

Resurgence in coffee interest in the north

COFFEE — a commodity overlooked as a cropping alternative in Australia for more than 80 years — is making an important comeback on the western fringe of the Atherton Tableland.

And it is advances in mechanical harvesting technology, more than any other single factor, which has caused the resurgence of interest in the crop.

Traditionally grown in third world countries where labor is cheap and plentiful, early attempts to grow coffee in Australia were short-lived.

More than 160 ha was planted in Queensland in the 1890s but harvesting costs compared to the world market price made the venture uneconomical.

But if latest mechanical har-

vesting equipment can keep production costs in check the potential domestic market seems lucrative.

In 1980-81 Australians consumed 33,500 tonnes, or \$100 million worth of imported coffee and coffee-based products.

And on a world wide scale, it is claimed to be the second largest trading commodity after oil.

But like any new cropping venture there are inherent risks growers must take if the industry is to establish itself.

So far only three growers have taken up the challenge with 160 ha established in the Mareeba-Dimbulah area, but enthusiasm for the crop's prospects is running high.

Leading the revival are two East African brothers, Richard and Nat Jaques.

Five years ago Richard and Nat, who were raised on a coffee

From JON CONDON

plantation in Tanzania, gambled their futures on a leasehold block of sandy loam scrubland west of Mareeba.

They have planted 36 ha to Arabica variety coffee, totalling about 90,000 bushes, but will more than double their operation when a further 45 ha goes under crop in July.

The Jaques' looked over a number of possible growing sites around Australia before settling on the well-drained slopes west of Mareeba. These offered a longer dry season, freedom from frost and hail and plentiful irrigation water supplies.

"It is important to have dry conditions around harvest-time so the crop can be stressed to control flowering and ripening," Nat Jaques said.

"In higher rainfall areas, this control is lost."

One of the district's drawbacks was poor soil quality, but this was overcome by the addition of nutrients through irrigation water.

While other pioneer coffee growers near Mareeba have opted for furrow irrigation the Jaques brothers decided on a costly but efficient trickle system.

"This is possibly one of the only coffee crops in the world grown under trickle irrigation," Nat Jaques said.

"We went for the trickle system because it is less labor intensive, is water efficient and left no obstacles to interfere with mechanical harvesting."

More than 160 km of Drossbach Agro-drip irrigation tubing is used, with two drippers rated at two litres an hour servicing each plant.

Bare materials for irrigation cost \$68,000 when bought three years ago but the Jaques brothers carried out all construction and installation work themselves.

Heart of the system is the pumping station where a 23 kW electric pump draws water from the West Barron channel of the Tenango Dam.

"An automatic switching board can be pre-set to water the entire farm in six 6 ha portions, applying different quantities to each block.

Three-stage filtration using a bank of five Arkal water filters is connected to the system and chlorine gas is used to sterilise mains, sub-mains and lateral lines.

A liquid fertilizer injector applies a range of nutrients including nitrogen, phospho-

rous, potassium and trace elements through the water.

The irrigation system will be virtually duplicated when the 45 ha block is planted.

The harvest machine the Jaques brothers have staked their hopes on is a modified New Zealand-built Berrimaster — a machine designed to pick berry fruits — which cost \$70,000 to import.

The harvester, a huge over-the-row machine which gently shakes bushes to remove ripe beans onto conveyor belts, arrived on the farm last August for 12 months of trials before the first major pick this year.

"So far we are pleased with its progress," Nat Jaques said. "We will continue to adjust the main shaking system but early trials on some of our older bushes last year returned picks of more than 90 percent in one pass.

"Depending on conditions, we may have to pick twice in some areas."

Other growers are believed to be considering a Brazilian-designed machine which is considerably more expensive but designed specifically for coffee.

While the Jaques brothers could not give an accurate establishment cost for the crop, it was clearly not a cheap proposition.

Under land leasing arrangements through the Pioneer Project Scheme, they outlaid about \$200,000 on development during the first three years.

Asked whether the crop could be seen as an alternative to the district's ailing tobacco industry, Nat Jaques said coffee was only one of many alternatives open to tobacco growers.

"Prospective growers must remember it is a long-term cropping proposition," he said.

"It takes five years to produce a profitable crop, unlike tobacco where there is a cash return after only 12 months.

"While I don't think Australia will ever become a major world coffee producer, it makes a lot of sense to be self-sufficient," he said.

"Because of Australia's limited history as a coffee producer the range of varieties available was severely restricted."

The five Arabica varieties on the farm include four propagated from seed from Papua New Guinea and a fifth from the DPI Kairi Research Station.

However the DPI is conducting yield trials on several new imported varieties on Southgate Research Station.

The Jaques expect a harvest of between five and 10 tonnes when their first pick starts in August.

Next year, when the bushes have further matured, yields could be as high as 50 tonnes. When all 82 ha is in full production, between 250 and 300 tonnes could be taken off annually.



PART of the 37 ha sown to 90,000 Arabica coffee bushes on the Jaques brothers' Mareeba Coffee Estates. The farm will boast almost 250,000 bushes when a second 45 ha portion is planted in July.

New harvester gives hope for a Queensland industry success

COFFEE growing in Queensland is definitely a "goer" according to Mr Ted Winston, Department of Primary Industry agronomist at Kamerunga Research Station near Mareeba.

Mr Winston predicts a bright future for coffee in the Mareeba district following the successful adaptation of a mechanical harvester from New Zealand earlier this year.

The harvester, originally used for redcurrants, raspberries and blueberries, was imported by grower Dick Jaques for \$70,000 and would

replace the high labor component of coffee harvesting.

The cost of labor was one of the factors which helped destroy Australia's first coffee industry around the turn of the century.

About 60 growers in the Kuranda area were cultivating nearly 180 ha in 1902 when widespread frosts and the newly formed Federal Government dealt them two crushing blows from which they never recovered.

The government reduced the tariffs on coffee and with increasing labor costs, the crop became uneconomical to grow.

The importation of the berry harvester has meant a revitalisation

of the crop in the north and a significant step towards Australia's eventually becoming self-sufficient in coffee.

The country currently imported about 34,000 tonnes of coffee worth about \$100 million. About 40 percent of this was Arabica, the variety most suitable for Queensland conditions.

Mr Winston estimated about 10,000 ha would be needed to supply the Australian market but that was a long way in the future.

At present, about 176 ha has been planted, with a further 120 ha to be planted this year.

The Dimbulah-Mareeba area has a dry winter and spring. This

factor, combined with a drip irrigation system and the mechanical harvester, would be used to control flowering of the crop to once a year.

Flowering took place about December, with harvest in late July, early August.

However, there were limiting factors in its climatic requirements — the area must be totally free from frosts; have a good water supply for irrigation and a regular rainfall pattern, so that storms do not cause irregular crop growth.

The crop grew on well drained sandy soils which were plentiful in the Dimbulah/Mareeba district.

Trial program for Tableland

THE Department of Primary Industries has begun a new research program into coffee growing on the Atherton Tableland.

Seed from the various coffee producing countries around the world arrived in Australia late in 1981 and from last month was released for testing at three different north Queensland locations.

Agronomist Mr Ted Winston of Kamerunga Research Station said the objectives of the research program would be to select the most suitable Arabica cultivars for the local industry, distribute seed or other planting material to

growers and to select the most suitable cultural techniques, developing nutritional, weed and disease programs.

About 50 separate lines have been imported.

Most of these were high yielding and resistant to one or both of the two major coffee diseases, coffee rust and coffee berry disease, neither of which were presently in Australia.

Mr Winston said seedlings from the imported lines would be tested at Kamerunga, Ayr and Southgate (Mareeba) Research Stations and that research staff would try to plant before the wet

\$70,000 coffee harvester

PICTURED at right is the imported berry harvester which has raised hopes for a successful coffee industry in north Queensland. Originally designed for berry crops, the harvester was imported by brothers Richard and Nat Jaques, Mareeba, for \$70,000 in an attempt to reduce the high labor component of coffee harvesting.



MR Nat Jaques checks a bank of six Arkal water filters incorporated in his coffee farm's trickle irrigation system. More than 100 km of Drossbach Agro-drip irrigation tubing is used to supply the 90,000 bushes on the farm.

