

Prospect Agriculture Pty Ltd

Pilot study for the surveillance of tomato-potato psyllid in the Bowen/Gumlu region of Queensland.

**Final report prepared for the
Bowen Gumlu Growers Association**

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Introduction

The tomato-potato psyllid (TPP), *Bactericera cockerelli*, is a serious pest of solanaceous plants with the potential to cause significant damage to susceptible vegetable and potato crops throughout Australia. It has become a significant pest throughout the world, causing significant crop losses and impacts of trade; for example, the pest has been present in New Zealand since 2006 and the estimated cost to industry is up to \$62 million per year.

In early 2017, the first detection of TPP on the Australian mainland was found in suburban Perth. Further surveys within the detection zone during 2017 found that the pest was well-established and in 2018 it was officially declared that eradication of the TPP in that region was not possible. The threat of TPP invading the eastern states is considerable and early detection of incursions is essential to increase the likelihood of eradicating populations before they become established.

The Tasmanian Institute of Agriculture (TIA) has been aware of the significant threat TPP poses to the potato industry for some time and since 2011 has conducted a surveillance program to monitor for incursions of TPP in eastern Australian potato crops. Following the Western Australian incursion additional funding was provided by Ausveg and the program was broadened to include other solanaceous crops including tomatoes, eggplant, capsicums and chilies. TIA's program provided funding for the cost of sticky traps and their assessment for TPP by qualified entomologists.

In September 2017, Prospect Agriculture began participating in the project by placing traps throughout their vegetable clients' crops as part of local biosecurity efforts.

A proposal to scale up the trapping network and conduct a pilot area-wide surveillance program throughout the Bowen and Gumlu production area was presented to the Bowen Gumlu Growers Association (BGGA) in December 2017. Recognising the importance of such a proactive biosecurity measure, the BGGA funded Prospect Agriculture to conduct the pilot study for a period of six months from February to the end of July 2018.

Methods

Two commercial seedling nurseries in Bowen, two retail plant nurseries in Bowen and vegetable growers from Bowen and Gumlu were approached for permission to locate traps on their properties at key locations throughout the region. Several property owners were initially reluctant, but after discussions about the goals of the study and the importance of surveillance and the early detection of biosecurity threats, nearly 100% of growers and business owners agreed to participate.

Twenty-eight trapping sites from Eden Lassie Creek in the south to Mt Inkerman in the North were established, primarily adjacent to areas of vegetable cropping. Double-sided yellow

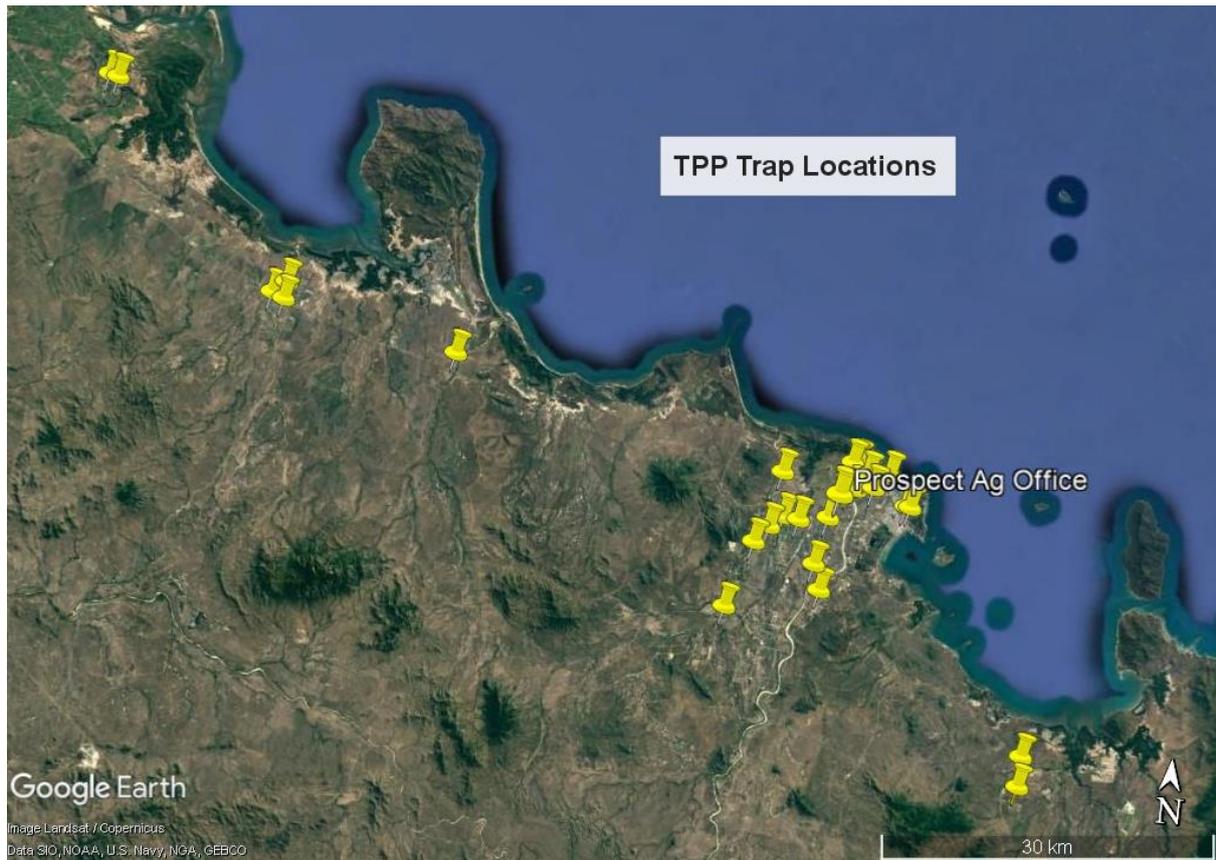


Figure 1. Locations of TPP trapping sites established during the pilot study.



Figure 2. Jess Volker installing a yellow sticky trap at one of the pilot study locations..

sticky traps (each side = 15 x 10 cm) (sourced from Bugs for Bugs Ltd and supplied by TIA) were located at each site and were collected and replaced on a fortnightly basis. Each fortnight, the collected traps were posted to Paul Walker (TIA) in Tamworth who coordinated the screening of all traps for TPP as part of the larger TIA/Ausveg project.

Outcomes

Between September 2017 and August 2018 approximately 500 traps were deployed within the Bowen/Gumlu region. No TPP were detected on any traps collected during the pilot study. A number of native psyllids were identified but none are known to feed on solonaceous crop and were likely to have been attracted to the yellow colour of the traps from the surrounding vegetation such as eucalypts, acacias and wild *Leucaena*.

Further details on the results of broader TPP surveillance activities can be found in the final report '*MT1606 – Surveillance of tomato potato psyllid in the eastern states and South Australia*' submitted to Hort Innovation in June 2018.

Conducting the pilot program clearly demonstrated a proactive and cooperative approach to a potential biosecurity threat

The pilot program also provided opportunities to present to, or interact with, a range of industry figures in relation to TPP specifically, and biosecurity generally. These include:

- Local growers and other members of the local horticultural industry
- Raylee Rowbottom and Paul Walker from TIA
- Alan Nankivell (National TPP Program Coordinator)
- James Walker (Director of Plant Surveillance, Northern Australia Quarantine Strategy)
- Trevor Dunmall (Plant Health Australia)
- Michael Kelly, Principal Biosecurity Office, DAF, Cairns
- Whitsunday Regional Council's Whitsunday Biosecurity Committee

Recommendations

Future recommendations emanating from the activities associated with the pilot program include:

- Continue surveillance for TPP in the Dry Tropics. This should be conducted as a collaborative effort between private organisation and Biosecurity Queensland.
- Seek to continue participation in state or national biosecurity projects by representatives of the local horticultural industry.
- Continue to collaborate with other stakeholders in the Whitsunday region through the Whitsunday to develop and promote biosecurity initiatives.

- Discuss options for the funding of local biosecurity initiatives. These could include local grower levies/contributions, funding from any of the three tiers of government, and accessing funds from future national levy-funded projects.
- Expand the number of pests under surveillance, develop and refine surveillance methods for key threats, and continue to reinforce key biosecurity messages via industry workshops, training activities for growers, industry representatives and other relevant organisations and individuals

Acknowledgments

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Raylee Rowbottom and the TIA TPP project team provided invaluable assistance and guidance with the trapping protocol, materials and screening of the sticky traps.

Additional Prospect Agriculture staff who assisted with the trapping activities include Stevi-leigh Vico and Dylan Lee.