The Asian Citrus Psyllid in Samoa: status, threat and approaches to management

A four-day workshop under ACIAR project HORT/ 2016/185 “Responding to emerging pest and disease threats to horticulture in the Pacific islands.” July 30-August 2, 2024.

Background

Citrus greening, or huanglongbing (HLB), is considered the principal threat to the global citrus industry, causing severe yield losses and reductions in fruit quality. The disease is caused by the bacterium *Candidatus* Liberibacter spp., a pathogen that is vectored by the Asian Citrus Psyllid (ACP) (*Diaphorina citri* Kuwayama (Hemiptera: Psyllidae)). The ACP was first recorded in Samoa in 2014 and under the current project, its distribution has been monitored in collaboration with SROS colleagues. ACP is now widely distributed across both Savai’i and Upolu. Analysis of ACP collected from different locations across both islands at different points in time has failed to detect evidence of *Candidatus* Liberibacter spp. and as yet there have been no reports of HLB symptoms in plants. The wide distribution of an established ACP population in Samoa presents a significant threat to growers nationally and represents a significant biosecurity threat to the region.

This four-day workshop will be run by Dr David Morgan, an ACP, IPM and biological control expert from the California Department of Agriculture, Riverside, California. The first day will target all stakeholders in the citrus industry in Samoa and will provide background to the problem, describe research underway elsewhere to control the insect pest and the disease and discuss surveillance methods and biological control. The second day will focus on biological control and this will be followed by field visits to citrus orchards on day three. This will provide colleagues visiting from Tonga and opportunity to see the pest in the field as they develop their surveillance strategy. On the final day of the workshop, Dr Morgan will introduce the participants to the glassy winged sharpshooter, another invasive pest in the region, and describe how it has been managed in parts of its invasive range. The workshop will conclude with a discussion session in which course participants will be able to propose what the next steps need to be.

Following the activities in Samoa, Dr Morgan will travel to Tonga where he will deliver a similar workshop on the biosecurity threat of ACP and meet with stakeholders there. Details of proposed workshop activities are provided on the next page

ACP workshop- draft schedule

Day 1: 30 July

Morning

The Asian citrus psyllid and Huanglongbing

Description of the insect, the disease it transmits

Distribution and economic impact

Research underway to control insect and disease

Discussion

Afternoon

Case Study – California Department of Food and Agriculture

Components of effective pest/disease management

Exclusion, survey, delimitation, treatment, regulation, outreach and education, biocontrol, quarantine, funding

Discussion

Day 2: 31 July

Morning

Biological Control

What it can do, what it can't do

The perfect scenario – Classical biocontrol

The common scenario – Augmentative biocontrol

The process – identification, exploration, testing, approval, release, production, monitoring, evaluation

Discussion

Afternoon

Case Study – Mass production of *Tamarixia radiata*

Selection of biocontrol agent – *Tamarixia radiata*

Host plant production

Asian citrus psyllid production

Parasitoid production

Maintaining genetically variable parasitoids

Release strategy and post-release monitoring

Discussion

Day 3: 1 August

Field visits – Tailgate talks to growers

Day 4: 2 August

Morning

Open, Glassy-winged sharpshooter and *Xylella fastidiosa*.

Afternoon

Planning the next steps

Tonga component

Day 1: 5 August

Morning

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Discussion

Day 2: 6 August

Field visits