

# Canterbury Potato Liberibacter Initiative

## Grower Newsletter No-2 December 2021

Dear Canterbury Potato Grower,

Firstly, the CPLI working group would like to wish all those involved in the NZ Potato Industry a Merry Christmas and Happy New Year and a prosperous 2022 harvest.

This Newsletter is an update on the progress to date on initiatives to manage TPP and Lso this season and future years.

We hope you are finding the TPP trapping and population information at selected sites (potato crops) across Canterbury plus the Growing Degree Day development information of TPP generations useful. Remember you can access this information off the PNZ website here

<https://potatoesnz.co.nz/research-and-development/degree-day-monitoring/>

An update of projects underway and proposals;

### **1. Contact Insecticides.**

The first project was to test the efficacy of seven contact insecticides which has been completed and although we are waiting for the final report to be completed in January the quick preliminary results are that the products tested are still effective on field collected TPP. With varying results reported from some growers on products used last season, this does put the spotlight on product selection timing and application. It is critical to use the correct product and have good potato foliage spray coverage of these products and understand water rates, nozzle selection, the angle of the sprayer boom, sprayer water droplet size and pressure to get into the potato foliage in a completely dense potato canopy.

### **2. Systemic Insecticides.**

The testing of efficacy of nine systemic insecticides on TPP life stages has been approved by the working group and is underway, the project is more involved and a slower process to analysis so we will not have these results until mid-winter.

### **3. Nature Strips.**

Over 12 nature strips have been planted around potato fields with a seed mix of flowering plants to attract beneficial insects and these have been seeded with Tamarixia which is the parasitic wasp. Some of these fields will be monitored with extra yellow sticky traps which have been placed within these fields to gauge the effectiveness of controlling TPP on the edge of the field.



*Trial of phacelia nature strip.*

#### **4. Sprayer Application for TPP.**

We have also had a good session with the working group, other farmers, spray operators and spray contractors on a 2 hour zoom call with Tom Robinson sprays in the UK. Tom has had a life-time working with spray equipment and chemical application trials and this was a very informative session covering from:

- Crop Morphology
- Formulation and Adjuvants
- Water Volumes
- Deposition v. Distribution v. Coverage
- Setting The Sprayer
- Spray Physics and Nozzle Fundamentals
- Drop Size and Drop Energy
- Trajectory
- Preferred Nozzles
- Potato Application Trial

This has left us with more questions on how to improve chemical coverage into the crop canopy and underside to the potato leaves. Tom's slide presentation can be downloaded [here](#).

#### **5. Systemic Acquired Resistance (SAR).**

We are finalizing the SAR project and antibacterial crop protection products for Zebra Chip management. This is to test selected products/compounds for their activity on reducing Zebra Chip symptoms in potato tubers.

#### **6. Biocontrol and bio-stimulants.**

There's progress on TPP management of potato crops through Lincoln University to test other biocontrol agents and the effect of bio-stimulants which is an IPM strategy.

#### **7. Detection and monitoring of African boxthorn using hyperspectral images.**

We are also looking at a proposal on the airborne images of some areas in Canterbury. For example, flying the river beds and coastal areas we think may have areas of boxthorn present. This project is through Massey University and with a view to understand the presents of boxthorn in the Canterbury region and therefore TPP's ability to over-winter on boxthorn.



*Burning boxthorn.*

**8. Endophytes/grass tea.**

Although this is very early in draft proposal, this is an interesting and potentially very cost-effective control of TPP and aphids.

**9. Establish percentage of Zebra Chip in field.**

A project to sample prevalence of defects in tubers, in field, is in early development.

**10. Other blue-sky projects beyond harvested 2023 crop year:**

- i. Eradicate TPP or inhibit Lso action in the Potato Plant.
- ii. Crispr Technology
- iii. Overwintering populations of TPP
- iv. Varieties and Breeding

Finally, it was great to see a good turnout of potato growers and industry people at the information night for CPLI at Hotel Ashburton on the 27<sup>th</sup> October.

Kind regards,

**CPLI Committee**

- John Jackson – Chair
- Richard Redfern – Seed Grower
- Guy Slater – Process Grower
- Klye Grey – Process Grower
- Daniel Lovett – Process Grower
- Jessica Vereijssen – Plant & Food Research
- Iain Kirkwood – Potatoes NZ
- Nicola Loach – Potatoes NZ
- Roger Blyth – Seed & Field Services
- Scott Cleland – McCain Foods
- Gerhard Botha – Talley's
- Nigel Rowe-Lucas – KraftHeinz
- Graham Bunckenburg – Mr Chips
- Craig Watson – Fruitfed Supplies