

Optimising tissue culture of coconut in support of saving the Pacific regional genebank



Key details

Location

Fiji, Papua New Guinea, Samoa

Duration

Start May 2017

End Nov 2018

Budget

AUD 200,000

Commissioned organisation

The University of Queensland

Partners

Cocoa Coconut Institute of Papua New Guinea; Ministry of Agriculture; Secretariat of the Pacific Community

Project Leader

Steve Adkins - University of Queensland

Program

Horticulture

Project code

HORT/2016/056

needed to move the Pacific Regional Coconut Gene Bank from Madang to far eastern Papua New Guinea and to set up a duplicate collection in Fiji and Samoa.

It aimed to achieve this during a series of research activities, and to re-invigorate the laboratory facilities required to do this. It also aimed to provide guidance and methodology to create the duplicate collections in Fiji and Samoa, and strengthen the methodology needed to collect new coconut accessions in the field.

The copra industry in Papua New Guinea and the Pacific Islands has declined, but coastal communities still depend on coconut (*Cocos nucifera* L.) for income and ecosystem services. Access to genetic diversity ensures the resilience of this livelihood system - but an insect-borne phytoplasma, Bogia Coconut Disease, threatened the Pacific Regional Coconut Gene Bank at Madang in Papua New Guinea (the guardian and principal source of this diversity). The collection needed to be moved quickly.

An ACIAR-funded scoping study, led by the Global Crop Diversity Trust, identified a strategy to save some disease-free accessions and collect new material of others, and use the material to re-establish the gene bank in the far-east of Papua New Guinea, with back-up collections in Fiji and Samoa. Moving the accessions that can be saved, collecting new disease-free materials, and their safe conservation depend on embryo culture and other tissue culture approaches developed for coconut.

Overview

This Small Research Activity aimed to optimise the embryo culture methods

