Australian Government
Australian Centre for International Agricultural Research

Developing a foundation for the long-term management of basal stem rot of oil palm in Papua New Guinea and Solomon Islands

Key details

Location
Papua New Guinea, Solomon Islands

Duration
Start Jul 2014 **End** Jun 2022

Budget AUD 1,327,210

Commissioned organisation
The University of Queensland

Partners
Guadalcanal Plains Palm Oil Limited; Ministry of Agriculture and Livestock; PNG Oil Palm Research Association Inc; The University of Queensland

Project Leader
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ACIAR Research Program Manager
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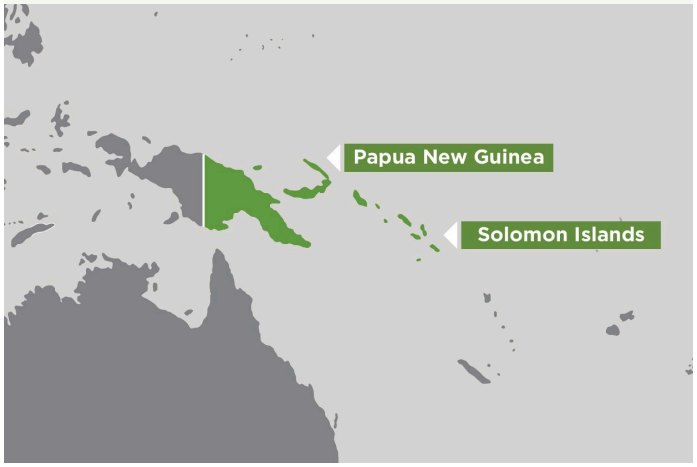
Program Crops

Project code CIM/2012/086



Overview

This project is improving the livelihoods of smallholders and communities dependent on oil palm in Papua New Guinea and the Solomon Islands through greater productivity and sustainability of production.

Oil palm is economically the most important crop in both Papua New Guinea (PNG) and the Solomon Islands (SI). In some places it is the only source of income other than garden produce. In South-East Asia, especially Malaysia and Indonesia, vast areas are under oil palm cultivation.

Basal stem rot (BSR) is a slowly progressing infection, posing a major threat to the oil palm industry. Incidence of BSR has been steadily rising with each new re-planting and has reached 43% in some parts of SI.

The only viable long-term control of BSR is using more resistant planting material. Identifying susceptible germplasm requires twice yearly sampling for at least six to seven years after planting. The project has established and is monitoring an orchard of trees from 81 families in a block infected with BSR, so that trees with different phenotypes (susceptible, tolerant or resistant) can be identified and their genetics analysed.

Expected project outcomes

- Detection of variability for disease traits in the 81 families trialled.
- Identification of the genetic basis for the variability detected in the trials.

Expected outcomes beyond the project, if successful:

- Elimination of the most BSR susceptible germplasm from breeding programmes and cultivation.
- Development and introduction of new germplasm, helping to reduce the loss of income and allow farmers to continue to plant oil palm in high disease-risk areas.
- Inclusion of palms more resistant/tolerant to BSR in breeding efforts in the long term, helping to prevent high yield loss and reduce effects on export revenues for SI and PNG.