



Effect on soybean cultivars (*Glycine max* L. cv. Nakate-Hikarikaro, Peking, BSR302)

1. The interaction between nematode and fungal pathogen under combined stress at plant interface

Crop: Soybean (*Glycine max* L. cv. Nakate-Hikarikaro, Peking, BSR302)
 Stress 1: *Heterodera glycines*
 Stress 2: *Phialophora gregata*
 Stage of plant: Seedling

The table shows the effect of the nematode on fungus induced stem browning and brown stem nodes under combined stress treatment

	Treatment	Response to combined stress** Type B parameters*	
		Length of stem browning (%)	Brown stem nodes (%)
Nakate-Hikarikaro	<i>P. gregata</i> (1.9×10^4 cfu g ⁻¹ soil)	18.8	18.3
	<i>P. gregata</i> (1.9×10^4 cfu g ⁻¹ soil) and <i>Heterodera glycines</i> (30juveniles g ⁻¹ soil) simultaneous stress	38.3	31.7
Peking	<i>P. gregata</i> (1.9×10^4 cfu g ⁻¹ soil)	26.8	23.5
	<i>P. gregata</i> (1.9×10^4 cfu g ⁻¹ soil) and <i>Heterodera glycines</i> (30juveniles g ⁻¹ soil) simultaneous stress	21.4	28.8
BSR 302	<i>P. gregata</i> (1.9×10^4 cfu g ⁻¹ soil)	3.3	2.9
	<i>P. gregata</i> (1.9×10^4 cfu g ⁻¹ soil) and <i>Heterodera glycines</i> (30juveniles g ⁻¹ soil) simultaneous stress	9	8.6

For raw data – Click here (.xlsx file)

Reference - Sugawara K, Kobayashi K, Ogoshi A (1997) Influence of the soybean cyst nematode (*Heterodera glycines*) on the incidence of brown stem rot in soybean and adzuki bean. Soil Biol. Biochem. Vol. 29 (9/10): 1491-1498

Note:

‘**’ - Values are presented as it is from the source article without subjecting to the calculation.

‘*’ - For more information on parameter classification, please refer to the ‘methodology’ tab.

Inference From the study: Sugawara K et. al. 1997 studied interaction of *Heterodera glycines* and *Phialophora gregata* in soybean cultivar Nakate-Hikarikaro, Peking, BSR302. Pathogens were inoculated singly and simultaneously. Plants were then analysed for stem browning and brown stem nodes. An additive increase in stem browning and brown stem nodes was observed under combined stress treatment in all three cultivars. However, these symptoms were more in cultivar Nakate-Hikarikaro compared to Peking and BSR 302. **Thus, cultivar Nakate-Hikarikaro is susceptible to this pathogen combination and shows severe disease symptoms compared to Peking and BSR 302.**

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