The Good Oil

Afternoon sun warming olive groves, a two-storey Mediterranean-style building with terracotta roofing and lime-washed walls. Inside, oil-processing plant, a laboratory, offices, a retail shop and café, and a warm welcome from a South African mechanical engineer. This isn't Tuscany, but Kerikeri, where LORRAINE BROWN went to check out an entrepreneurial Kiwi firm that has dared to take on Europe at its own game.

OLIVADO NEW ZEALAND was launched in 2000 to signal a change in focus for the business established in 1998 as Olives New Zealand, an olive oil venture.

Company founder and Chief Executive Chris Nathan planted 3000 trees, which will become productive in the next year or so.

With its high sunshine hours and Mediterranean-type climate, Kerikeri in the Bay of Islands was a natural location. The 30-acre grove includes a number of varieties of olive trees, including Kalamata, which produce a large and very nutritious olive, and a miniature variety known as Clone 2264RW, which is exclusive to Olivado. It produces olives of a very appealing size and taste.

Mr Nathan wanted to use a modern continuous-process plant to extract high-quality olive oil, but the expensive European machinery would be idle for 11 months of the year. In the face of enormous established competition in the saturated olive oil market, the sums just didn't add up.

So he set about diversifying, setting his sights on extracting food-quality avocado oil using the press he had bought for processing the fruit of the yet-to-mature olive trees (about five years from planting to production).

The avocado and olive seasons are complementary, which, combined with the sheer volume of avocado production, meant year-round utilisation of the plant would be possible.

The venture faced little competition – extra virgin avocado oil for culinary use is pretty much unique to NZ. Much lower-quality avocado oil is produced in Mexico for example, but it is routinely derived from chemical rendering of rotten and very low grade fruit and used in cosmetics manufacture and for producing guacamole.

Quality in, quality out

The lack of precedent meant that intensive R&D was needed before a drop of oil could flow. Mr Nathan worked for more than a year with Alfa Laval of Italy, highly reputed for food-oil processing technology, to develop a process for producing cold-pressed extra-virgin avocado oil. Presses had to be adapted, and additional machinery devised for removing stones and skins.

Traditional cold-pressed oils are made to be used within weeks; the same components of the oils that make them good will soon turn them rancid. Quality and taste were of paramount importance – people will quickly be turned off by inferior oil. Mr Nathan's philosophy is that you must put in quality at the start, to ensure a high-quality end-product.

Olivado sought to produce premium oil with a long life – longer than other avocado oils and indeed most olive oils. Funding from Technology New Zealand helped refine the technology, and under the TBG scheme they employed research assistance from HortResearch and Massey University's Food Science Department. The Massey connection was "crucial"; Olivado's own technical director, Laurence Eyres, was formerly head of Massey's Food Science Department.

Olivado's engineers and the Massey University researchers developed a stabilising system and found ways to make the oil extraction process more efficient while retaining the natural flavour and colour of the oil. The process doubled the shelf-life of avocado oil to two years, and was acclaimed as a breakthrough in food oil technology.

Mr Nathan's faith in quality input has been repaid by the smooth operation of the plant since its installation, and by the extraordinarily high quality of the avocado oil produced. It surpasses the quality standards set for olive oil by the International Olive Oil Council by a wide margin. To be classified "extra virgin", olive oil is required to have a free fatty acid content of less than 1 per cent.

Olivado avocado oil has less than 0.2 per cent, and they believe they can improve it still further.

Production

Engineer Kurt Küpper (who worked for a manufacturer of diesel engines in his native South Africa) provided a tour of the production facility, explaining the plant and the subtleties of avocado oil extraction.

One group of machines is used only for olives. As olives are shaken off trees and picked up off the ground, they have to be cleaned before pressing, in expensive washing machines. Avocadoes, on the other hand, arrive clean – they have already been washed and graded for export. The fruit Olivado uses is separated out during packout for export, rejected as misshapen or undersized or because of skin blemishes.

Technically they are "rejects"' but Mr Küpper stresses that the flesh itself is still perfect. "Unless it's fruit you'd be prepared to eat yourself, you don't put it in the machine." Quality control is straightforward – problems inside the skin can be detected visually from the outside. Product quality is not compromised if the occasional imperfect fruit gets through, but the aim is to ensure that none do.

Unlike olives, which are crushed stones and all for pressing, avocadoes are skinned and stoned, and only the flesh is put into the machine. A machine removes stone and skin, and the flesh, resembling guacamole at this stage, is pumped into a malaxer. This machine, which is enclosed in a water-heated


Avocados being graded

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jacket, gently kneads the paste. This action combined with the heat makes the fruit break up and start to release oil particles, which then coagulate.

The paste is then put through two centrifuge processes. A large horizontal unit removes much of the oil content by prolonged spinning at 5000rpm.

The oil is then sent to the separators, where water is added to aid in the separation of the oil. It is accomplished using machinery similar to that used to separate cream in the dairy industry, and features two vertically mounted centrifuges. It "polishes" the oil, taking out the remaining water. The pure oil is stored in tanks prior to bottling.

Upwards of 500 bottles can be filled and sealed in an hour. They are screw-capped – Olivado used to use corks, which impart a traditional look, but screw-caps ensure a perfect seal, which is important in preserving the quality of the oil for its guaranteed shelf life. A labelling machine smoothes on the labels, and a heat seal is applied over the caps.

The malaxer

The press

The whole bottling process is managed manually, which is adequate for current volumes. It is hoped that in a year or two demand will justify the full automation of the bottling and labelling process.

The product

Avocado oil is essentially a new product, and the market has to be created from scratch. It shares many uses and properties with extra virgin olive oil. It can be put to many of the same culinary uses, and is similar in flavour though milder and less bitter, so it combines well with delicate flavours – Mr Nathan sees them as complementary rather than competing options. It has a much higher smoke point than olive oil, so is better for high-temperature cooking.

Significant health benefits are also being claimed for avocado oil. It is a good source of monounsaturated fat, which helps decrease "bad" cholesterol and may promote the "good" variety. Avocados also contain beta sitosterol, a chemical known to inhibit the absorption of cholesterol into the bloodstream, and also thought to be beneficial to the prostate.

The research students seconded from Massey worked on factors affecting the shelf life of the oil, and studied issues affecting the quality of the fruit supplied from different packhouses around NZ, which bear on the quality of the oil. They also uncovered the fact that NZ-grown avocados have among the highest levels of beta-sitosterol of any grown around the world. The solid research backing has helped Olivado gain the confidence of overseas customers.

In the olive oil field Olivado has numerous competitors in New Zealand, mainly small "boutique" producers; but only one other company, in Tauranga, is producing avocado oil.

Olivado has won the Massey University Premier Food Award, which is presented to companies for "exceptional food technology skills through the systematic, consumer-oriented application of science, innovative technology and marketing resources, to launch an outstanding new, high quality food or beverage product".

Judges called Olivado's processing of avocado oil "revolutionary", and commented on the company's active involvement in the design and commissioning of their process equipment. The product development process, they noted, was "systematic, supported by a team of specialists and closely coordinated to a clearly defined marketing and business plan"; and "careful scientific research" underpinned claims for the product's nutritional benefits and cooking properties.

The future

Olivado's New Zealand market is pretty much where they want it after two years, but the export markets are all in the development phase as yet. They are engaged on a major export drive, targeting Australia, the UK, the USA and South-East Asia with assistance from Trade New Zealand and Industry New Zealand.

In the plant's two years of operation demand has grown constantly. Increasing quantities are exported, mainly to Japan, Korea, Australia, the USA and the UK, along with some smaller markets. The difficult European market can wait – for the time being Olivado has all the clients it can supply. The company is, however, investing in a second plant in Brisbane, Australia. The plant is expected to be operating by end of 2003, and to increase production capacity five-fold.

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