Recouping the pruning investment

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ABSTRACT

Over the last three decades in New Zealand around half a million hectares of Pinus radiata have been butt log pruned. This substantial investment has been supported by long-term regime evaluation exercises. In these exercises it has been assumed log prices would reflect both the clearwood content resulting from pruning and the likely premium paid for clearwood.

In today's markets, clear timber and veneer realize high prices. However good log quality definition is required before the buyer can pay a premium for pruned logs without incurring undue risk. When a pre-harvest quality definition is required and stand records are not available then it will be necessary to sample the pruned resource in a statistically valid manner. Sample logs will have to be sawn or cross-sectioned to reveal their internal characteristics.

A CASE FOR DESCRIBING PRUNED LOG QUALITY

An essential step in the selling of any unfamiliar commodity is a description of the constitution or quality of that commodity. This applies to the trading of pruned radiata logs.

In the period 1962-86 New Zealand's plantation forest estate increased by around 811,000 hectares (Ministry of Forestry, 1988). Additional to this investment has been a further massive investment in the thinning and pruning of much of these forests. For the State alone in the period 1962-85, there was 552,790 ha of pruning and 481,394 ha of thinning (New Zealand Forest Service, 1986). Silviculture was expected to pay off; as R. Fenton reported in the 1963 FRI Symposium, "The conclusion... is that tending (pruning and thinning) pays very handsomely indeed... tending will pay off, organisms permitting" (In Bunn, 1963).

Economic evaluation exercises of pruning regimes have invariably translated the likely high values for clear timber or veneer into high residual log values which are then assumed to be returned to the forest grower. In today's market environment, clear timber and veneer are certainly sought after and traded at a premium on domestic and export markets. It is the assumption that a high value for clears will translate into high stumpage that is the weak link in the chain. One of the problems, of course, is that the results of pruning are internal and the potential range in quality is dramatic (e.g. from almost nil clears to 80% of sawn outturn in clears).

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4. Results should reflect the quality potential of pruned logs.
5. Results should be presented so that they are understood by all interested parties. For instance, log parameters, or further translation into potential sawing results for a sawmill and potential peeling results for a veneer mill.

Point (4) requires further elaboration. Unless a mill's conversion performance can be somehow calibrated it is not sufficient to use actual grade and conversion results to define pruned log quality. Actual mill results are plant dependent. For instance, sawmill A can saw a truck load of pruned logs and obtain an overall conversion and grade output. Sawmill B can saw the same logs and obtain a very different result. Measures of inherent pruned log quality are required. Examples of these measures are: (i) the thickness of the clearwood zone; (ii) the diameter of the knotty zone; (iii) the translation of the measured log description via a prediction mechanism into a prediction of clear grades under a given set of processing assumptions. Detailed log description methods by Somerville (1985) and Park and Leman (1983) coupled with simulation models offer a solution in being able to reveal the potential of pruned logs.

Sampling stands and obtaining detailed log description is time-consuming, effort-requiring and costly work. Recent costs for the resource evaluation work carried out by The Forest Management and Resources Division of the FRI have ranged from 50-80 cents/m3 of pruned logs in the resource translation of the measured log description via a prediction mechanism into a prediction of clear grades under a given set of processing assumptions. Detailed log description methods by Somerville (1985) and Park and Leman (1983) coupled with simulation models offer a solution in being able to reveal the potential of pruned logs.

A huge investment has been made by the private forest growers and taxpayers of New Zealand in our approximately half million hectares of pruned radiata pine. To recoup this investment pruned logs will have to be marketed as logs with a special intrinsic value associated with their clearwood content. This makes adequate log quality descriptions essential for pruned log allocation and trading.

REFERENCES


Maku Lotus for Forest Grazing

Maku lotus was bred at DSIR’s Grasslands Division in Palmerston North, long before forest grazing was developed on a large scale. Back in the 1950s Grasslands Division’s plant breeders thought that lotus might be useful on the steep, infertile banks between sheep tracks that make up the steps and stairs of the North Island’s hill pastures. White clover grows in fertile tracks but lotus spreads through the steeper poorer patches.

Brought from overseas for developing pasture from native bush, lotus is an ideal pioneer legume, which entices livestock to graze weedy shrubland.

The plant breeders crossed well adapted New Zealand plants with winter-growing Portuguese plants, then doubled the chromosome number to produce faster-establishing selections. Maku lotus was the result and was released in 1975.

Release of Maku was timely. Grazing of Pampas grass in South Auckland forests, to prevent it from smothering young pine trees, needed a quality legume to enhance grazing value and attract cattle to graze among the trees. Its widespread use in forest grazing since then has amply demonstrated that it is the right tool for the job.

Maku lotus and radiata pine now work well alongside each other in a dual production system of timber and livestock which fits in well with today’s economics — good production at lower costs.

Anyone ‘complaining about the cost of Maku lotus seed (compared with grasses and clovers) should divide the cost by the number of years that Maku will perform and persist. Clearly Maku means good value for money.

In the higher rainfall areas of Eastern Australia, Maku is now regarded as a “magic” legume. It grows well with coarse tropical grasses, without any thirst for costly fertilizer, danger of bloat in grazing livestock, or loss by insect pests.

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