Effect on chickpea cultivars (*Cicer arietinum* cv. UC27, PV61)

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

Crop: Chickpea (Cicer arietinum cv.UC27, PV61)
Stress 1: *Meloidogyne artiellia strains from Italy (Ma-I) and Syria (Ma-S)*
Stress 2: *Fusarium oxysporum f. sp. ciceris*
Stage of plant: Seedling

The table shows the effect of the fungal pathogen on nematode reproduction rate and the effect of nematode on fungus induced disease intensity index and fungal population CFU/g of roots under combined stress treatment

	Treatment	Response to combined stress** Type B parameters*		
		Disease intensity index	10^4 CFU/g of roots	Nematode reproduction rate (Rf)
UC27	*Meloidogyne artiellia (Ma-S) (20eggs/cm3 soil)*	0	0	72.52
	Meloidogyne artiellia (Ma-I) (20eggs/cm3 soil)	0	0	62.65
	Fusarium oxysporum (3000 spores/g soil)	0	1.8	N/A
	Meloidogyne artiellia (Ma-S) (20eggs/cm3 soil) + Fusarium oxysporum (3000 spores/g soil) Simultaneous stress	0	6.43	50.98
	Meloidogyne artiellia (Ma-I) (20eggs/cm3 soil) + Fusarium oxysporum (3000 spores/g soil) Simultaneous stress	0	7.04	54.89
PV61	*Meloidogyne artiellia (Ma-S) (20eggs/cm3 soil)*	0	0	97.1
	Meloidogyne artiellia (Ma-I) (20eggs/cm3 soil)	0	0	61.02
	Fusarium oxysporum (3000 spores/g soil)	0.54	49.78	N/A
	Meloidogyne artiellia (Ma-S) (20eggs/cm3 soil) + Fusarium oxysporum (3000 spores/g soil) Simultaneous stress	0.99	N/A	N/A
	Meloidogyne artiellia (Ma-I) (20eggs/cm3 soil) + Fusarium oxysporum (3000 spores/g soil) Simultaneous stress	0.89	N/A	N/A

For raw data – Click here (.xlsx file)

Reference - Castillo P, Navas-Cortés JA, Gomar-Tinoco D, Di Vito M, Jiménez-Díaz RM (2003) Interactions between *Meloidogyne artiellia*,the cereal and legume root-knot nematode, and *Fusarium oxysporum f. sp. ciceris* race 5 in chickpea. Phytopathology 93:1513-1523.

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 'methodology' tab.*

Inference From the study: Castillo P (2003) studied the interaction of *Meloidogyne artiellia* with *Fusarium oxysporum* in two chickpea cultivar UC27 and PV61. Two strains of *Meloidogyne artiellia was used.* Pathogens were inoculated singly and simultaneously. Nematode reproduction rate decreased under simultaneous inoculation, whereas the fungal population increased under combined stress. Disease index was high for PV61 and low for UC27. **Thus, this pathogen combination did not form a complex disease phenotype in UC27 cultivar, but cultivar PV61 is susceptible to this pathogen combination.**