

FIJIAN PAPAYA GETS A BOOST

Growth in exports of high quality papaya from Fiji has the potential to raise the livelihood of smallholder farmers. Helping them achieve the necessary supply-chain innovation is an industry-led ACIAR initiative.

KEY POINTS:

- A sea-freight option is being researched for Fijian papaya farmers and exporters to New Zealand markets.
- A successful trial in 2011 found freight costs can be nearly halved, while doubling papaya exports.
- The project is an example of an effective private–public partnership.

BY GIO BRAIDOTTI

Farmers cultivating cash crops for export face a make-or-break issue: finding the means to economically move produce to markets. The problem is especially acute for Pacific Island farmers located thousands of kilometres from target markets.

For years papaya growers in Fiji relied on the aeroplanes that brought tourists to the islands to freight produce to buyers. Air-freight helped to open markets in New Zealand, Australia and Japan for 'Fiji Red' papayas, but it also imposed high freight costs and limits on the industry's growth.

In good years—when cyclones and floods leave orchards relatively unscathed—production can exceed available air-freight capacity.

2011 was just such a year but, unlike previous good years, papaya growers were able to tap ACIAR support to trial a system to sea-freight Fijian papaya to Auckland retailers.

Dr Richard Markham, research program manager for ACIAR's Pacific Crops program, says the project's starting point was questionable quality at point of sale, which was undermining the reputation of Fiji Red papayas.

"To improve standards requires action all the way from planting material through to crop nutrition, grading and postharvest handling," Dr Markham says. "The sea-freight trial component of the project provides opportunities to compare freight alternatives that can increase the competitiveness of Fijian papaya in export markets by reducing costs and creating opportunities for growth."

The impetus for the papaya project came from an industry service company that is owned by Fijian papaya growers and exporters. Nature's Way Cooperative is located near Nadi International Airport and provides high-temperature forced-air (HTFA) treatment to eliminate the risk of fruit fly from fresh produce destined for export.

The cooperative has more than 300 members, all located in the Western Division of the main island in the Fijian archipelago, Viti Levu. Nature's Way Cooperative established the Fiji Papaya Project to improve the industry's competitiveness for the benefit of its members.

For the shipping trial, the project accessed Australian and international expertise through



PHOTOS: KOKO SIGA FIJI

Papaya is harvested over three days at Produce Specialties Ltd farms at Sigatoka, Fiji.

relationships with research organisations brokered by ACIAR. Prime issues were how best to stall ripening during the longer sea route and the need for cartons that protect the fruit while promoting cooling.

Technical partners participating in the project include the Secretariat of the Pacific Community, the Queensland Department of Employment, Economic Development and Innovation (DEEDI) and Fiji-based agribusiness firm Koko Siga Fiji.

Within Fiji, the Nature's Way Cooperative and Fiji's largest grower and exporter of papaya, Produce Specialities Ltd, were leading participants, while Koko Siga Fiji's Kyle Stice coordinated the project's various activities.

"While research and extension is not the core business of Nature's Way, they have an interest in ensuring a good supply of high-quality fruit," Mr Stice says. "So the company works with farmers and exporters to solve production and marketing issues.

"They approached ACIAR with a proposal to use applied research to solve some of the technical aspects Fiji faces accessing international markets, from the farm through to postharvest handling and freighting."

The papaya industry, while small in scale, is starting to play an increasingly important role in Fiji's economy. High-value crops are increasingly pursued to diversify agriculture following the loss of preferential sugarcane prices from the European Union. Papaya has been identified as one such crop.

"Traditionally the type of work undertaken by the ACIAR project would be done through the Ministry of Agriculture Research and Extension divisions," Mr Stice says. "But because the Ministry is required to serve a whole range of producers, spread across the country, the industry-based partners have the opportunity to be commodity-specific and work directly with industry champions."

Prime among these industry collaborators is Produce Specialities Ltd. It is the largest exporter and producer of Sunrise Solo Papayas, which are grown at its Sigatoka farm on the island of Viti Levu. Its produce is sold in New Zealand, Australia, Japan and, more recently, Hong Kong.

Produce Specialities Ltd was selected as the exporter for the sea-freight trial to Auckland in early 2011 and contributed fruit, cartons and packing material for the 6.5-tonne trial shipment. The Fiji Papaya Project covered freight costs and provided technical support and monitoring equipment, including assessments in New Zealand.

"Aside from the technical treatments, the trial also let us test market uptake of Fijian papaya," Mr Stice says. "Up to this stage, Fiji air-freighted about 700 cartons per week to New Zealand.



Preliminary observations in the carton performance trial indicate that papaya in the cartons with holes (right) did not ripen in transit, while those in the standard cartons (left) did.



Papayas packed in foam and stickered, ready to go.



After two-and-a-half days in the ripening room, the fruit is almost full colour and ready for distribution.

But with sea-freight it was 1300 cartons in a single week. So we got the chance to look at how much Fiji Red papaya the market can take in any given week."

The trial proved a commercial success. A cooling treatment was identified to arrest the ripening process in transit, a major project aim. In New Zealand, the project worked closely with the importer, Fresh Direct, which ran

in-store promotions for Fijian papayas and sold the entire trial container in one week.

Comparisons found that the transport cost per carton was FJD\$3.25 by sea, compared with FJD\$5.98 for air-freight.

"The trial also identified several issues requiring further research, including the strength of the cartons," Mr Stice says. "When used in air-freight, the cartons are stacked seven or eight high, but that was raised to 12 high in the sea-freight and some crushing occurred."

The Fiji Papaya Project is now working with local carton manufacturers in the design of a more appropriate sea-freight carton that allows for cooling in transit and ripening once the fruit is at its destination.

"We believe once we have overcome the issue of an appropriate carton and a few other minor logistical constraints at the packing facility, the exporter will commence with regular sea freighting into New Zealand," Mr Stice says.

At ACIAR, Dr Markham thinks that sea freight can make a major contribution to keeping Fiji's papaya industry competitive in international markets.

Analysis indicates that increasing exports from the 2008 level of 600 tonnes to 4000 tonnes could result in an increase of about FJD\$7 million in export earning and FJD\$3.5 million in direct farm income. A larger production base is also expected to benefit local markets, increase employment, and create opportunities to develop value-added processing industries.

"Whether this specific target is achieved or not, the biggest contribution of the project may be to show how one of Fiji's key export industries can raise standards and compete successfully in international markets," Dr Markham says.

"This successful private-public partnership could serve as a model for other fruits and vegetables and help to raise standards and expectations across the board."

In Australia, the papaya industry has not achieved its full potential due to high losses in the supermarket system and inconsistency of product flavour and fruit-ripening behaviour. Results from the supply-chain components of the Fiji Papaya Project and parallel research funded by ACIAR in Queensland are also expected to benefit Australian farmers. ■

PARTNER COUNTRY FIJI

PROJECT: PC/2008/003 Strengthening the Fiji papaya industry through applied research and information dissemination

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