NWC Research and Extension NEWS

Issue 7
February 2016

Inside this issue:

Commercial breadfruit orchards come into production

Nature's Way Cooperative (NWC) through the ACIAR funded Pacific Breadfruit Project (PBP), has supported the establishment of a number of pilot commercial breadfruit orchards around the Western Division of Viti Levu. Most of these orchards are between 2-3 years old and several are now coming into commercial production.

NWC has been working with the MoA Extension Division to assist these breadfruit farmers to maintain the required protein bait sprays that will allow them to be eligible for export registration. NWC is also providing support to the commercial farmers on harvest and post-harvest handling. It is envisioned that breadfruit exports to New Zealand will resume in 2016 with the addition of these commercial blocks which allow for improved quality and efficiencies compared to the traditional 'wild harvest' system of breadfruit exports.

Although the PBP officially ended in July 2015, NWC through its research and extension programme is continuing to collect data from established field trials and provide extension support to the participating breadfruit farmers. It is anticipated that a number of new breadfruit research activities will commence soon under a new ACIAR Tropical Fruit Project coordinated by the University of the Sunshine Coast.

NWC farmer members with first harvests from commercial breadfruit blocks established under the PBP.

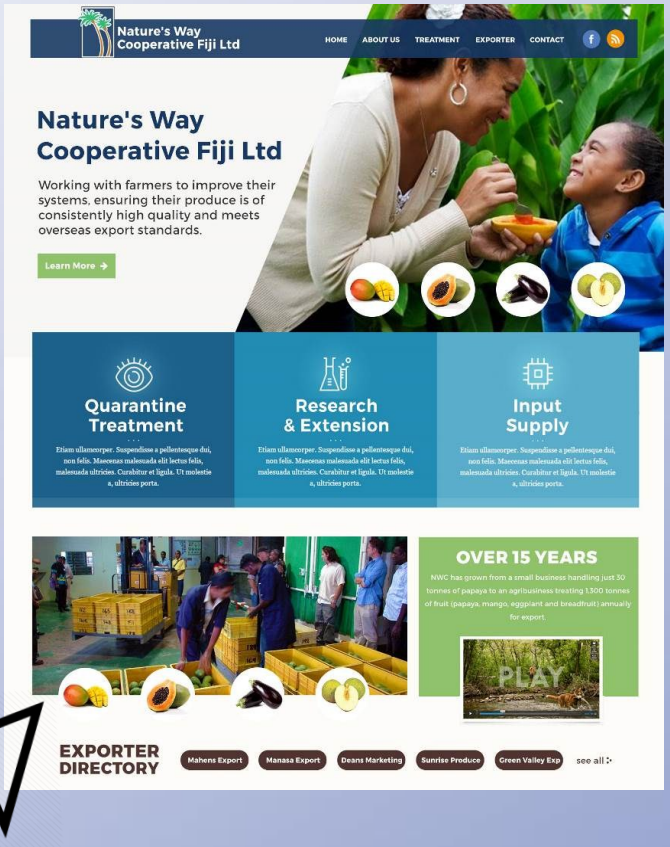
NWC soon to launch new website with support from NZ Aid

After 20 years of operations, NWC will soon have its own website thanks to a grant from NZ Aid. The new website which is being developed locally has the following objectives:

- To raise the online profile of NWC and its members
- To provide stakeholders and potential buyers with easy access to key information resources related to the four key commodities
- To provide a reference point for the 'Fiji Red' Papaya Brand and 'Fiji Red' Papaya Certified Seed Scheme.

The website provides visitors with information about the cooperative including a brief history, organisational structure and key services. The website also provides information about the four commodities that NWC handles: papaya, breadfruit, eggplant and mango.

The website design is now complete and content is being uploaded along with exporter profiles. The website is targeted to be launched by the end of April 2016 as www.nwcfiji.com.



Growth in NWC sale of key agricultural inputs

Quarantine treatment is the core business of NWC however over the years members have requested that NWC assist in the sourcing of key agricultural inputs which are not being well by the private sector. NWC now has three product lines which all continue to experience growth in sales. NWC offers these products to its members at cost plus a small handling charge. These products include:

Certified 'Fiji Red' Papaya Seed—NWC is the sole retailer of 'Fiji Red' Papaya Certified Seed. All certified 'Fiji Red' papaya seed is produced in accordance with the 'Fiji Red' Seed Production Standard. All participating seed producers under the 'Fiji Red' Certified Seed Production scheme are registered with Nature's Way Cooperative and farms are monitored fortnightly during the bagging period and weekly during the harvesting period. MOA Research Division provides quarterly auditing of participating seed producers. All 'Fiji Red' seeds are packed and sealed in specially designed moisture impermeable aluminium foil packets and labelled according to batch number and packing date. Seed packets are stored in air tight containers at Nature's Way Cooperative and refrigerated in a commercial cooler at 6 deg C.

Plastic field crates—NWC retails plastic field crates for harvesting and transporting fresh produce. These UV protected crates are sourced from New Zealand and have proven to be durable under Fiji conditions. Ideal for fruit and vegetables these crates are easy to stack with folding handles and easy to wash.

Protein Bait Spray—NWC retails 'Prima' Protein Bait Spray for the control of fruit flies. Application of protein bait spray is a requirement under the bilateral quarantine agreement (BQA) between New Zealand and Fiji for the export of eggplant, breadfruit and mango. 'Prima' Protein Bait Spray is manufactured in Malaysia and contains proteins and sugars with a fruit odour. 'Prima' Protein Bait Spray is an approved product under the BQA and proven to be effective.

Research continues on Fiji Eggplant Disorder

Fiji's eggplant export industry has been significantly impacted by a disorder which has increased in frequency over the last quarter of 2015. A total of 14 incident reports on the eggplant disorder have been prepared by NWC since 2014. The recent occurrence of the eggplant disorder is leading to reject rates of around 50% for some consignments, with the affected fruits having skin lesions that make them unmarketable. These occurrences of the disorder impact the business of exporters as well as their supplying farmers and the other actors in the supply chain.

In response to this issue, the Ministry of Agriculture Research Division has formed a Fiji Eggplant Disorder Research Taskforce to look into the possible causes and provide the industry with some mitigating strategies. The taskforce comprises of representatives from the Ministry of Agriculture Research and Extension, Biosecurity Authority of Fiji, Nature's Way Cooperative, the Secretariat of the Pacific Community and an exporters representative. The taskforce is chaired by the Ministry of Agriculture Principal Research Officer—Horticulture.

Through reviewing the series of incident reports the taskforce has concluded that there is some unknown variable in some eggplant consignments which is making the fruit less tolerant to the HTFA treatment.

The taskforce has completed four trials to date including:

Trial 1 (TR 1) – Influence of high nutrient levels from chicken manure on incidence of eggplant disorder symptoms

Trial 2 (TR 2) – Influence of harvest maturity on incidence of eggplant disorder symptoms

Trial 3 (TR 3) – Influence of physical damage (compression) on incidence of eggplant disorder symptoms

Trial 4 (TR 4) – Influence of variety/cultivar on incidence of eggplant disorder symptoms

The very low incidence and severity of the observed disorder symptoms indicate that the disorder was not actually present at the time of the trials. These results indicate that none of these treatments had in impact on the incidence or severity of the disorder under the field conditions at the time of the trial. These results provide an indication that these treatments may not be the main factor in causing the eggplant disorder however we cannot conclusively say that these treatments would not be contributing factors (rates of fertilizer, variety, physical damage and maturity) under different environmental conditions.

Because the frequency of the disorder incidents is very random, the probability of encountering disorder symptoms under trial conditions is quite low. Therefore the taskforce has designed a "work back response trial' to compensate for this factor and hopefully increase the probability of seeing disorder symptoms under trial conditions.

Figure 1: Research Taskforce members doing preliminary quality assessments at Nature's Way Cooperative

Fresh fruit exports struggle with dry weather

NWC CEO Michael Finau Brown predicts a decline in fresh exports of BQA commodities such as papaya, eggplant, mango and breadfruit if the El Nino conditions continue and this will be a threat to the industry. Total exports of these four commodities stood at almost 1000 tonnes in 2015, down from nearly 1400 tonnes in 2011.

The drought conditions faced in the Western Division of Fiji as a result of El Nino have had a significant impact on the existing HTFA crops in terms of reducing quality and overall yield. The dry weather and forecast for continued dry weather has also resulted in a significant decrease in new plantings. For exporters there is a critical volume needed in order to make consignments economically viable. When farms struggle to produce the right volumes and quantities required for export then all of the actors in the value chain suffer.

The dry weather conditions have been combined with a number of other issues facing the industry including recent trade suspensions with NZ, disease problems and increasing costs.

NWC is working in close partnership with the Ministry of Agriculture and other stakeholders on a number of key initiatives to help its members address the existing issues and plan for emerging issues and opportunities.

'Our experience over the past 20 years in operation is that there is also challenges but when farmers, exporters and all the other stakeholders work together for a common goal then we can rise above these challenges' Michael Brown.

New propagation trials on breadfruit and Wi aim to increase availability of planting material

Following participation of NWC research staff at the International Breadfruit Conference from 5th—10th of July 2015, held at the University of the West Indies, Trinidad Campus, it was identified that Fiji breadfruit varieties might be successfully propagated through stem cuttings.

At the Ministry of food production's La Reunion Plant Propagation Station in Trinidad, commercial breadfruit propagation is carried out using stem cuttings. The process has taken almost 30 years to fine tune. This technology has a strike rate of 98% if proper procedures and the right materials and equipment are used. The setup is a basic propagation bin filled with coconut peat. The stems are cut from mother plants and planted in free draining rooting medium under low light and high humidity. The whole process takes 24 weeks from cutting of the stem to hardening stage and field ready. The results of this propagation technique were encouraging as opposed to the root cuttings propagation technique that was used by the PBP which had a 15% strike rate and a very long production period.

The NWC Research and Extension Team have now established propagation trials in collaboration with a private nurseryman in order to trial the effectiveness of this propagation technique on breadfruit and Wi.

Figure 2: NWC propagation trial on stem cuttings for breadfruit and Wi.

Policy briefs highlight role of farmer organisations in agricultural research and extension

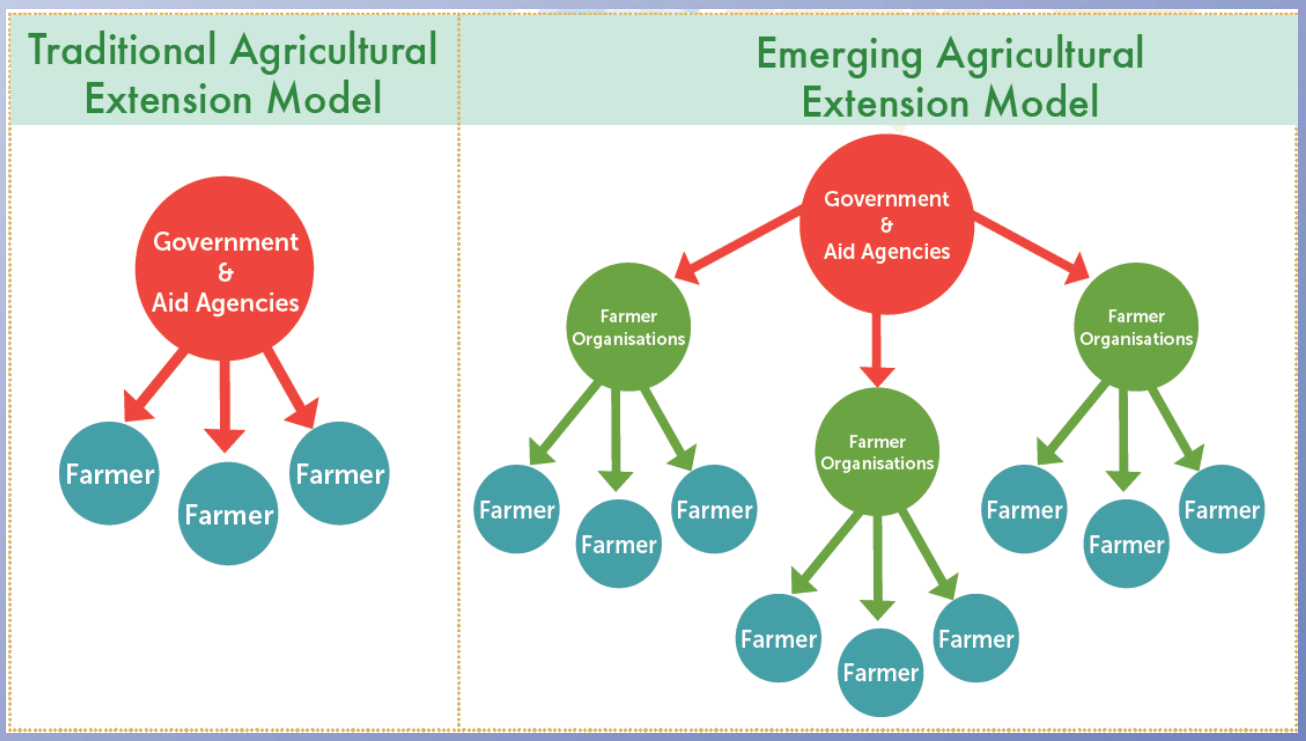
The Pacific Island Farmers Organisation Network (PIFON) has recently published two key policy briefs highlighting the role of farmer organisations in agricultural research and extension. These policy briefs were funded through the EU-SPC Pacific Agricultural Policy Programme (PAPP).

Related to agricultural research, the policy brief concludes that a partnership between agriculture ministries, relevant public sector organisations and farmer organisations will increase the depth and quality of agricultural research as well as see more comprehensive and widespread adoptions of the results. The need for such an approach has assumed greater urgency with pressures of climate change, declining soil fertility, population growth, rapid urbanisation and the NCD epidemic that is currently being experienced in the region. The policy brief explores the advantages and disadvantages of the centralised research model where agricultural research all takes place on one or two main government-run research stations and compares this with the decentralised research model which utilises a farmer participatory approach where trials are replicated on sites across a wide range of agro-ecological conditions.

Related to agricultural extension, the policy brief stresses that farmer organisations can effectively and efficiently complement the work of government and aid agencies by extending the outreach of support to farmers. The policy brief explores the advantages and disadvantages of the traditional government operated extension model compared to some of the emerging farmer organisation extension models. The NWC emerging field service is used as one of the examples of famer organisations successfully involved in providing agricultural extension services. Other examples include: Teitei Taveuni and the Tutu Rural Training Center— Extending sustainable agricultural practices to taro and kava farmers in Fiji's Cakaudrove Province and The Vanuatu Farm Support Association and Spices Network—a partnership between a private agribusiness and an FO that enables village farmers in remote locations to grow premium quality spices for export markets.

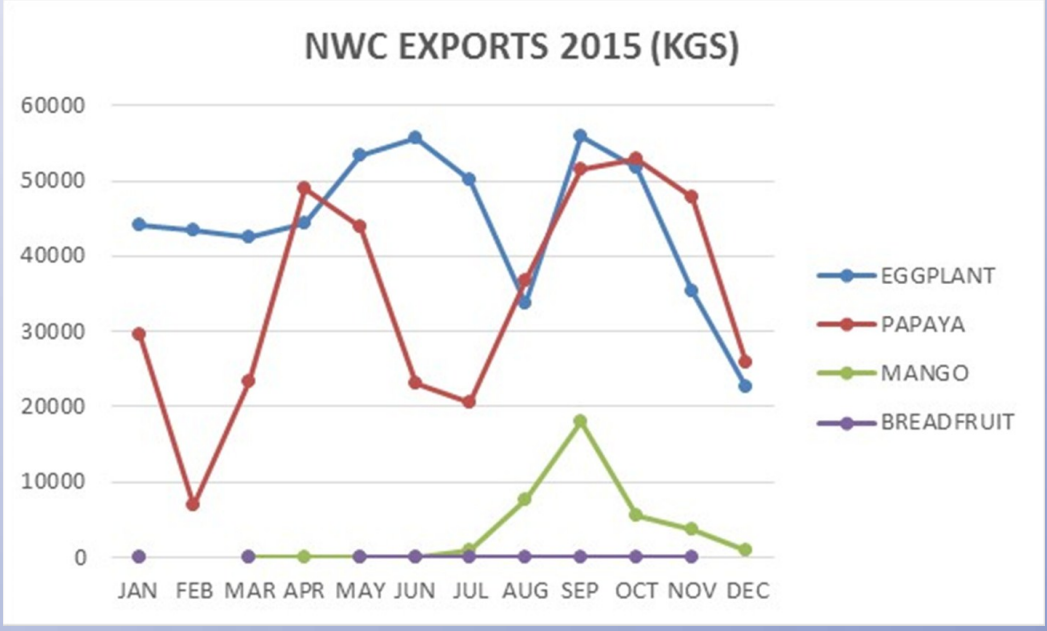
PIFON is a network of farmer organisations in the region that has been operating informally since 2008 and was formally registered in 2013 by 18 foundation national FOs, from 6 island countries. PIFON is intended to serve as an umbrella organisation for national FOs to: coordinate capacity building, share success stories and the lessons learnt, support regional exchanges of expertise between FOs and their associated private sector and donor agency partners.

To download these policy briefs visit www.pacificfarmers.com.



Export Update

Source: NWC



Source: NWC

NWC Research and Extension Partnership Committee:

Australian Government
Australian Centre for International Agricultural Research

NATURE'S WAY COOPERATIVE

BIOSECURITY AUTHORITY FIJI

KOKO SIGA FIJI

AGRICULTURE

PARDI

NATURE'S WAY COOPERATIVE

Growing the Pacific.
Growing our future together.
SPC Land Resources Division

TAIWAN ICDF