



## Effect on pigeon pea genotypes (Cajanus cajan L. cv. ICP9145 & Malawi local)

### 1. The net impact of individual and combined stress on plant growth

Crop: Pigeonpea (Cajanus cajan L. cv. ICP9145, Malawi local)  
 Stress 1: *Meloidogyne* sp.  
 Stress 2: *Fusarium udum*  
 Stage of plant: 1 week Seedling

The table shows the impact of nematode and fungus alone and in combination on cajanol content of pigeonpea genotypes.

	Treatment	Plant response to stress	
		Type C parameters*	
		Cajanol content	
		µg/ml stele extract	µg/g fresh weight of stele tissue
ICP9145	<i>Fusarium udum</i> ( $2 \times 10^6$ conidia/ml)	128	45
	<i>Fusarium udum</i> ( $2 \times 10^6$ conidia/ml) + <i>Meloidogyne</i> sp. (2000 juveniles/plant) simultaneous stress	66	17
Malawi Local	<i>Fusarium udum</i> ( $2 \times 10^6$ conidia/ml)	39	11
	<i>Fusarium udum</i> ( $2 \times 10^6$ conidia/ml) + <i>Meloidogyne</i> sp. (2000 juveniles/plant) simultaneous stress	24	7

**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.

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

The table shows the effect of nematode on fungus induced wilt incidence and wilt severity under combined stress treatment

	Treatment	Response to combined stress**	
		Type B parameters*	
		% wilt incidence	Wilt Severity
ICP9145	<i>Fusarium udum</i> (2X106 conidia/ml)	0	1
	<i>Fusarium udum</i> (2X106 conidia/ml) + <i>Meloidogyne sp.</i> (2000 juveniles/plant) simultaneous stress	76.7	3.8
Malawi Local	<i>Fusarium udum</i> (2X106 conidia/ml)	100	4.8
	<i>Fusarium udum</i> (2X106 conidia/ml) + <i>Meloidogyne sp.</i> (2000 juveniles/plant) simultaneous stress	100	4.8

For raw data – Click here (.xlsx file)

Reference- Marley PS, Hillocks RJ (1994) Effect of root-knot nematodes on cajanol accumulation in the vascular tissues of pigeonpea after stem inoculation with *Fusarium udum*. Plant Pathology 43: 172-176

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**Inference From the study:** Marley PS, Hillocks RJ (1994) studied the effect of *M. incognita* on cajanol accumulation in the vascular tissues of pigeonpea after stem inoculation with *Fusarium udum*. Cultivar ICP9145 and Malawi local showed a reduction in cajanol content under combined stress treatment compared to fungus alone. Wilt incidence and wilt severity were also more under combined stress treatment in both cultivars. **Thus, both pathogens act synergistically to reduce plant growth and cajanol content.**