HORTEX

Government of South Australia
Adelaide and Mount Lofty Ranges
Natural Resources Management Board
Australian Government
National Landcare Programme

Tomato Potato Psyllid

On the Northern Adelaide Plains

WHY DO GROWERS ON THE NAP NEED TO BE READY FOR TPP?

Australia has been recently invaded by exotic pests and diseases of which Tomato Potato Psyllid (Bactericera cockerelli) is one of the most devasting pests to be introduced to this country. It has currently in been found in WA, Qld and New Zealand, where it caused $43 Million in potato crop losses alone last year.

It is a Thrips sized insect that has a white band across its back (adults) and has a jumping habit when disturbed in the greenhouse or field.

TPP is a pest of Solonaceous crops including tomato, potato, capsicum, eggplant, tamarillo, chilies and sweet potato. It is the insect vector (carrier) of a bacterium known as Candidatus liberbacter solanacearum, which is the causative agent of Zebra Chip disease. It also causes Psyllid yellows a devasting leaf disease.

Photo 1: Adult TPP with nymph stages and yellow egg with Psyllid sugar crystals. Note white band across adult back.

TPP produces a crystalline substance known as Psyllid sugar which can be seen on leaves.

What to look for:

Photo 2: Potato tubers exhibiting Zebra Chip disease

Signs and symptoms of a TPP infestation include the following identifiers:

- Psyllids jump off crop leaves when they are disturbed
- Psyllid sugars deposited on leaf surfaces
- Severe wilting of plants and general yellowing (Psyllid Yellows) caused by C. liberbacter psyllaurous a bacterium also spread by the Psyllids
- Yellow or purple leaf margins
- Upward curling of the leaves or “cupping”
- Stunting and yellowing of the growing shoots and tips
- Zebra Chip disease of potato tubers caused by C. l. solanacearum
- Small Potato Tubers and flag shoots on potato crops
- Lower yields

Photos 3: Tomato Plants after feeding by Psyllids

Control Measures

Sticky traps placed inside a greenhouse or in the field are useful but only detect adult psyllids. Growers should inspect leaf surfaces for nymphs and psyllid sugar as well as the yellow oval eggs that are on a small stalk usually near the leaf margins.

Once detected growers should immediately isolate the growing area and use IPM methods of control or chemical sprays at the recommended rates.

IPM control is recommended by using Nesidiocoris tenuis a voraciuos predatory bug or Orius incidiosis the Minute Pirate bug.

Contact your IPM provider for supplies.

Currently there are only two chemical Methomyl products registered for Psyllid control.

It is also important to control weeds near your field crops or greenhouses as the Psyllid also attacks the Nightshade group of eleven species, a small solanaceuos weed group with black berries that can be poisonous depending on the species. Psyllids could survive on these weeds and reinfest crops.

Photo 4: Blackbery Nightshade weed

Photo 5: Potato plant affected by C.L solanacearum transmitted by T P Psyllids.

References:

1. **Weed Control Handbook for Declared Plants in South Australia-PIRSA SA Government July 2017**
2. **Weed Ute Guide – PIRSA**
3. **WA Dept. Agriculture & Food website**
4. **Industry Biosecurity Plan – Potato Industry – Zebra Chip Complex PHA**

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