

Product Testing Update



Jayson Benge 9 February 2012

Field trials









Methodology:

- Female Hort16A potted plants from Tauranga, grafted in 2010 onto Bruno
- Shifted to Rotorua in August, Psa-V free
- 16 treatments applied in Rotorua
- 20 single plant replicates
- Actively inoculated with Psa-V (10^6 cfu/mL) at field site in Te Puke
- Plants then laid out randomly in block
- Wetted initially by overhead irrigation to maximise infection
- Leaf spotting assessed weekly
- Assessments are visual & subjective so consistency is key particular within each assessment time













Key findings:

- Significant amounts of rain fell in the first week that plants were in the field (~115mm on Dec 15)
- Coppers and KeyStrepto, applied once, significantly reduced leaf spotting throughout
- The elicitors, Actigard (applied once) and BioAlexin (applied twice), and Serenade Max (applied once) reduced leaf spotting initially but not in latter weeks
- Hydrogen peroxide (applied just once) and AgriPhages (applied multiple times) did not reduce leaf spotting
- Noticeable phytotoxicity occurred from just one application of all the coppers...lower rates need testing







Methodology:

- Female Hayward potted plants from Kerikeri, grafted last spring onto Bruno (Psa-V free)
- Shifted to Rotorua in November
- 10 treatments applied in Rotorua
- 20 single plant replicates
- Actively inoculated with Psa-V (10^4 cfu/mL) at field site in Te Puke
- Plants then laid out randomly in block
- Wetted initially by overhead irrigation to maximise infection
- Leaf spotting assessed weekly
- Assessments are visual & subjective so consistency is key particular within each assessment time

















Key findings:

- Significant amounts of rain fell in the second (~280mm) and third weeks (~145mm) of the trial
- A lower inoculum rate (10^4 cfu/mL) was used (unintentionally) so leaf spot development was slower
- Leaf spotting was similar for uninoculated and inoculated controls -> natural inoculum level was 10⁴ in the trial
- All coppers, Actigard and KeyStrepto reduced leaf spotting throughout the entire trial
- Serenade Max did not reduce leaf spotting significantly (it did initially in Hort16A)
- Noticeable phytotoxicity occurred from just one application of all the coppers. Lower rates will be tested.



Future field trials



- ZESPRI's field trials are currently stalled due to plants no longer being Psa-V free ☺
- The site is being shared with others who are conducting trials on Bruno seedlings
- Recommence mid-feb:
 - Continue looking for efficacious products e.g. biologicals
 - Clarify how long products are efficacious for
 - Clarify minimum application rates which provide efficacy

01	02	03	04	05	06	07
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Product testing		ZESPRI is coordinating the screening of the effectiveness of a wide range of products to control the virulent type of <i>Pseudomonas syringae</i> pv. <i>actinidiae</i> (Psa-V).				
		The screening programme has been developed to identify, rigorously test and then get permission to use suitable products as part of the crop protection programme (CPP) to control the spread of Psa-V and eventually to cure vines infected with Psa-V.				
Research projects & reports		To understand the steps in the product testing programme the process is outlined below.				
Product testing		All new results are highlighted in yellow in the documents below. The in vitro results are listed in a				
Stage 0 - Product pre-screening		table in the first document. The in vivo results are listed in a table in the second document. Any product names which are highlighted and underlined have a link leading to a report of the results.				
Stage 1 - In Vitro & Green house testing		Click <u>here</u> for the latest product testing results from field trials— <mark>updated 08.02.12</mark>				
Stage 2 - Field trials		Click <u>here</u> for latest product testing results in vivo (on the plant)— <mark>updated 31.01.12</mark>				
Stage 3 - Registration		Click <u>here</u> for latest product testing results in vitro (outside the plant)—updated 24.01.12				
Psa CPP		Click <u>here</u> for detailed information on the product testing process.				
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