

Product testing report

29 June 2012

TNL 2952, 2953, 2954, 2956, 2957

Supplying company:	Zelam		
Active ingredient:	Confidential		
Test protocol:	Protectant <input checked="" type="checkbox"/>	Biological <input type="checkbox"/>	Elicitor <input type="checkbox"/>
Application rate (per 100L):	TNL 2952 = 200 mL & 1000 mL TNL 2953 = 5000 mL TNL 2954 = 5000 mL TNL 2956 = 50 mL & 250 mL TNL 2957 = 1000 g		

Test results

Test	Greenhouse seedling tests																																												
Method description	<p>Experiment 1: Protectant (12 April 2012 – 3 May 2012) Hayward seedlings were treated once with the products, allowed to dry and inoculated with Psa-V (at 10^8 cfu ml⁻¹ concentration). The degree of leaf spotting was determined visually at approximately weekly intervals after inoculation using a 0 – 5 scale and plotted as an 'Infection Score'.</p>																																												
Results	<p>Experiment 1: TNL 2953 significantly reduced leaf spotting slightly throughout the trial. TNL 2954, TNL 2957 and TNL 2952 @ 2mL.L⁻¹ significantly reduced leaf spotting in weeks 2 and 3. TNL 2956 @ 2.5mL.L⁻¹ significantly reduced leaf spotting in week 2 only. TNL 2952 @ 10mL.L⁻¹ and TNL 2956 @ 0.5mL.L⁻¹ did not reduce leaf spotting significantly. KeyStrepto reduced leaf spotting substantially compared to all the TNL treatments.</p> <div style="text-align: center;"> <h3>Hayward Experiment 24</h3> <table border="1"> <caption>Approximate Infection Scores from Hayward Experiment 24</caption> <thead> <tr> <th>Time</th> <th>KeyStrepto</th> <th>TNL2953</th> <th>TNL2954</th> <th>TNL2957</th> <th>TNL2952 2ml/L</th> <th>TNL2952 10ml/L</th> <th>TNL2956 0.5ml/L</th> <th>TNL2956 2.5ml/L</th> <th>Water</th> <th>Psa</th> </tr> </thead> <tbody> <tr> <td>1 Week</td> <td>0.5*</td> <td>1.8*</td> <td>1.5</td> <td>1.8</td> <td>2.2</td> <td>2.8</td> <td>2.5</td> <td>2.8</td> <td>2.8</td> <td>2.8</td> </tr> <tr> <td>2 Week</td> <td>0.8*</td> <td>2.5*</td> <td>2.2*</td> <td>2.8*</td> <td>2.8*</td> <td>4.5</td> <td>3.5</td> <td>3.2*</td> <td>3.2</td> <td>3.8</td> </tr> <tr> <td>3 Week</td> <td>0.8*</td> <td>2.8*</td> <td>3.2*</td> <td>3.5*</td> <td>3.2*</td> <td>4.5</td> <td>3.8</td> <td>3.5</td> <td>3.5</td> <td>4.0</td> </tr> </tbody> </table> <p>* Asterisks are used in the above graph to denote any treatments that are statistically significantly from the Psa control at the 5% level</p> </div>	Time	KeyStrepto	TNL2953	TNL2954	TNL2957	TNL2952 2ml/L	TNL2952 10ml/L	TNL2956 0.5ml/L	TNL2956 2.5ml/L	Water	Psa	1 Week	0.5*	1.8*	1.5	1.8	2.2	2.8	2.5	2.8	2.8	2.8	2 Week	0.8*	2.5*	2.2*	2.8*	2.8*	4.5	3.5	3.2*	3.2	3.8	3 Week	0.8*	2.8*	3.2*	3.5*	3.2*	4.5	3.8	3.5	3.5	4.0
Time	KeyStrepto	TNL2953	TNL2954	TNL2957	TNL2952 2ml/L	TNL2952 10ml/L	TNL2956 0.5ml/L	TNL2956 2.5ml/L	Water	Psa																																			
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3 Week	0.8*	2.8*	3.2*	3.5*	3.2*	4.5	3.8	3.5	3.5	4.0																																			

Summary

Some of the TNL treatments tested significantly reduced leaf spotting. However, compared to KeyStrepto, these reductions were small. No further testing is currently planned.

Comments

A standardised screening protocol has been used to test products for efficacy against Psa-V to enable a high throughput of products. Protectant, biological or elicitation tests may be performed, depending on the mode of action of the product. Protectant tests involve the product being applied to the plant with inoculation following on the same day, once the product has dried. Biological tests involve the product being applied two to three days prior to inoculation with Psa-V. Elicitation tests involve the product being applied to the plants seven to ten days prior to inoculation with Psa-V. Assessments of leaf spotting are performed at weekly intervals after inoculation. This method has largely involved testing products using information provided on the product's label. In the future, products may be retested using protocols provided by supplying companies. Products which have previously shown some level of efficacy will be given priority for re-testing.

Data are presented for all assessment timings; however, evaluation of results is largely focussed on the final 'three week' assessment data. Disease symptoms will be better developed by this time and earlier assessments are considered to be less reliable. However, in the case of some elicitors, it is possible that the elicitation effect has been expended and that poor results at the 'three week' assessment time indicate reduced efficacy as a result of insufficient frequency of application.

Results from greenhouse trials primarily serve as a screening tool to determine products that will progress to field trials. Care should be taken when extrapolating results to field conditions. Results in the field may differ due to different environmental conditions and differences in plant material.

Note – leaf spotting may not necessarily mean the plant is infected. It simply indicates that the plant has been challenged by Psa.

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