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NWC Research and Extension News

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New farmers rise to the challenge in 2014 — HTFA exports from outside Sigatoka Valley increase

Fiji's fruit and vegetable export industry has historically relied on supply of its produce almost entirely from the Sigatoka Valley. This narrow geographic supply base has left the industry highly vulnerable to natural disasters such as flooding and cyclones.

A long term goal of the industry has been to encourage farmers outside of the Sigatoka Valley to begin growing HTFA crops for export. Nature's Way Cooperative (NWC) in partnership with the Ministry of Agriculture have been working towards this goal for over five years. With funding from the New Zealand Aid programme which began in June 2013, NWC was able to expand and consolidate its extension activities and the results have been encouraging.

In 2013 there was an official record of 164 farmers supplying HTFA crops to exports. In 2014, this figure grew by over 30% to include 216 farmers (Table 1). Official figures also reveal that this growth in new farmers came primarily from outside of the Sigatoka Valley. Areas such as Nadi recorded a 142% increase in number of farmers supplying HTFA products for exports. The localities of Lautoka and Ba also had good increases (75% and 29% respectively).

Figures such as these are encouraging for the industry and reveal that our export markets might be more protected from extreme vulnerability caused by natural disasters.



Table 1: HTFA Farmer Suppliers by locality

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	2013	2014	% increase
Sigatoka	125	146	16
Ва	28	36	29
Nadi	7	17	142
Lautoka	4	7	75
Others	0	10	1000
Total	164	216	31

A new Nadi farmer stands beside her export grade papaya. As part of the NWC disaster mitigation strategy, farmers outside of the Sigatoka Valley are being encouraged and supported to plant BQA



Research Update

Lessons from the commercial organic papaya pilot project

Building on research findings from the FPP, a group of young farmers from the Sabeto Valley in Nadi have formed a group to expand production of organic papaya. The Sabeto Organic Producers Association (SOPA) are using a local organic certification system called the Participatory Guarantee System (PGS). The PGS programme is an initiative driven by the Pacific Organic & Ethical Trade Community (POETCom) through funding from the International Fund for Agricultural Development (IFAD). This pilot project was technically supported by the Fiji Papaya Project and received financial assistance from the SPC/USAID Climate change fund and the EU funded SPC project Improving Key Services to Agriculture.

The first SOPA harvests began in August 2014 and to date the group has sold over 14 tonnes of export fruit (Total value of \$16,800) and have supplied the local market with 20 tonnes of fruit (Total value of approximately \$10,000). The group is also collaborating with the Nature's Way Cooperative Certified Seed Scheme and have supplied seed fruit to the scheme of a total value of \$2,500. These papaya sales provided much needed money for the farmers and some for SOPA as an organization.

This commercial organic papaya pilot project has revealed a number of very important lessons for future organic producers, including:

- Organic papaya farming should have integrity and remain committed to its basic principles. It is a challenge but is imperative.
- Organic farming uses a different language, a different approach and different tools as opposed to conventional farming.
- Organic fertilizer inputs needs to be consolidated to make the recipe more affordable and accessible to small scale commercial farmers.
- The process of composting for large scale farming was labor intensive and difficult without the proper machinery.
- For this trial the economic performance of the organic planting was on par with conventional plantings however a premium price will make the difference.

Members of SOPA stand beside a new organic papaya farm that has been fertilized with a mix of composted animal manures and fish products.

The availability of affordable organic inputs remains a key constraint to future commercial organic papaya plantings.



New way forward for papaya post-harvest disease control — First commercial hot water consignments completed

After four years of research and significant investment, Fiji papaya exporters now have a way forward in the battle against post-harvest rots during the rainy season.

The new hot water dipping units that were commissioned at NWC in early 2015 have seen their first commercial consignments of papaya bound for New Zealand. This treatment is being offered to all exporters as a mitigating strategy for post-harvest rots caused by Anthracnose and Phytophthora.

The hot water treatment protocol is a result of the ACIAR funded Fiji Papaya Project. The capital investment in the hot water dipping unit was provided by New Zealand Aid.

Trial work on post-harvest disease management in eggplant will begin soon using the newly commissioned hot water units.



The new hot water dipping unit at Nature's Way Cooperative has begun commercial consignments and participating exporters are now reaping the benefits.

New packaging for NWC papaya seeds extends viability

Nature's Way Cooperative has invested in new foil seed packaging to help extend seed viability of its certified 'Fiji Red' seeds. The new packaging is impermeable to moisture and also blocks out sunlight. The new seed packets also include a re-sealable zip enabling farmers to use only some seeds and then reseal and store.

The new seed packaging is part of NWC's commitment to providing the industry with the best quality 'Fiji Red' seed and draws on extended research into papaya seed storage carried out by the Fiji Papaya Project.



New re-sealable foil packets will extend the storage time for papaya seed and improve viability.

Project Overview

The Fiji Papaya Project (FPP) is an applied research project aimed at improving the competitiveness of our industry for the benefit of its members and the broader community. The FPP began in July 2009 and has just been granted another 6 months of funding to continue research activities. Funding for the Fiji Papaya Project is provided through the Australian Centre for International Agricultural Research (ACIAR) in partnership with the Secretariat of the Pacific Community (SPC), NWC, KSF and the Fiji Ministry Of Agriculture (MOA).



Research Update

Harvests from commercial breadfruit orchards begin way ahead of schedule

The first commercial breadfruit orchards established in Fiji have begun producing fruit way ahead of schedule to the delight of farmers.

PACIFIC BREADFRUIT

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When the Pacific Breadfruit Project (PBP) approached potential farmers about planting breadfruit back in 2011, they indicated that the trees would likely begin fruiting within 3-5 years. However through the use of high quality planting material and good farm management, the first of the breadfruit orchards planted as part of the PBP have begun bearing export grade fruit after only two years and three months.

The PBP is now working with commercial farmers and collaborating exporters to prepare these orchards for export. In order to export breadfruit to New Zealand, a series of protocols need to be followed as part of the Bilateral Quarantine Agreement (BQA) between Fiji and



In anticipation of fresh exports to New Zealand, protein bait spraying has commenced at a commercial breadfruit orchard that was established less than 3 years ago with support from the PBP.

New Zealand. It is envisioned that the first export consignment from these commercial breadfruit orchards will go to New Zealand before the end of 2015.

SPC harvests its first tissue culture breadfruit

For the first time, the SPC Centre for the Pacific Crops and Trees (CePaCT) has harvested the fruits of trees that underwent the tissue culture process in the laboratory, growing in a test-tube before being planted in the field.

"From our field assessment, it takes about three years for a tissue culture breadfruit plant to produce fruit ready for consumption, depending on the variety, management and environmental conditions. It takes about three months for a fruit to mature from the flowering stage. This information helps us determine the feasibility of commercial production of breadfruit. The trees growing from root suckers also took at least three years to produce fruit ready for consumption," explained Valerie Saena-Tuia, Genetic Resources Coordinator of CePaCT.

Breadfruit was first established in the laboratory in 2005 as part of the protocol developed by CePaCT. Results were presented and published in the first SPC-led International Breadfruit Symposium held in Nadi in 2007.

As part of the ACIAR funded Pacific Breadfruit Project, CePaCT has been collaborating with NWC, Ministry of Agriculture and commercial farmers in Fiji to evaluate these tissue cultured breadfruit trees under normal field conditions.

Breadfruit lessons from the North Pacific new partnerships forged for PBP

Pacific Breadfruit Project officer, Kaitu Erasito, recently returned from a series of breadfruit workshops and consultation meetings in the North Pacific. Kaitu was part of a team of breadfruit experts led by the University of Hawaii Pacific Regional Breadfruit Initiative. The workshops were held in three main locations, including:

- Majuro Atoll, Republic of the Marshall Islands
- Pohnpei and Chuuk, Federated States of Micronesia and
- Saipan, Commonwealth of the Northern Mariana Islands

A number of key lessons for the South Pacific came out of the workshops which are available in a report pre-

pared by Kaitu for distribution. Among the lessons learnt are the potential for various scales of breadfruit flour processing, this includes small village processing and larger commercial



Local entrepreneur from the Federated States of Micronesia Simon Mix – with his breadfruit drier container.

processing. The consultations and field visits also highlighted the suitability of breadfruit to agro-forestry systems and how some of these systems are highly productive and resilient to natural disasters and climate change.

Caribbean to host International Breadfruit Conference—July 2015

The University of the West Indies, Trinidad Campus, will be hosting an International Breadfruit Conference from 5th—10th of July 2015.

The theme of the breadfruit conference is 'Commercialising Breadfruit for Food and Nutrition Security'.

The Pacific Breadfruit Project has submitted three abstracts for this conference and is now looking for sources of funding.

Project Overview

Established in May 2011, the four-year Pacific Agribusiness Research and Development Initiative (PARDI) project, "Developing commercial breadfruit production systems for the Pacific Islands", aims to assist small-holder farmers to move to growing breadfruit as a commercial crop. The first stage of the project will deal with commercial orchard production and post

-harvest handling for fresh exports. The second stage will deal with commercial processing of breadfruit. The project is funded by the Australian Centre for Agricultural Research (ACIAR).







Export Update



Source: NWC



NWC Research and Extension Partnership Committee:

