



Effect on soybean genotypes (*Glycine max* L.)

A. The net impact of individual and combined stress on the plant

Stress 1: Thrips, sting bugs, grasshoppers
Stress 2: Solar UV-B
Stage of plant: Full grown plants

The table shows the impact of individual and combined stress on the yield and foliage damage of soybean plants

Genotypes	Treatment	Response under combined stress (Type A parameters*)
		Yield (Tn/ha)
Williams	UV-B + Thrips, sting bugs and grasshoppers (natural infestation)	3.33
	Thrips, sting bugs and grasshoppers (natural infestation)	2.01
Dekalb	UV-B + Thrips, sting bugs and grasshoppers (natural infestation)	2.36
	Thrips, sting bugs and grasshoppers (natural infestation)	1.87
A5308	UV-B + Thrips, sting bugs and grasshoppers (natural infestation)	2.22
	Thrips, sting bugs and grasshoppers (natural infestation)	2.36
A5634RG	UV-B + Thrips, sting bugs and grasshoppers (natural infestation)	4.37
	Thrips, sting bugs and grasshoppers (natural infestation)	4.24
Charata	UV-B + Thrips, sting bugs and grasshoppers (natural infestation)	5.24
	Thrips, sting bugs and grasshoppers (natural infestation)	3.14

Note: Values are presented as it is from the source article without subjecting to the calculation.

*- For more information on parameters classification, please refer to 'methodology' tab

B. The interaction between the UV-B radiation and insect under the combined stress treatment at the plant interface



The table shows the effect of UV-B radiation on natural infestation of thrips, sting bugs and grasshoppers damaging the foliar of soyabean cultivars in field

Genotypes	Treatment	Response under combined stress (Type B parameters*)
		Foliar damage
Williams	UV-B + Thrips, sting bugs and grasshoppers (natural infestation)	17.42
	Thrips, sting bugs and grasshoppers (natural infestation)	26.01
Dekalb	UV-B + Thrips, sting bugs and grasshoppers (natural infestation)	13.38
	Thrips, sting bugs and grasshoppers (natural infestation)	23.73
A5308	UV-B + Thrips, sting bugs and grasshoppers (natural infestation)	18.68
	Thrips, sting bugs and grasshoppers (natural infestation)	26.76
A5634RG	UV-B + Thrips, sting bugs and grasshoppers (natural infestation)	13.38
	Thrips, sting bugs and grasshoppers (natural infestation)	19.69
Charata	UV-B + Thrips, sting bugs and grasshoppers (natural infestation)	9.84
	Thrips, sting bugs and grasshoppers (natural infestation)	20.70

Reference– Mazza CA, Gimenez PI, Kantolic AG, Ballare CL (2013) Beneficial effects of solar UV-B radiation on soybean yield mediated by reduced insect herbivory under field conditions. *Physiol. Plant.* **147**: 307–315

Note: Values are presented as it is from the source article without subjecting to the calculation.

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Inference from the study: Mazza *et al.*, 2013 studied the interactive effect of ultraviolet B radiation and natural infestation of insects such as thrips, sting bugs, and grasshopper on five soybean genotype William, Dekalb, A5308, A56334RG, Charata. The cultivars William, Dekalb, A56334RG, and Charata showed higher yield in the plot treated with UV-B radiation and the insect infestation than the field infested with insects only. Cultivar A5308 showed a comparatively reduced yield upon combined treatment in comparison with a single infestation of insects.