

Product testing report

29 November 2011

Bronopol PC		
Supplying company:	Chemiplas NZ Ltd.	
Active ingredient:	2-bromo-2-nitropropane-1,3-diol	
Mode of action:	Protectant <input type="checkbox"/>	Biological <input checked="" type="checkbox"/>
Application rate (per 100L):	12.5g	
	Elicitor <input type="checkbox"/>	

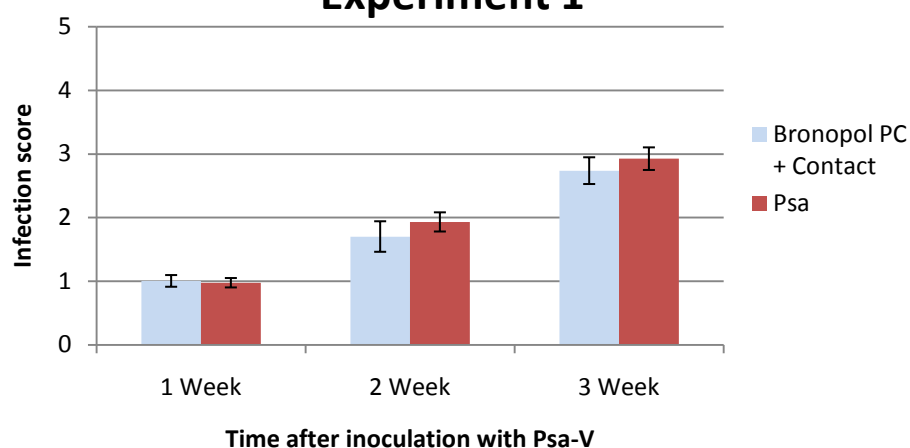
Test results	
Test	Greenhouse seedling tests
Method description	<p>Experiment 1: Biological (9 September 2011 – 4 October 2011) Hort16A and Hayward seedlings were treated once with Bronopol PC partnered with Contact and inoculated three days later Psa-V (at 10^9 cfu ml⁻¹ concentration). Assessments were made at weekly intervals after inoculation. The degree of leaf spotting was determined visually using a 0 – 5 scale and is plotted as an 'Infection Score'.</p>
Results	<p>Experiment 1: In Hort16A seedlings, application of Bronopol PC partnered with Contact increased leaf spotting, with significant increases at two and three weeks after inoculation. In Hayward seedlings, application of Bronopol PC partnered with Contact had no affect on leaf spotting following inoculation with Psa-V.</p>

Key:
 0 = no leaf spotting
 1 = up to 10%
 2 = up to 25%
 3 = up to 50%
 4 = up to 75%
 5 = 100%
 (of leaf area)

Hort16A Experiment 1

Time after inoculation with Psa-V	Bronopol PC + Contact	Psa
1 Week	~0.7	~0.7
2 Week	~1.1	~0.8
3 Week	~1.8	~1.2

Hayward Experiment 1



Summary

A single application of Bronopol PC (0.125g L⁻¹) partnered with Contact either had no effect or significantly increased leaf spotting following inoculation with Psa-V. Bronopol PC is being considered for re-testing using a different protocol as the product has demonstrated efficacy against bacterial diseases in other crops.

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 focused 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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