

## *Empoasca* sp. damage



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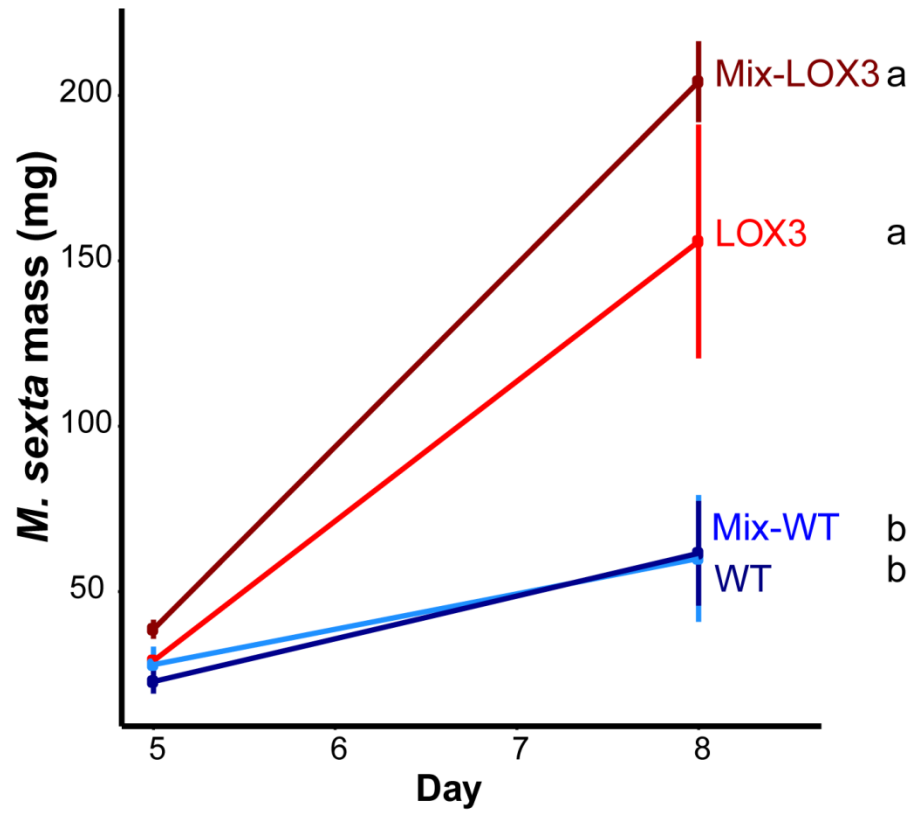
## *T. notatus* damage



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2 **Figure A.** Damage of *Empoasca* sp. and *Tupiocoris notatus*.



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4 **Figure B.** *Manduca sexta* caterpillar growth was reduced on WT in comparison to asLOX3

5 plants.

6 **Table A. Soil layers in the mesocosm**

	<b>L/container</b>
<b>A - Upper layer (30cm)</b>	
<i>Nicotiana</i> - Substrate	48
Sand aggregate 0.7-1.2 mm	24
Sand aggregate 0.4-0.8 mm	24
Klasmann-clay granules	24
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<b>B - Middle layer (30cm)</b>	
<i>Nicotiana</i> – Substrate	40
Sand aggregate 0.7-1.2 mm	80
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<b>C - lower layer (30cm)</b>	
<i>Nicotiana</i> – Substrate	40
Sand aggregate 0.7-1.2 mm	40
Lavabims 8-16mm sand aggregate	40
<hr/>	
<b>Drainage layer (4th and 5th layers)</b>	
<b>D</b> - Lecaton- Hydrogranulate 2-4 mm (2cm)	8
<b>E</b> - Lecaton- Hydrogranulate 8-16 mm (10cm)	38
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<b>Total</b>	<b>406</b>

**Table B. Soil components in the mesocosm**

Material	Contents		Nutrients[mg/l]			PH	Salt content [g/l]	Manufacturers	Address
			N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O				
<b>Fruhstorfer</b>							Fruhstorfer Erde	Langer Damm 1, 49377 Vechta	
<b>Nullerde</b>	raised-bog peat, Vulkanton		20-40	20-40	40-60	5.5-6.0	<0.5	HAWITA GRUPPE GmbH	
Quartz sand	H <sub>2</sub> -H <sub>4</sub> *	H <sub>4</sub> -H <sub>6</sub> *		10-17 (P)	33-50 (K)				
Grain diameter [mm]	0.4-0.8	0.7-1.2							
<b>Clay granules Lamstedt</b>									
Clay granules 2-4 mm						9.6 (CaCl)	0.9 (KCl)	Fibo Ex Ciay Deutschland GmbH	Rahdener Strasse1, 21769 Lamstedt,
Clay granules 8-16 mm								Gärtnereibedarf Kammlott GmbH	Bergrat-Voigt-Straße 1, 99087 Erfurt
<b>Klasmann substrate</b>								Klasmann - Deilmann GmbH	Postfach 1250, 49741 Geeste-Gross Hesepe
Clay granules 2 - 8 mm	65% clay mineral (Smectit/Vermiculite, Illite, Kaolinite) 35% other minerals (Quart, Feldspar, Mica)						7.7		
	SiO <sub>2</sub>	66%							
	Al <sub>2</sub> O <sub>3</sub>	15.10%							
	Fe <sub>2</sub> O <sub>3</sub>	6.10%							
	K <sub>2</sub> O	3.60%							
	MgO	1.60%							
	CaO	1.20%							
8-16 mm expanded slate sand aggregate								ulopor Thüringer Schiefer GmbH	OT Unterloquitz Neustedt 21, 07330 Probstzella
Drainage layer expanded slate								Optigrün international GmbH	Am Birkenstock 19, 72505 Krauchenwies-Göggingen

\* Decomposition rate

9 **Table C. Fertilization parameters in the mesocosm.**

Fertilizer	Contents (%)												Manufacturers	Address	
	N	P <sub>2</sub> O <sub>5</sub> (P 43,6%)*	K <sub>2</sub> O (K83,3%)*	MgO	S	B	Cu	Fe	Mn	Mo	Zn	CaO			
<b>Epsotop</b> (Magnesium sulfate)				16	13									K+S Kali GmbH	Bertha-von-Suttner-Str. 7, 34131 Kassel
<b>Micromax</b> (0.3-0.5 g /L substrate)					15	0.1	0.5	12	2.5	0.05	1			Scotts Deutschland GmbH	48527 Nordhorn Generaal de Wittelaan 17 bus 16, B 2800 Mechelen/ Belgien
<b>Superphosphate</b>		20 (8.7)												Hi-Chem nv	
<b>Multi Mix substrate fertilizer</b>	14	16	18	0	0	0.03	0.15	0.09	0.16	0.05	0.04			Haifa Chemicals Ltd.	P.O. Box 10809, Haifa Bay 26120 ISRAEL
Nitrate	5.2														

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11 \* Conversion factor

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13 **Table D. Measures of different plant growth parameters.**

Parameter	Experiment	Population level			Genotype level	
		as <i>LOX3</i>	Mix	WT	as <i>LOX3</i> -Mix	WT-Mix
Rosette diameter	PM	31.7 ± 0.96	31.46 ± 0.73	26 ± 2.86	31.43 ± 0.38	31.5 ± 1.25
(cm)	NI	28.4 ± 0.85	29.65 ± 2.38	30.91 ± 2.80	29.90 ± 2.70	29.40 ± 2.07
Height (cm)	PM	53.22 ± 2.92	47.9 ± 5.63	42.99 ± 4.81	50.77 ± 4.46	45.04 ± 6.44
	NI	82.84 ± 3.61	86.65 ± 9.14	86.91 ± 9.57	87.89 ± 10.13	85.41 ± 8.35
Fresh weight (g)	PM	22.73 ± 2.50	23.48 ± 2.40	24.22 ± 11.6	22.17 ± 5.06	24.79 ± 1.59
	NI	18.33 ± 1.83	21.05 ± 1.55	21.31 ± 3.23	20.68 ± 1.77	21.42 ± 1.36
Dry weight (g)	PM	3.59 ± 0.54	3.92 ± 0.31	3.16 ± 0.8	4.23 ± 0.52	3.61 ± 0.23
	NI	2.85 ± 1.25	5.19 ± 1.32	5.77 ± 1.98	5.19 ± 1.57	5.19 ± 1.22

14 Rosette diameter, plant height and biomass in Plant-Mediated (PM) and Natural Infestation (NI)

15 Experiments (mean ± SEM, n = 4 populations, each of which represents the mean of 4-8 plants)

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