



# Quarterly Newsletter

Issue 10 – November 26<sup>th</sup> 2012

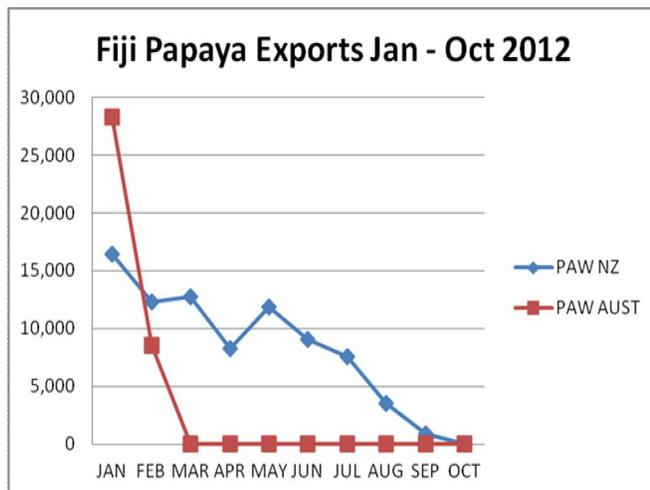
## Bula Vinaka!

Welcome to the 10<sup>th</sup> quarterly newsletter of the Nature's Way Cooperative Fiji Papaya Project (FPP). The objective of these newsletters is to provide up-to-date information on the project to farmers, exporters, and other interested stakeholders.

The FPP is an applied research project aimed at improving the competitiveness of our industry for the benefit of its members.

## Fiji Papaya Industry set to resume exports in early 2013

Following the devastating floods in January and March 2012, Fiji Papaya exports gradually declined until they ceased in September 2012. This loss of exports had a significant impact on the income of farmers, exporters and Nature's Way Cooperative (NWC). Thanks to the hard work of the farmers and with assistance from various partners, the industry is now on the road to recovery.



According to a recent FPP field survey and compilation of data from our partners, a total of 178 acres of papaya are currently on the ground. This is spread across three main geographic areas:

- Sigatoka – 144 acres
- Nadi – 26 acres
- Lautoka/Ba – 8 acres

This data only includes papaya farmers within the NWC partner network and it is likely that if data was available from all other sources that this total acreage figure would be much higher.



*Post-flood papaya production in Bilalevu, Sigatoka ready for harvest in February 2013.*

Based on planting date information available, the following harvest estimations are made:

December 2012 - 5 acres coming into production  
 January 2013 – 15 acres coming into production  
 February 2013 – 40 acres coming into production  
 March 2013 – 50 acres coming into production

At a recent special exporter meeting, the FPP learned that many exporters are already registering their suppliers and preparing to resume exports to New Zealand beginning in January/February 2013.

## New approach to 'Fiji Red' papaya seed production is looking promising

The initiative by the Fiji Papaya Project (FPP) and its partners to develop the capacity of the private sector to produce high quality papaya seed is looking promising.

The FPP is currently working with 11 registered farmers to produce 'Fiji Red' papaya seed. These participating farmers are strategically located in Sigatoka, Nadi, Ba and Taveuni to help mitigate against the risk of natural disasters. There is a total of 15 acres of established papaya registered with the seed production scheme. The current arrangement with participating farmers is that NWC (through AusAID funding) will provide seedlings, inputs, technical support & advice to farmers in return for access to 10% of the best trees in a papaya block for the FPP to carry out its selection, bagging and fruit collection. The resultant seed from these bagged flowers/fruit will be the property of NWC and made available to farmers/nurserymen at a commercial rate. Harvesting of bagged fruit under this scheme has already begun, however the largest of the seed blocks will come into production in February 2013.

Under this scheme, the Fiji Ministry for Primary Industries (MPI) Research Division will provide an auditing and certification service to the participating seed producers. MPI has already carried out a 'mock' audit of Nadi seed blocks, with the first official audit set for December 2012 after which time seed will be available for sale.

With a dependency on imported seed from the University of Hawaii, the Fiji Papaya industry has made itself vulnerable to disruptions in supply as well as potential disease introductions. This vulnerability has been directly felt following the recent flooding in Fiji which coincided with a period of seed non-availability from the University of Hawaii. It is envisioned that this seed producer's scheme will provide a long term solution to this issue.



*The FPP staff along with MPI Research staff discusses fruit quality characteristics during the seed producer's scheme 'mock audit' in late October 2012.*

## Modified Atmosphere Packaging trial provides new options for sea freighting Fiji Papaya

Two post-harvest trials were conducted in Fiji between July and August 2012 to investigate the effects of several modified atmosphere packaging (MAP) bags and cold storage durations on the shelf life of papaya. This trial was a collaborative effort between the FPP and staff from the Queensland DAFF.

Fruit in both trials followed normal export procedures and then received a hot water dip at 48°C for 20 min for disease control. In the first trial, fruit were packed and enclosed in a bag liner made of either a (A) LifeSpan type C polyamide film with macro-perforations, (B) a Low Density Polyethylene (LDPE) film with 10 g of KMnO<sub>4</sub>, or placed in a (C) carton without a bag (control fruit). In a second trial, fruit were packed and enclosed in either a (A) PeakFresh film, (B) Z106 kiwifruit film, (C) Z108 cherry film, (D) Cling Wrap (a low density polyethylene material), or placed in a (E) sealed carton (without vents) with 10 g of KMnO<sub>4</sub>.

Fruit from both experiments were then held in cold storage at 10°C for either 3, 2 or 1 week (first experiment) or for only 3 weeks (second experiment) and then assessed over a 9 day shelf life period at 23°C for changes in quality and ripening behaviour.

Results indicate that the LDPE bag, followed by the Z108 and Z106 MAP bag types, generally provided the most favourable outcome in terms of post-storage ripening and quality responses. This study also demonstrated that these fruit were capable of being stored up to 3 weeks without any deleterious effects on quality, being the equivalent amount of time in which fruit could be transited by sea to Australia.

Future studies will focus on the examining of the efficacy of LDPE bags under commercial conditions, given the cost of these bags is relatively cheap in Fiji. In this study, fruit placed in the LDPE bags not only ripened faster (in terms of colour development and higher Brix levels) but also lost less moisture and had a high flavour rating at an eating ripe stage. Future work will also consider further methods for controlling disease, particularly if MAP technology is to be considered for an export scenario. A detailed trial report can be found on the project website.

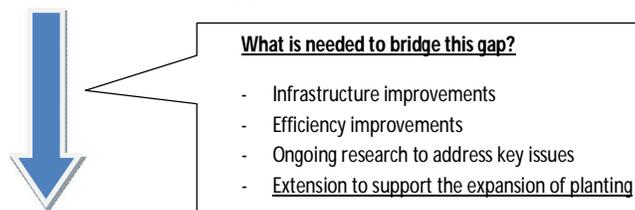


*Papaya fruit packed in various bags as part of the modified atmosphere packaging (MAP) which aimed at a storage time of 3 weeks to enable sea freight of Fiji Papaya to Australia.*

## NWC pushes to expand papaya production into new areas

Nature’s Way Cooperative (NWC) in its Strategic Plan has outlined some steps necessary to bridge the gap between the current throughput of 1300 tonnes and the target throughput of 3000 tonnes. One of the strategies identified is a continued extension effort to support the expansion of planting. Given the result of the two floods earlier this year, NWC also feels that it is important to spread the production outside of the traditional growing areas in order to mitigate against natural disasters.

1300 tonnes (NWC Current throughput)



3000 tonnes (NWC Target throughput)

On this basis, NWC launched a small extension programme into the Sigatoka Upper Valley and Ba area headed by the Fiji Papaya Project which commenced in April 2012. The programme first focused on existing NWC members who were not actively supplying produce for exports. The extension approach taken was to:

- Establish key farmer groups in target areas;
- Organise farmer/exporter meetings;
- Sign up interested farmers to participate in the extension programme;
- Conduct weekly visits to all groups to support the planning and establishment of export orientated papaya and eggplant blocks.

The Sigatoka Upper Valley programme focused on the target areas of Keiyasi, Naveyago, Toga, Tubeirata and Nabaka. After 7 months in operation, this programme has helped to establish approximately 17 acres of papaya and 11 acres of eggplant in these areas. In the Ba programme, the focus areas are Marinitawa, Nukuloa, Nacaci and Toge. Despite very productive meetings in these areas, the establishment of new plantings has been limited due to the sugarcane harvesting season.

## Fiji Papaya industry strengthens its defence against biosecurity threats

The Fiji Papaya industry remains vulnerable to the introduction of exotic pests and diseases. Fiji currently has a very favorable pest and disease status which allows for the production of papaya without the use of pesticides. In a continued effort to try to maintain this status, the Fiji Papaya Project is working with the Biosecurity Authority of Fiji (BAF), Secretariat for the Pacific Community (SPC), AusAID funded PHAMA project and Fiji MPI to put in place a broad Biosecurity Exclusion Plan for a range of pest and disease threats. The taskforce is also finalizing a very specific Emergency Response Plan for high priority diseases such as *Erwinia papayae*.

## Papaya intercropping provides good returns to Nadi farmer

Young farmer Devesh Nath is carrying out his own papaya intercropping trials at his Votua Levu, Nadi farm and is reaping good returns. Devesh has two new papaya blocks which he has planted after losing his last crop to the March 2012 floods. In his first planting after the flood, Devesh intercropped his papaya with eggplant, hoping to get a return on his investment even before the papaya harvesting began. This plan worked and Devesh has been harvesting eggplant for the last two months and supplying a nearby exporter. After two months of harvesting the peak crop from the eggplant, Devesh plans to remove the plants and focus all his attention on the papaya which will be coming into production in February 2013.

In Devesh's second papaya block of 2.85 acres, he has intercropped it with black eye cow peas which began fruiting only 2.5 months after planting. In total, Devesh has harvested around 1.2 tonnes of cow peas which he processed and sold to a nearby exporter for a total return of \$4,266. Devesh has now removed his cow pea plants and is focusing on getting the papaya mounds ridged, in preparation for the rainy season. This block is scheduled to come into production in July 2013.



*Young farmer Devesh Nath has been getting good returns from his papaya intercropping trials like the one pictured above which incorporates eggplant and papaya.*

## Contact details

Fiji Papaya Project Office  
Nature's Way Cooperative,  
Nasoso Rd. Nadi.  
[www.fijipapayaproject.com](http://www.fijipapayaproject.com)  
E: [fijipapaya@gmail.com](mailto:fijipapaya@gmail.com)  
O: 679-672-4985  
M: 679-930-6645

