

Observation Report

Inspection Date: 4 February 2014	Variety: Gold3 on Bruno rootstock (some plants with Hort16A inter-stock identified within the block)
Reason for inspection: Leader collapse due to Psa-V within a 2012 grafted Gold3 block.	
Location: Maketu, Te Puke	Elevation: 18 metres above sea level
Observations	
Photos	
	
Above: 2012 Gold3 grafts. One fail (right). One successful (centre). Hort16A interstock mistakenly kept and allowed to grow (left).	Above: Gold3 leader (left). Hort16A leader (right). Note the signs of exudate on the Hort16A leader.
	
Above: Proximity of Gold3 (foreground) and Hort16A (background).	Above: Hort16A cane dieback in close proximity to healthy canes.
	
Above: Affected cane dying back from tips.	Above: Hort16A showing signs of shoot dieback.

Symptom severity:																																														
- The collapsing leader (arising from Hort16A interstock) was dehydrated with red exudate (1.5m). Seven out of ten canes off the leader had Psa-V symptoms of shoot dieback, cane collapse with dehydration and fruit shrivel. These symptoms progressed from cane tips back towards the leader. - No Psa-V was observed at any point along the second (2012 Gold3) leader – this carried a good fruit load. - No Psa-V symptoms in surrounding Gold3 vines.																																														
General comments:																																														
- Psa-V symptoms within the Gold3 block were very minimal. An isolated dehydrated cane or short spur was observed on close inspection. - Psa-V management of the block was strong through spring with a full protective spray programme in place and continuing through the summer. - Monitoring and cut-out strategies have been strict and orchard work is undertaken in dry conditions only. - Staff carry out orchard hygiene protocols including tool hygiene. - Weather conditions considered low-risk in recent weeks. Overall inoculum pressure considered low within the area. - The collapse of the affected Hort16A leader illustrates the vulnerability of this variety despite all factors suggesting low levels of Psa-V infection risk. - The observation report also illustrates that Psa-V was clearly present, even in a low-risk environment where the more-tolerant varieties were not showing symptoms. Therefore, Psa-V must continue to be proactively managed.																																														
Background (of block(s) under investigation)																																														
Orchard details: 1.17 Ha block within a 29.45 Ha Gold3 planting. Well sheltered, high production block, irrigated and frost-protected with frost fans. 2012 Gold3 conversion from Hort16A, (Hort16A cut due to Psa-V infection). Graft height—1 metre. Sucker regrowth indicates Bruno rootstock. Within the block a few plants have Hort16A inter-stock. (It is likely these were bench-grafted Hort16A plants introduced as replacement plants). Plant health is good.	Spray Programme:																																													
	<table> <tr> <th>Spray Date</th><th>Product</th><th>Product rate per 100L (g or ml)</th></tr> <tr> <td>3/07/2013</td><td>Copper Sulphate Du-Wett</td><td>1.25 35</td></tr> <tr> <td>9/07/2013</td><td>Du-Wett Kocide Opti</td><td>35 70</td></tr> <tr> <td>28/07/2013</td><td>Du-Wett Kocide Opti</td><td>25 70</td></tr> <tr> <td>17/09/2013</td><td>Du-Wett Kocide Opti</td><td>50</td></tr> <tr> <td>3/10/2013</td><td>Actigard Kocide Opti</td><td>20 50</td></tr> <tr> <td>7/10/2013</td><td>Calibra (Yara) Croplift K</td><td>150 500</td></tr> <tr> <td>18/10/2013</td><td>Luna Privilege Movento 100 SC Prodigy</td><td>30 96 40</td></tr> <tr> <td>18/10/2013</td><td>KeyStrepto</td><td>60</td></tr> <tr> <td>22/10/2013</td><td>Movento 100 SC Prodigy Seaweed</td><td>96 40 100</td></tr> <tr> <td>14/11/2013</td><td>Kocide Opti</td><td>50</td></tr> <tr> <td>7/12/2013</td><td>Kiwifruit Complex</td><td>500</td></tr> <tr> <td>14/12/2013</td><td>Kiwifruit Complex</td><td>500</td></tr> <tr> <td>7/01/2014</td><td>Kocide Opti</td><td>50</td></tr> <tr> <td>22/01/2014</td><td>Kocide Opti</td><td>500</td></tr> </table>		Spray Date	Product	Product rate per 100L (g or ml)	3/07/2013	Copper Sulphate Du-Wett	1.25 35	9/07/2013	Du-Wett Kocide Opti	35 70	28/07/2013	Du-Wett Kocide Opti	25 70	17/09/2013	Du-Wett Kocide Opti	50	3/10/2013	Actigard Kocide Opti	20 50	7/10/2013	Calibra (Yara) Croplift K	150 500	18/10/2013	Luna Privilege Movento 100 SC Prodigy	30 96 40	18/10/2013	KeyStrepto	60	22/10/2013	Movento 100 SC Prodigy Seaweed	96 40 100	14/11/2013	Kocide Opti	50	7/12/2013	Kiwifruit Complex	500	14/12/2013	Kiwifruit Complex	500	7/01/2014	Kocide Opti	50	22/01/2014	Kocide Opti
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Psa-V monitoring and cut strategy: Spring: monitoring rounds at 7-10 day intervals with infected material removed (cuts were made approximately 40cm back from last symptom expression) and wound protection applied (wood cuts were sealed with Greenseal, soft tissue cuts – if any – were sprayed with copper). November-January: Monitoring intensity reduced due to minimal symptoms being found. Ongoing monitoring incorporated into routine orchard work with Psa-V symptoms removed as found by all staff. Ongoing sucker removal from trunks. Wound protectant applied to all cuts.	Treatment of infection:																																													
	Psa-V infected material (cut, bagged and burnt) Wound protectants (Greenseal and/or copper sprays) applied to all cuts.																																													

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