Effect on alpine Penny-cress (*Thlaspi caerulescens J. & C. Presl* ecotypes Prayon, Ganges)

The interaction between heavy metal and insect under combined stress at plant interface

Crop: Alpine Penny-cress (*Thlaspi caerulescens J. & C. Presl* ecotype Prayon, Ganges)
Stress 1: Heavy Metal Cadmium (Cd)
Stress 2: Thrips (*Frankliniella occidentalis*)
Stage of plant: 3 week old plant

The table shows the effect of heavy metal on the number of thrips per plant and leaf-feeding damage index under combined stress treatment

	Treatment	Response to combined stress** Type B parameters*	
		Thrips number/plant	Leaf feeding damage index (%)
Prayon	*Thlaspi caerulescens* (Untreated)	190.1	51.9
	Thlaspi caerulescens + Heavy Metal (Cd- 250 mg/kg soil) + Herbivory (Sequential stress)	151.0	11.9
	Thlaspi caerulescens + Heavy Metal (Cd- 500 mg/kg soil) + Herbivory (Sequential stress)	35.1	3.6
	Thlaspi caerulescens + Heavy Metal (Cd- 1000 mg/kg soil) + Herbivory (Sequential stress)	37.7	5.1
Ganges	*Thlaspi caerulescens* (Untreated)	61.0	42.0
	Thlaspi caerulescens + Heavy Metal (Cd- 250 mg/kg soil) + Herbivory (Sequential stress)	55.9	2.0
	Thlaspi caerulescens + Heavy Metal (Cd- 500 mg/kg soil) + Herbivory (Sequential stress)	39.0	1.4

	Thlaspi caerulescens + Heavy Metal (Cd- 1000 mg/kg soil) + Herbivory (Sequential stress)	20.8	1.2

Reference – Jiang RF, Ma DY, Zhao FJ, McGrath SP (2005) Cadmium hyperaccumulation protects Thlaspi caerulescens from leaf feeding damage by thrips (Frankliniella occidentalis). New Phytologist 167: 805–814.

Note:

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

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

Inference from the study: Jiang et.al. 2005 studied the interaction of heavy metal cadmium (Cd) and thrips interaction in two ecotypes of *Thlaspi*, Prayon and Ganges. Plants were grown on control and three concentration of Cd amended soil. Then they were subjected to herbivory. In response to the combined stress plants showed a decreased number of thrips and leaf-feeding damage index. Higher the Cd concentration decrease was more. Ecotype Prayon showed more reduction in response to combined stress **Thus, heavy metal affects the growth of insects negatively in *Thlaspi.***