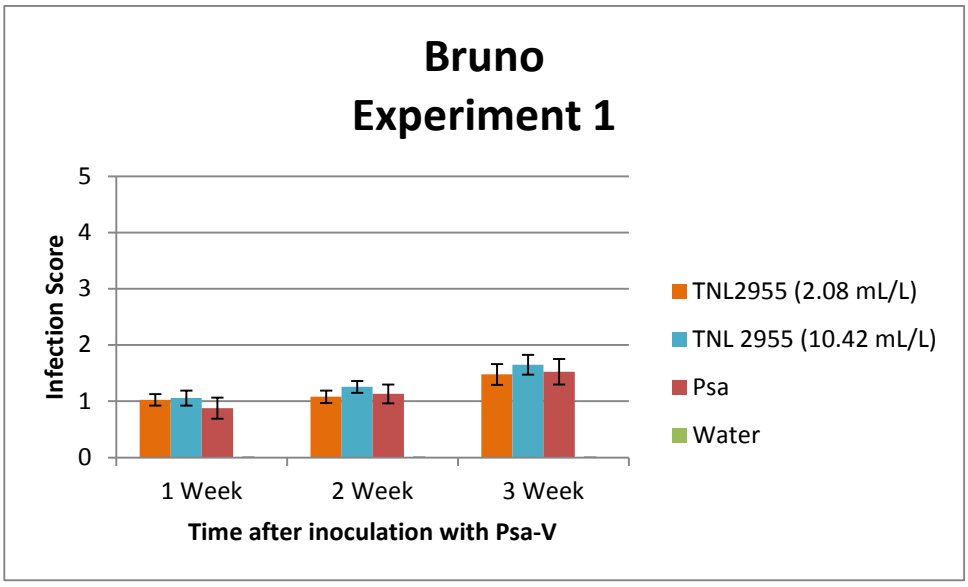
Product testing report

04 May 2012

Zinc pyrithione			
Supplying company:	Zelam		
Active ingredient:	Zinc pyrithione		
Mode of action:	Protectant ☒	Biological ☐	Elicitor ☐
Application rate (per 100L):	Zinc pyrithione (48% WP) = 208mL and 1044mL		

Test results

Test	**Greenhouse seedling tests**
Method description	**Experiment 1: Protectant (14 March 2012 – 2 April 2012)** Bruno seedlings were treated once with Zinc pyrithione at two different rates (2.08 and 10.42 mL/L), allowed to dry and inoculated with Psa-V (at 10^{10} 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'.
Results 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)*	**Experiment 1:** In Bruno seedlings, appliction of Zinc pyrithione at two different rates did not affect leaf spotting following inoculation with Psa-V.  * **Psa inoculated control and the treatment are statistically significantly different at the 5% level**

Summary

Single applications of Zinc pyrithione had no effect on leaf spotting following inoculation with Psa-V. No further testing is currently planned with this product.

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.