

Effect on sweet cherry (*Prunus avium* L.) cultivars
The net impact of individual and combined stress on plant growth

 Crop: Sweet cherry (*Prunus avium* L.)
 Cultivar: Mahaleb
 Stress 1: NPK
 Stress 2: *Pratylenchus penetrans*
 Stage of plant: Seedlings

The table shows the impact of individual and combined treatment of deficient NPK nutrients and nematode *P. penetrans* on sweet cherry cv. Mahaleb

Cultivar	Treatment	Response under combined stress (Type A parameters*)
		Reduction over control (%)
		Shoot dry weight
Mazzard	Deficient NPK (4 × 10 µg/tube) + <i>P. penetrans</i> (4200 nematode/plant) (Simultaneous stress)	-70.74 ↑
	<i>P. penetrans</i> (4.2 × 10 ³ nematode/plant) only	-27.21 ↑
	Deficient NPK (40 µg/tube) only	67.34 ↓
Mahaleb	Deficient NPK (4 × 10 µg/tube) + <i>P. penetrans</i> (4200 nematode/plant) (Simultaneous stress)	65.18 ↓
	<i>P. penetrans</i> (4.2 × 10 ³ nematode/plant) only	-58.98 ↑
	Deficient NPK (40 µg/tube) only	47.37 ↓
GI 148-1	Deficient NPK (4 × 10 µg/tube) + <i>P. penetrans</i> (4200 nematode/plant) (Simultaneous stress)	81.44 ↓
	<i>P. penetrans</i> (4.2 × 10 ³ nematode/plant) only	4.14 ↓
	Deficient NPK (40 µg/tube) only	71.71 ↓
GI 148-8	Deficient NPK (4 × 10 µg/tube) + <i>P. penetrans</i> (4200 nematode/plant) (Simultaneous stress)	78.53 ↓



	<i>P. penetrans</i> (4.2×10^3 nematode/plant) only	22.51 ↓
	Deficient NPK (40 µg/tube) only	64.39 ↓

Note: Values presented in the table were calculated using the formula described below.

$$\text{Reduction over control (\%)} = \frac{(\text{Value Control} - \text{Value Stress})}{\text{Value Control}} \times 100$$

↓- indicates plant parameter is more affected by stress that leads to high susceptibility (higher the value more the damage).

↑- indicates plant parameters less/not affected by stress leading to improved resistance (higher the value lesser the damage)

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

Reference- Melakeberhan H, Bird GW, Gore R (1997) Impact of plant nutrition on *Pratylenchus penetrans* infection of *Prunus avium* rootstocks. *Journal of Nematology* **29**: 381

Inference from the study: Melakeberhan et al., 1997 studied the impact of NPK nutrients on nematode *Pratylenchus penetrans* infecting four sweet cherry cultivars Mazzard, Mahaleb, GI 148-1, GI 148-8. The results suggest the combined treatment of NPK and *P. penetrans* caused a higher reduction of shoot dry weight in comparison to single treatment of NPK for three cultivars Mahaleb, GI 148-1, GI 148-8, whereas cv. Mazzard was not affected.