“Living with Psa”

Positive case studies

Hort 16A

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KVH case studies

This page has case study information from the field about Psa observations.

Managing Hort16A in a Psa-V environment—positve case studies New

KVH has developed two videos, featuring two Bay of Plenty growers. Tim Torr from Tauranga and Kim Woolsey from Opotiki talk about their successful experiences growing Hort16A in a Psa-V environment. Click on the links below to view the videos.

- Tim Torr—Tauranga grower (28.11.12)
- Kim Woolsey—Opotiki grower (28.11.12)

Gold3 case study—2011-grafted blocks in the Bay of Plenty

Sixteen growers who grafted to Gold3 in 2011 recently participated in a KVH case study. Grower experience with grafting, hygiene, canopy management, the physical and environmental orchard conditions and grower approach to controlling Psa-V were identified and recorded in this case stud

- Gold3 case study—available on the restricted area of the KVH webiste (27.11.12)

A19 Orchards (Enza Gold), in a Psa-V environment

KVH recently conducted a field summary on the performance of two non-ZESPRI variety A19

Spray Products

Psa-V is surprisingly easy to kill in the lab. However, killing the infection without further damaging kiwifruit vines is another strategy altogether. Once the infection has progressed into the vascular system it is much more difficult. Common bactericides, like copper-based agrichemicals, will kill Psa on the surface as will acid and alkali solutions and most sterilants and cleansers. However, the issue is not around how easy it is to kill the bacteria but rather their ability to reproduce rapidly. Prokaryotes reproduce asexually through a process called binary fission. During binary fission, the single DNA molecule replicates and the original cell is divided into two identical cells.

This process, for Psa-V, may occur within an hour (after one hour two cells will emerge and after 24 hours there could be as many as eight million). So, while you might kill 99 per cent of the Psa-V bacteria in an orchard within a day, between what is replaced by air movements from outside inoculum and remaining unkilled bacteria, the population can quickly recover to original levels. This is why it is essential to provide continued protection.

Products used against Psa
Products can be grouped into one of five categories.

1. Coppers
Application of protectant sprays is considered best practice in protecting against Psa-V. Currently, the most effective Psa-protectant sprays are copper based and their optimal use remains unknown. Regardless, they have proven to be proactive on plant leaf and cane surface by knocking back high Psa-V populations associated with the establishment of infection. It is also thought that they play a valuable role in reducing the production of spores from cankers. It is probable that Cu^{2+} ions are redistributed in rainfall and will accumulate where bacteria also redistribute—providing a confidence that copper sprays show good levels of resistance to being washed off by rain.

French post-flowering copper trial results

A draft report on French trials comparing application of two different copper products post-flowering is now available on the link below. The treatments provided no indication of increased staining or russet with multiple applications of copper when compared with controls, on HOrt16A or Hayward.

- French post-flowering copper trial results [22.11.12] New

KVH has also developed two observation reports on Hort16A orchards in Tauranga and Opotiki. These are also available on the links below.

- Opotiki Hort16A Orchard—observation report [22.11.12] New
- Tauranga Hort16A Orchard—observation report [22.11.12] New

Copper spray information

Living with Psa in Hort 16A in Opotiki

- This orchard was the first orchard in Opotiki to be confirmed with Psa in September 2011.
- It harvested a substantial export crop May 2012.
- It is carrying a substantial crop December 2012.
- Kim and Robyn are preparing contingencies to crop parts of this orchard again for the 2014 harvest.

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An excerpt of
Living with *Psa-V* –
Opotiki Hort16A – A positive case study
15 November 2012

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Key Points

- The orchard has been living with Psa for at least 15 months.
- The orchard harvested a very substantial Hort 16A crop in May 2012.
- The orchard is continuing to crop.
- The spray program this Spring was Copper products (Nordox and Kocide opti) at low rates applied around weather events. Spray program detail is available in the "observation reports" posted in the "Growers – Spray products" menu on the KVH website.
- Spray coverage is absolutely critical.

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Coping with Psa in Hort 16A Tauranga

- This is one of four adjacent Hort 16A orchards in Tauranga coping successfully with Psa.
- All have a similar spray program.
- All had Psa confirmed prior to harvest 2012.
- All successfully harvested a substantial export crop 2012.
- All are carrying a crop currently.

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Living with *Psa-V* –
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Key Points

- Effective Autumn spray program is essential.
- Effective management of male plants can reduce your susceptibility to Psa

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Questions ?

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