

SNAP BEAN (*Phaseolus vulgaris* ‘Huntington’ and ‘HyStyle’)
Damping off; *Pythium* spp., *Fusarium* spp.

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Evaluation of fungicides to control root rot and damping off in snap beans, Hancock, WI, 2018.

A trial to evaluate the effectiveness of fungicides to control root rot and damping off of snap bean was established on 2 Jul at the Hancock Agricultural Research Station (Hancock, WI). Two commercially available cultivars, ‘Huntington’ and ‘HyStyle’, were provided by Del Monte Foods with no fungicide seed treatment. Plots were 25 ft long with 4 rows spaced 19 in. apart with a seeding rate of 8 seeds per ft. The trial consisted of 4 replications, and plots were arranged in a randomized complete block design. The trial was established in a root rot nursery with a history of root rotting disease, and susceptible legumes were cropped in this field in the previous year to increase multiple genera of soilborne pathogens in the field. Naturally occurring inocula was the only source of pathogens for disease development. Fertility, insects, and weeds were managed during the growing season according to standard grower practices for the region. Fungicide applications for control of root rot and damping off were applied as a drench over the top of the planted row in a volume of 1 L per plot. Emergence data were recorded on 30 Jul by counting the number of emerged plants in the two center rows. On 10 Sep, the two center rows were mechanically harvested and weighed. The roots of 20 plants were collected from each plot, and the number of root lesions were counted. Root lesion incidence was measured as the number of roots with lesions divided by the total number of roots sampled. All data were analyzed using analysis of variance (ANOVA) at $\alpha=0.05$ and Fisher’s least significant difference (LSD) at $\alpha=0.05$ (SAS Version 9.2).

The trial was established later in the growing season, with warmer and drier conditions than what would be expected for an earlier planted trial. This likely lead to a lower amount of damping off and root lesion development. There were no significant differences between treatments for yield, emergence, or root lesion incidence for either cultivar.

Treatment and Rate/1,000 ft row	Yield (t/A)		Emergence (%)		Root Lesion Incidence (%)	
	Huntington	Hystyle	Huntington	Hystyle	Huntington	Hystyle
Non-treated Control	18.1*	5.8	84.0	59.5	0.0	12.5
Ridomil Gold 0.42 fl oz	24.3	8.3	87.5	64.0	2.5	15.0
Ridomil Gold 0.42 fl oz + Quadris 0.8 fl oz	19.2	7.7	82.8	67.5	5.0	2.5
Quadris 0.8 fl oz	14.9	6.8	67.3	56.0	0.0	7.5
Velum Prime 0.45 fl oz	15.8	6.0	83.8	54.8	5.0	15.0
Serenade 4.4 fl oz	16.4	7.5	67.5	59.0	0.0	7.5
Regalia 4.4 fl oz	16.8	5.8	79.3	63.8	0.0	15.0
Double Nickel 2.2 fl oz	15.1	6.3	80.5	58.3	7.5	10.0

*No letter(s) next to values in columns indicates that there were no significant differences between treatments using ANOVA ($\alpha=0.05$) and Fisher’s LSD ($\alpha=0.05$).