

Enhanced fruit systems for Tonga and Samoa (Phase 2): Community based citrus production



Key details

Location

Samoa, Tonga

Duration

Start Sep 2021

End Jun 2025

Budget

AUD 1,227,721

Commissioned organisation

University of the Sunshine Coast

Partners

Food and Agriculture Organisation of the United Nations; Mainstreaming of Rural Development Innovation; Ministry of Agriculture and Food, Forests and Fisheries, Tonga ; Nishi Trading; Scientific Research Organisation of Samoa; University of the Sunshine Coast

Project Leader

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Program

Horticulture

Project code

HORT/2019/165

in support of pro-health outcomes and wider community development impacts.

While increasing domestic citrus production in Tonga and Samoa creates potential health benefits (based on providing a more reliable and affordable supply of domestically grown fruit), there is a need to better understand consumer purchasing behaviour and food choice, if agronomic gains are to be translated into diet change. New knowledge on cultivar preference, priority markets, price point, product quality and safety are required to guide agronomic and postharvest interventions. New knowledge on local food choice and dietary behaviour is also required to early identify and address potential barriers (and/or incentives) to increased fruit consumption (particularly for women).

Project outcomes

- Acquiring new knowledge on consumer purchasing behaviour and food choice to aid the design of value chains and help to avoid unforeseen resistors to increasing fruit consumption.
- Identifying rootstocks best suited for deployment on smallholder farmer systems.
- Gaging the level of HLB hazards and identifying best suited citrus cultivars for long-term deployment in Tonga and Samoa.
- Testing and promoting strategies to improve orchard preparedness for high-wind events to support the sustainability of new citrus orchards and aid the wider development of climate resilient agriculture production systems.

Overview

This project aims to increase domestic citrus production in Tonga and Samoa

- Identifying farmer motivations, incentives and resisters to engaging in citrus production will be gleaned.
- Evaluating existing supply chains and market practice to identify key risk factors likely to reduce fruit quality, increase loss, and priority areas for remediation.
- Identifying low-cost strategies to reduce farm and market loss.
- Developing a “Polynesian-model” that ensures NCD health benefits, and incorporates strong local dietary preferences, food literacy, and challenging local soil fertility conditions.

Annual progress

2021-22

Tonga

Citrus orchards (established by [HORT/2014/077](#)) have been maintained by local stakeholders and were not adversely affected by the Hunga Tonga–Hunga Ha’apai volcano eruption and associated tidal waves. Trees at the Nishi orchard were harvested in April to June 2022, with strong local consumer demand. We anticipate orchards elsewhere on Tonga’tapu and Eua having their first commercial harvest in 2023. We have constructed a large windbreak netting structure at the Nishi orchard to evaluate potential cyclone mitigation options, with wind speed monitoring equipment currently being sourced. A vegetative-protection structure option will also be established on Eua Island. A plant propagation capacity-building strategy is being finalised. We have amended our grafting methodology to improve success rate and identified suitable trainers in Australia for the capacity-building of our team and partners. Plant propagation training workshops are planned for late 2022.

Samoa

To better understand the local citrus value chains, a rapid analysis of vendors has been undertaken. This study reported 98% of local citrus came from Savaii Island, specifically Falealupo, Papa Sataua and Tufutafoe, validating our village selection. Two community forums have been held to brief community stakeholders. Human Research Ethics Approval has been gained. A large farmer survey is currently underway in Savaii to document farmer practice, resisters and enablers, and enable farmers and household selection.

A first version citrus production manual (with Tongan and Samoa language versions) and value adding training manual have been prepared. Training workshops (production, postharvest and value adding) are planned for mid-October 2022.



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