

# First coffee harvester for Tableland brothers

Australia's first coffee harvester was put to the test at Kairi Research Station on the weekend, and according to the owners, Jaques Bros. Management Pty Ltd, it performed 'outstandingly', signalling the real go ahead for the coffee industry in Australia.

An attempt at coffee production made in Queensland and mainly around the Tablelands earlier this century failed, mainly because the cost of harvesting the bean became uneconomical after the kanakas were deported.

The solution was to modernise and mechanise the whole process, especially at the harvesting stage, and the \$70,000 harvester has been imported from New Zealand for this purpose.

'Without this machine coffee harvesting would still not be economical in this country', according to Dick Jaques, as it would take two to three hundred labourers to do its work at peak harvest time.

At this stage, Brazil is the only other country using mechanisation for coffee harvesting, though still in the experimental stage and using a similar set of principles but based on the English berry picker.

The Jaques Brothers' harvester is a straddle tractor, designed by Syd Goldsmith of PECO Engineering in New Zealand, who accompanied the harvester on its debut.

The harvester is a 80 horsepower hydraulically-driven straddle tractor with a shaker system of four agitators, a conveyor system and trash removal system inside.

'The shaker system is the heart of the machine and has different amplitudes of shake and infinitely variable speeds of shake', Syd said.

The original design came from the Agricultural Engineering Institute in New Zealand but has been developed into a whole range of berry-picking machines, mainly for berry fruit like blueberries and raspberries.

Adjustments were made almost from scratch to modify the harvester for the Jaques' requirements, and although last weekend was the first time it was used on coffee

and in an experimental plot not specifically designed for mechanical harvesting, it performed outstandingly, he said.

On the first run the yield was 10.2 tonnes of berry per acre, (approx 1.7 tonnes of marketable produce per acre). This figure was up to 12 tonnes by the end of the weekend, (2 tonnes marketable), and the Jaques brothers are confident that with a few more adjustments this figure will be even higher on their own Estate.

An initial problem of mechanized harvesting was that it requires uniform flowering which induces uniform ripening, as the machine will not discriminate ripe from immature berries. This problem has been overcome by control of the flowering and a final control on the ripening with chemicals like Ethrel. These chemicals used correctly have no effect on flavour.

## Tableland Plantations — Spearhead for Industry —

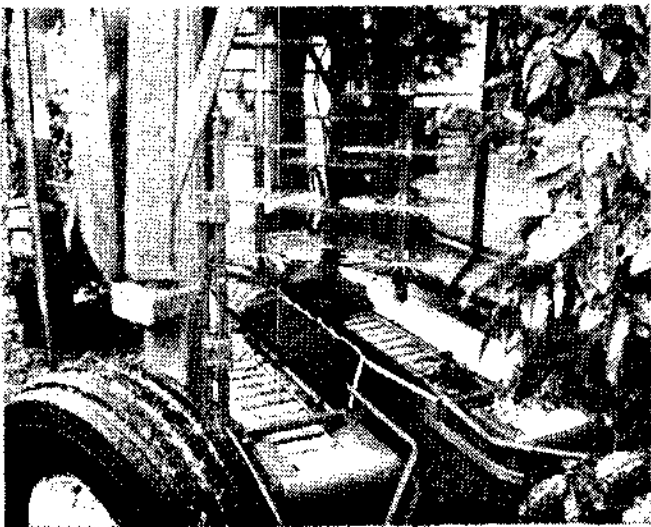
With their new harvester proving the potential of mechanized harvesting, the Jaques Brothers are confident that the Tablelands can provide 'the spearhead for a new industry'.

At least 400 acres have already been established on the Tablelands, including Ben Colbran's 200 acres, their own 81 acre Mareeba Coffee Estate and shares now being sold in their new 110 acre Tableland Coffee Plantation.

In a detailed feasibility study of established costs and projected returns for the Tableland Coffee Plantation, the Jaques Brothers have estimated that a few thousand acres of coffee will be needed to satisfy the potential Australian market of Arabica coffee, (the highest priced type on the market and the type the Jaques are presently growing on their Estate).

Having proven the labour content can be

reduced by things like a central automatic irrigation system, and most importantly mechanical harvesting, the Jaques Brothers are confident coffee will prove 'a rewarding industry for the North'.



The heart of the new coffee harvester is its shaker system of 4 agitators which shake the berries loose as the harvester straddles and moves down the row of coffee bushes. (Camera Double OQ)