higher stockings, and if need be the stands can be grown on for a longer rotation.

My experience with farmers is that only three figures matter to them: when will they get a return, what is the annual rate of return/ha, and what is the return (%) on funds invested? Pruning and thinning are often not carried out well on farm woodlots, so let's not prescribe them.

This regime attempts to put some excitement, vitality and passion back into forestry. Who can afford to miss this financial opportunity? Even at my age I'm tempted!

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