

# Small-scale harvesting trial improves prospects for fledgling NZ industry: totara most popular choice

## Low-cost farm machinery may be very significant when dealing with small-volume harvests

SOME two years ago the Totara Industry Pilot (TIP) project confirmed the financial viability of a sustainably managed farm-totara industry in Northland, New Zealand. Timber&Forestry enews caught up on the latest developments with Paul Quinlan of the Northland Totara Working Group.

Paul says totara has become one of the most popular choices of native canopy tree species being planted in new native afforestation projects.

“Many people planted manuka hoping for some income from honey production, but included totara in the mix for long-term timber potential – knowing that on most fertile soils manuka will be succeeded by taller vegetation through the processes of natural succession,” Paul said.

However, most of the totara growing in Northland is an untended resource. “Many farms have naturally regenerated trees that are of millable size, or will be within a few decades,” Paul said. “The advanced regeneration provides an opportunity to start with some sustainable harvesting now.”

He notes that previous trial harvests (conducted under the auspices of the TIP) used forestry contractors with heavy machinery. “However,



**Small-scale trial using farm-based machinery ... a 45-hp tractor with 4-tonne pulling capacity.**

these machines were often too large to comfortably negotiate tight farm gates, tracks and races, etc. without causing damage. Moreover, significant transport costs were associated with getting heavy machinery to site. This made small-volume harvest situations uneconomic.”

With that in mind, a trial involving low-cost, farm-based extraction machinery was undertaken to test the feasibility of small-volume selective harvesting – in effect, applying continuous cover forestry principles. The production/thinning operation took place on a Pamu (Landcorp Farming Ltd) property, and had a Sustainable Forest Management Plan approved by the Ministry for Primary Industries under the Forests Act.

The trial also involved milling the logs on the same property – and, later, selling the timber.

Low-impact harvesting

machinery and crews.

In the trial, poorer-formed trees were removed “to improve the mid- and long-term timber production potential of the future crop trees within the stand”.

Paul says the New Zealand Forest Service “has helpfully tried to develop a template approach for totara Sustainable Forest Management’s

plans – and I have tested this on several properties.

“The difficulties in obtaining statistically meaningful inventories and the high cost associated with these inventories remain. I’m hopeful it’s an area that can still be improved upon,” he said.

“But regulatory issues are not limited to the Forests Act. There is a risk of additional costs and time for resource consent processes if required under the Resource Management Act – for example, as a result of ambiguous rules in district plans.

“This would be a significant disincentive and add considerable uncertainty, cost, and delays. Therefore, it is essential that harvesting activities under MPI-approved SFM provisions of the Forests Act are explicitly attributed as ‘permitted activity’ in all

### ACROSS THE DITCH



With **MICHAEL SMITH**

techniques were applied, most notably directional felling (including winch-assisted falling); the use of a skidding cone to prevent logs catching on roots and stumps; and deploying snatch blocks with tree-protectors to avoid damage to the residual forest.

Paul concluded that the use of “relatively inexpensive farm machinery and equipment may be very significant when dealing with small-volume harvests”, especially in comparison with relocation costs for conventional forestry

“TRIAL ALSO INVOLVED MILLING LOGS ON THE SAME PROPERTY

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# Vietnam in a close-up never ceases to amaze as farmers expand plantations from zero to 3m ha

THIRTY-FIVE delegates from the DANA-Gingko global woodchip and biomass trade conference in Singapore last month visited Vietnam in a post-event industry inspection to learn how more than a million farmers have transformed the southeastern Asian country's plantations from zero to more than 3 million ha.

Vietnam's estimated 2.2 million ha of Acacia hybrid trees has enabled the country to become by far the world's largest exporter of hardwood chips – in 2022 probably more than 15 million bone dried metric tonnes (compared with the second largest exporter, Australia at around 4.7 million BDMT.

In two full days delegates visited three chip mills, two wood pellet mills a nursery, harvesting operations and woodchip export ports.

Hosts included two of the world's largest woodchip production and export companies. One of them, Mihaud, has 12 woodchip mills

in Vietnam and in total (multi-country) will handle more than 2.5 million BDMT dried metric tonnes of woodchips in 2022. The other, Pisico, has 15 mills and exports 1.2 million BDMT.

"One port visited, Dung Quat will ship around 3.5million million BDMT of woodchips in 2022 – by far the largest single port export volume in the world," said tour leader Dennis Neilson.

"There is no doubt the pulp fibre plantation and the wood export trade is seriously big business in Vietnam," he said.

Neilson says in addition there is a rapidly-growing wood pellet export sector, which has grown from almost nothing five years ago to a three million GMT export business this year.

The huge increase in woodchip demand from new



**Delegates from the DANA-Gingko global woodchip and biomass trade conference in Singapore visit Da Nang a major port system located in central Vietnam at the mouth of the Han River on the east Vietnam Sea.**

Chinese pulp mill start-ups has strained even the Vietnamese logistics to cope, and FOB chip prices have increased from \$US125 per BDMT at the start of the year to over \$190.

"And, pulp logs landed at chip mills have almost doubled in 18 months to AUD110 per GMT," Neilson said. "And often this is for often for 'sticks' which would be left on the cutover of Australian eucalyptus harvesting operations."

But probably the most amazing of an amazing industry is the huge profitability of tree growing for

Vietnamese farmers. For the first time DANA and delegates were able to compile reliable and accurate data from land leasing to seedlings to establishment/ management and then to harvesting and log transport – and at the ripe old rotation age of 4-5 years.

One Australian delegate calculated that as a base case, farmers are returning 62% internal rate of return

This compares with returns to Australian pulpwood plantation growers in the Green Triangle (calculated by DANA in mid-2022) of 2-5%.

Dennis Neilson concluded: "If the Vietnamese woodchip export sector ever seriously stumbles, the Chinese pulp industry would catch such a devastating dose of "fibre supply Covid" that it would have difficulty to avoid going on life support.

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regional and district plans nationwide."

Interestingly, Paul says that planted native forests (unlike naturally regenerating stands) are exempt from the sustainable management requirements of the Act. "Owners of such forests can have them mapped and

**“ NEW ZEALAND FOREST SERVICE DEVELOPING A TEMPLATE APPROACH FOR TOTARA**



**Production thinning: active management by using harvest as a silvicultural intervention.**

certified by MPI. In fact, certification would allow them to be treated like exotic woodlots ... even clear-felled, if that's what the owners wanted.

"The difficulty comes when inter-planting into existing scrub/reversion areas, and/or sporadic, scattered edges of naturally regenerated vegetation. Mapping distinctions between planted and naturally regenerated can be difficult. Also problematic are district plan rules. For example, if a location is mapped as a 'Significant Natural Area'"

**(Part 1 in a 2-part series)**