

Effect of BREAK-THRU® S 240 on Triadimefon to control powdery mildew in grapes

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Objective

The aim of the trial was to determine if BREAK-THRU® S 240 can enhance the performance of Bayleton (active triadimefon, triazole) on powdery mildew in grapes.

Experimental

Randomized complete block design with four replications, each consisting of a single vine. The trial was set up in a vineyard of French Colombard variety wine grapes. Spray volume was 1 000 l/ha applied with a handgun operating at 10 bar. Treatments were applied at the large berry growth stage and again 10 days later.

Evaluation of powdery mildew, *Unicula necator*, was made one week after the last application. Ten primary clusters of grapes from each plot were randomly selected and then rated as either infected or not infected. The same clusters were then individually rated for severity of the infection.

Results

Table 1: Effect of BREAK-THRU® S 240 on the control of Powdery Mildew by Triadimefon

Treatment	Number of infected clusters	Severity of Infection (%)
Untreated Control	2.50 a	25.8 a
Bayleton 292 ml/ha	2.00 ab	21.9 ab
Bayleton + 0.03 % NPE	1.00 bc	23.8 ab
Bayleton + 0.03 % BREAK-THRU S 240	1.50 ab	19.4 ab
Bayleton + 0.06 % BREAK-THRU S 240	0.25 c	6.3 b

Means followed by same letter do not significantly differ by Duncan's MRT at 95 % level.

All treatments provided numerical reduction in the number of infected clusters. However, Bayleton alone and with the low rate of BREAK-THRU® S 240 were not statistically better than the control. BREAK-THRU® S 240 at the high rate was by far the best treatment. In addition to reducing the number of infected clusters, BREAK-THRU® S 240 was very effective in reducing the amount of infection within the bunches of grapes.

The NPE (nonylphenol ethoxylates) adjuvant did not change the severity of infection. It is very hard to wet all the berries in a bunch of grapes with a spray. Thus it seems probable that the super wetting and spreading by BREAKTHRU® S 240 was the reason that it was so effective in lowering the severity of infection.

BREAK-THRU® S 240 moved Bayleton to parts of the cluster that are not accessible to a normal spray.

Conclusions

The addition of BREAK-THRU® S 240 (0.06 % v/v) to Bayleton sprays provided statistically superior control of both the incidence and severity of powdery mildew on grapes. The reduction in severity is a particularly impressive example of how BREAK-THRU® S 240 can assist in delivery of an active ingredient to the part of the crop where the active ingredient can be more effective.

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