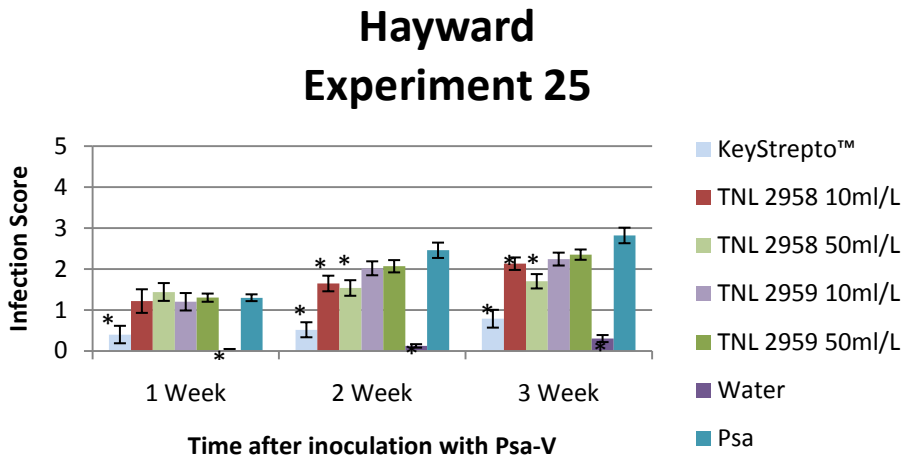
Product testing report

29 June 2012

TNL 2958 and 2959			
Supplying company:	Zelam		
Active ingredient:	Confidential		
Test protocol:	Protectant ☒	Biological ☐	Elicitor ☐
Application rate (per 100L):	TNL 2958 = 1000mL and 5000mL TNL 2959 = 1000mL and 5000mL		

Test results

Test	**Greenhouse seedling tests**
Method description	**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 10^9 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'.
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:** TNL 2958 reduced leaf spotting significantly in weeks 2 and 3. TNL 2959 did not reduce leaf spotting significantly. KeyStrepto reduced leaf spotting substantially more than the TNL treatments.  ** Asterisks are used in the above graph to denote any treatments that are statistically significantly from the Psa control at the 5% level*

Summary

TNL 2958 significantly reduced leaf spotting while TNL 2959 did not. The reductions were small compared to that achieved by KeyStrepto.

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.