Effect on Jewelflower species

Interaction between heavy metals and virus

The table shows the effect of individual and combined Nickel and TuMV infection on the physiology of jewelflower

Crop: Jewelflower (*Streptanthus polygaloides* and *S. insignis*)
Virus: Turnip mosaic virus (TuMV)
Stress 1: High-Ni soil (amended with NiCl2 having high Ni (1000 µg/g dry wt) content and low-Ni soil (unamended).
Stress 2: Inoculation with TuMV infected mustard leaves
Stage of the plant: Seedling

Species	Stress treatments	Plant response to stress	
		Type A parameter *	Type B parameter *
		% survival of plants at 45dpi	TuMV accumulation (ELISA values)
S. polygaloides	TuMV (un amended soil)	66.45	0.8
	TuMV +Ni	13.94	0.35
S. insignis	TuMV (un amended soil)	9.31	0.9
	TuMV +Ni	49.38	0.81

Dpi-days post inoculation, Control values not provided

For raw data – Click here (.xlsx file)
Reference-

Davis MA, Murphy JF and Boyd RS. (2001) Nickel increases susceptibility of a nickel hyperaccumulator to Turnip mosaic virus. *Journal of Environmental Quality* 30(1): 85-90.

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.*

The inference from the study: Davis et al., 2001 studied the effect of Ni on TuMV accumulation in (a Ni-hyperaccumulator) and *S. insignis* (non- hyperaccumulator) by growing them on Ni-amended and unamended soils. The authors found that Ni contamination significantly reduced plant survival. Also, less viral proteins were found in combined stressed plants showing thereby that **combined Ni and TuMV infection is more detrimental to plants than TuMV infection alone**. Further, it was found that *S. polygaloides* was more susceptible to TuMV than *S. insignis*.