

Proud 3[®] Controls *Phytophthora* on Rhododendron

Research Report

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Objective

The objective of this study was to test the efficacy of Huma Gro[®] PROUD 3[®] for the control of *Phytophthora plurivora* on rhododendron plants.

Materials and Methods

Rhododendron plants (*Rhododendrum yakushimanum*) were treated with various biofungicides under complete randomized design with seven plants per treatment (Table 1) and placed in a greenhouse. Three days after treatment (DAT), 10 leaves per treatment were wounded and inoculated with the fungal pathogen *Phytophthora plurivora* except for the negative control that had no inoculum. Each treatment (T1–T13) had its own moisture chamber, and within each moisture chamber 2 leaves of both the positive and the negative control plants were included.

At day 21 after the inoculation (DAI), the mean infection rate was calculated as the number of leaves that developed lesions out of the total number of inoculated leaves. Data were analyzed using the R statistical software. The multiple comparisons (Waller-Duncan K ratios) were calculated using the package “agricole” as per the developer procedures.

Table 1. Treatment Rates and Number of Applications

Treatment	Product	Active Ingredient	Rate per 100 gal*	No. of Applications
T1	A21008A SC	Oxathiapiprolin	0.6 fl oz	2
T2	A21008A SC	Oxathiapiprolin	1.2 fl oz	2
T3	A21008A SC	Oxathiapiprolin	2.4 fl oz	2
T4	A21008A SC	Oxathiapiprolin	2.4 fl oz	1
T5	BAS703 01F	Fluxapyrosad + Pyraclostrobin	8 fl oz	1
T6	BAS703 01F	Fluxapyrosad + Pyraclostrobin	12 fl oz	1
T7	MBI 110	<i>Bacillus amyloliquefaciens</i>	2 qt	2
T8	MBI 110	<i>Bacillus amyloliquefaciens</i>	4 qt	2
T9	Micora	Mandipropamid	8 fl oz	2
T10	PreStop	<i>Gliocladium catenulatum</i> strain J1446	4.375 lb	2
T11	Proud 3 [®]	Thyme oil (5.6%)	4 qt	2
T12	Rhapsody ASO	<i>Bacillus subtilis</i> strain QST 713	4 qt	2
T13	Rhapsody ASO	<i>Bacillus subtilis</i> strain QST 714	8 qt	2
T14	Neg. Control (no infection)	Deionized water	N/A	2
T15	Pos. Control	Deionized water	N/A	2

*The application volume for all the treatments was as needed to drip.

Results

Huma Gro[®] PROUD 3[®] (T11) significantly decreased the infection rate of *Phytophthora plurivora* on rhododendron plants and was not significantly different from the following four treatments: T9, T14, T2, and T4, (Figure 1).

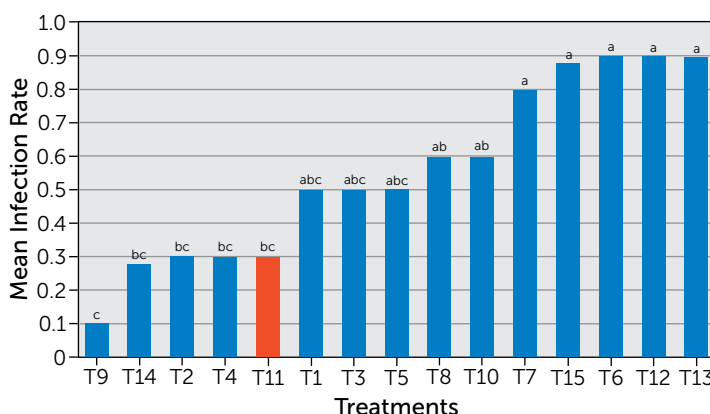


Figure 1. Mean infection rate of *Phytophthora plurivora* on rhododendron plants. Treatments sharing the same letter at the top of their bar graph were not significantly different ($P \leq 0.05$).

Conclusion

Huma Gro[®] PROUD 3[®] demonstrated efficacy for the control of *Phytophthora plurivora* on rhododendron plants.