

# Optimisation of the single drop genomics assay to detect food pathogens



## Key details

### Location

Cambodia, Lao PDR

### Duration

**Start** Jun 2014

**End** May 2015

### Budget

AUD 173,455

### Commissioned organisation

The University of Queensland

### Partners

Cambodia Agricultural Research and Development Institute; Department of Primary Industries; National Agriculture and Forestry Research Institute

### Project Leader

Jimmy Botella - University of Queensland

### ACIAR Research Program Manager

Dr Eric Huttner

### Program

Crops

### Project code

CIM/2014/027

at low cost are in high demand. Agriculture is one area that can benefit from the use of low cost on-site assays.

This project is also listed as HORT/2014/027.

## Outcomes

On-site, quick and low-cost pathogen detection is the holy grail of disease diagnostics. Our research team has developed a comprehensive, field-ready technology for on-site pathogenic nucleic acid detection named Single-Drop Genomics (SDG). SDG combines a simple yet accurate on-site sampling process with a robust isothermal amplification and a novel naked-eye evaluation providing Yes/No results.

In this project we have optimised the SDG technology to detect food borne pathogens. We have also performed extensive consultations with multiple stakeholders in Cambodia and Laos PDR about the possible applications of the technology in both countries. SDG has been identified by local officials as being a potential 'game changer' capable of delivering strong benefits for different agricultural sectors.

## Overview

This SRA aimed to optimise Single-Drop Genomics (SDG) technology to detect food borne pathogens.

Nucleic acid point-of-care (POC) bioassays that can be performed on-site with minimal equipment, rapidly and

