

Supplementary Table 1. Number of *Pratylenchus thornei*/kg soil [(ln(x+c) transformations] after 16 weeks growth of F₁ hybrids (Experiment 1) and F₂ populations (Experiment 3) in a half-diallel of crosses of ‘resistant’ x ‘resistant’ parents compared with mid-parent values

Cross ¹	F ₁ crosses		F ₂ crosses	
	Mid-parent value	F ₁ mean	Mid-parent value	F ₂ mean
<i>‘Resistant’ x ‘resistant’</i>	<i>ln(x + 2300)</i>		<i>ln(x + 500)</i>	
Iraq 43/Iraq 48	10.12	8.63***	9.47	9.12
Persia 62/Morocco 426	9.30	8.83	9.71	8.59*
Morocco 426/Iraq 43	9.21	8.84	8.43	8.53
Morocco 426/C-70-3	9.01	8.92	8.90	8.74
Persia 11/Iraq 43	9.07	8.98	8.61	8.42
Persia 28/Iraq 43	9.64	9.03		
Persia 11/C-70-3	8.86	9.06	9.08	9.11
Morocco 426/Persia 11	9.16	9.06	8.90	8.51
C-70-3/Iraq 43	8.92	9.18	8.61	8.85
Morocco 426/El Neilain	9.81	9.19		
Persia 62/Persia 11	9.16	9.21	9.89	8.86*
El Neilain/Iraq 43	9.72	9.28		
Persia 92/Morocco 426	9.48	9.29		
Persia 92/Iraq 43	9.40	9.36		
Morocco 426/GS50a	9.30	9.45	8.80	8.74
Persia 62/Iraq 43	9.22	9.47	9.42	8.63
GS50a/Iraq 43	9.21	9.57	8.51	8.64
El Neilain/GS50a	9.81	9.58		
Persia 62/Persia 28	9.73	9.70		
Persia 28/GS50a	9.73	9.71		
Persia 62/Persia 92	9.49	9.81		
Persia 11/GS50a	9.15	9.81	8.97	9.06
Persia 28/Persia 11	9.58	9.84		
Persia 62/C-70-3	9.01	9.85*	9.89	9.10
GS50a/Iraq 48	10.20	9.92	9.83	9.50
Persia 62/GS50a	9.30	9.93	9.78	9.42
Persia 92/Persia 11	9.34	9.96		
C-70-3/El Neilain	9.51	9.97		
Morocco 426/Iraq 48	10.20	10.01	9.76	8.99
Persia 28/C-70-3	9.43	10.32*		
Persia 11/El Neilain	9.66	10.06		
Persia 62/El Neilain	9.81	10.14		
Persia 92/GS50a	9.48	10.21*		
Persia 28/El Neilain	10.24	10.26		

C-70-3/Iraq 48	9.91	10.64*	9.93	9.82
Persia 28/Iraq 48	10.63	10.66		
Persia 28/Morocco 426	9.73	10.72**		
Persia 62/Iraq 48	10.21	10.81	10.75	10.46
Persia 11/Iraq 48	10.06	11.00**	9.93	10.13
Persia 28/Persia 92	9.91	11.01**		
Persia 92/C-70-3	9.19	11.29***		
Persia 92/El Neilain	9.99	11.66***		
Persia 92/Iraq 48	10.38	11.72***		
Fl.s.d. ($P = 0.05$)		0.68	0.92	
c.v. (%)		6.1		

*, **, *** Significant deviation of mean from mid-parent value at $P < 0.05, 0.01$ and 0.001 respectively with l.s.d. for cross means vs. mid-parent values

¹Crosses are ranked on F_1 hybrid means.

Supplementary Table 2. Number of *Pratylenchus thornei*/kg soil [$\ln(x+c)$ transformations] after 16 weeks growth of F_1 hybrids (Experiment 2) and F_2 populations (Experiment 4) for (a) crosses of ‘resistant’ parents x Janz compared with mid-parent values and (b) parents and reference standards

Supplementary Table 2a

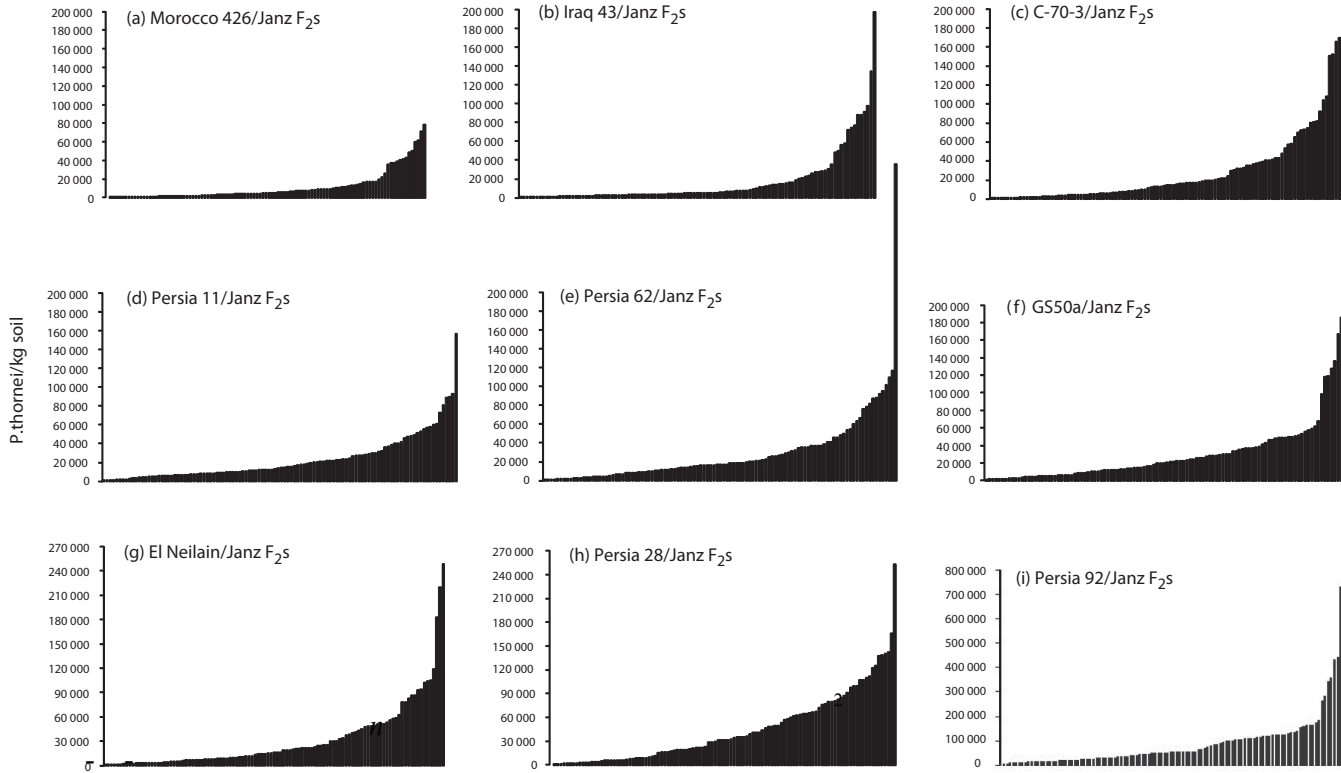
Cross ¹	Exp. 2. F_1 hybrids		Exp. 4. F_2 populations	
	Mid-parent value	F_1 mean	Mid-parent value	F_2 mean
<i>‘Resistant’ x Janz</i>	$\ln(x+80000)$		$\ln(x+1750)$	
Iraq 43/Janz	12.21	11.82*	9.81	9.11
El Neilain/Janz	12.27	11.91*	10.16	9.80
Morocco 426/Janz	12.16	11.94	9.79	8.92*
Iraq 48/Janz	12.57	11.99***		
GS50a/Janz	12.29	12.19	9.83	9.87
Persia 11/Janz	12.41	12.39	10.16	9.70
C-70-3/Janz	12.26	12.55	9.91	9.64
Persia 62/Janz	12.37	12.56	10.71	9.80*
Persia 28/Janz	12.38	12.65	10.39	10.17
Persia 92/Janz	12.39	12.81**	10.39	10.88
Fl.s.d. ($P = 0.05$)		0.3		0.74
c.v. (%)		2.1		

Supplementary Table 2b.

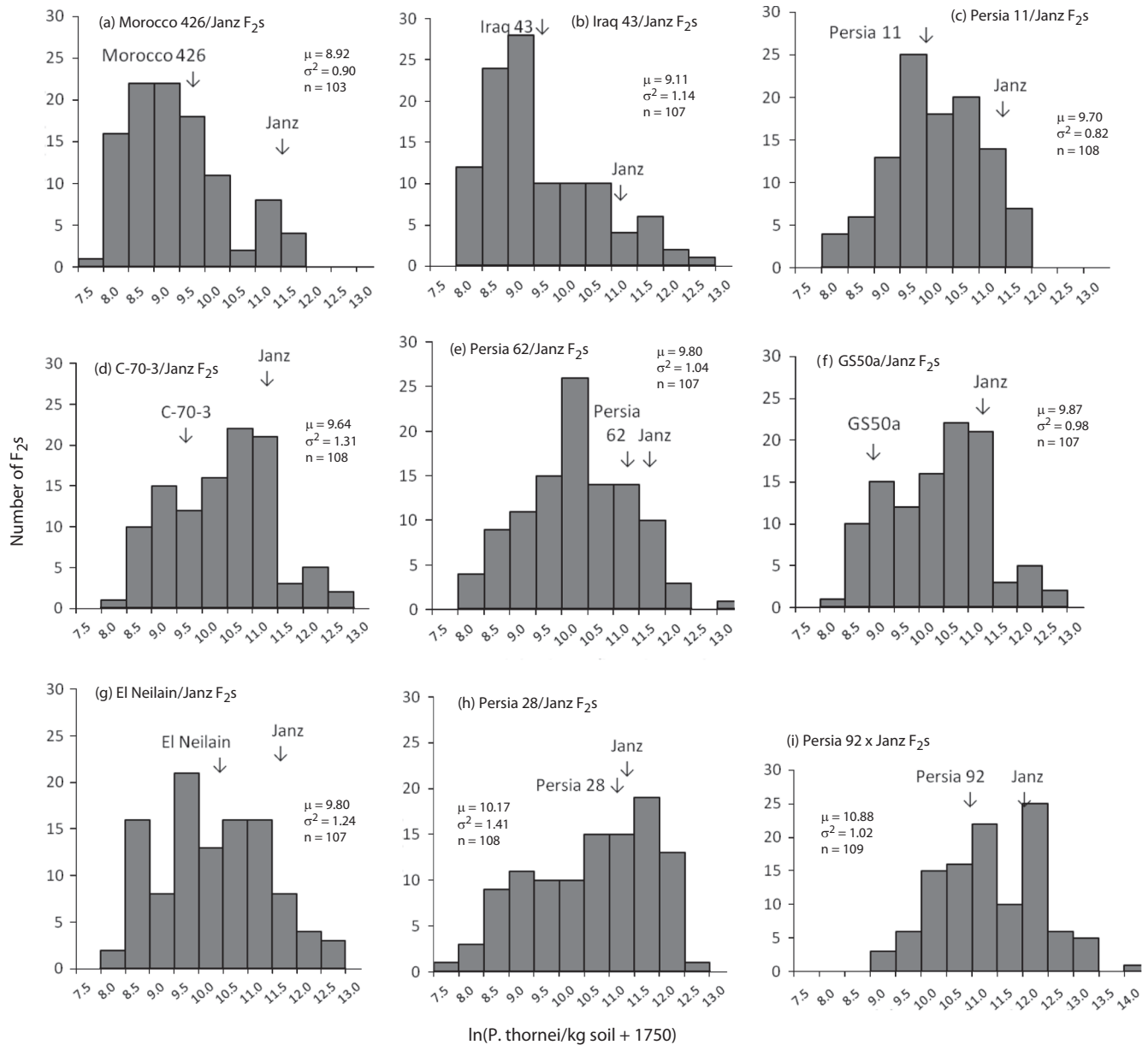
Parents and Standards	Experiment 2 <i>P. thornei</i> /kg soil		Experiment 4 <i>P. thornei</i> /kg soil	
	$\ln(x + 80000)$	Backtransf.	$\ln(x + 1750)$	Backtransf.
<i>Parents</i>				
Morocco 426	11.59	28012	8.77	4707
Iraq 43	11.70	40572	8.80	4872
C-70-3	11.80	53252	9.01	6402

El Neilain	11.82	55944	9.50	11547
GS50a	11.85	60084	8.85	5249
Persia 92	12.00	82755	9.97	19700
Persia 62	12.01	84391	10.60	38531
Persia 28	12.04	89397	9.97	19615
Persia 11	12.09	98082	9.51	11786
Iraq 48	12.41	165242	10.56	36710
Janz	12.72	254369	10.82	48035
<i>Reference standards</i>				
Unplanted	11.44	12967	7.99	1191
QT9048	11.66	35844	8.61	3757
QT8343	11.66	35844	8.84	5131
Yallaroi	11.75	46754	8.85	5256
Canaryseed	11.88	64351		
Cunningham	12.59	213608	9.54	12128
Batavia	12.86	304616	10.63	39496
Gatcher	12.97	349338	10.73	44084
l.s.d ($P = 0.05$)	0.30		1.02	
c.v. (%)	2.1		9.4	

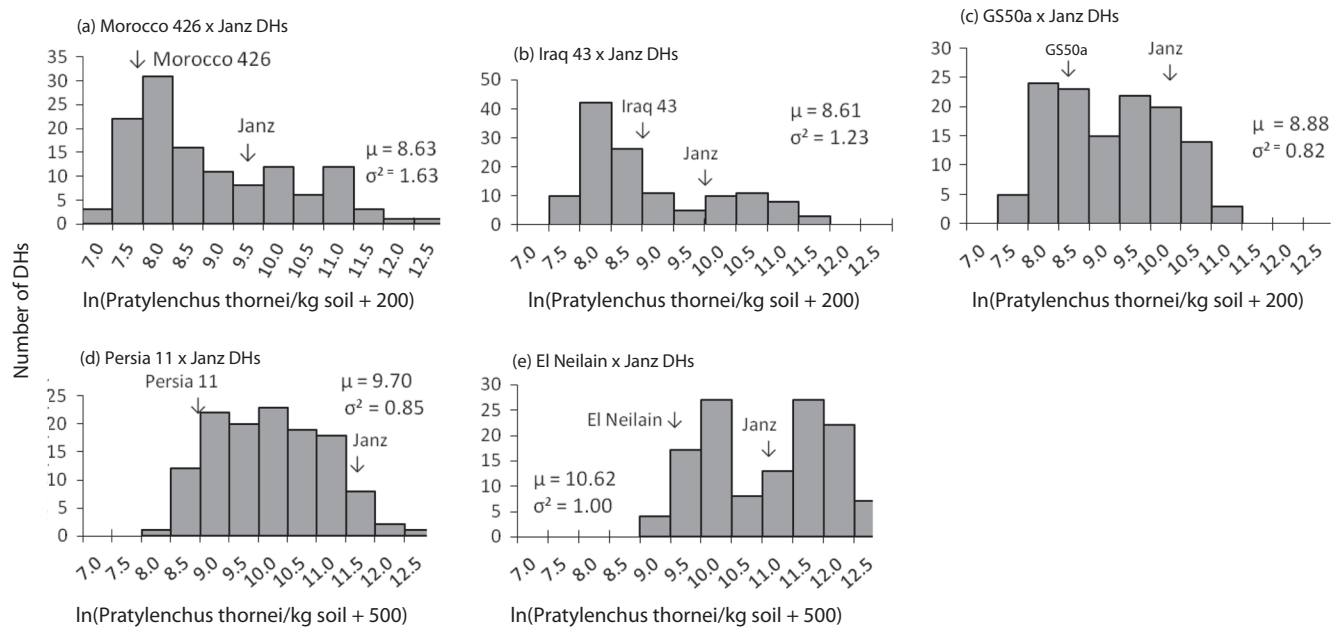
*, **, *** Significant deviation of mean from mid-parent value at $P < 0.05$, 0.01 and 0.001 respectively.



Supplementary Fig. 1. Segregation of 'resistant' parents x Janz F_2 populations (Experiment 4) (a) Morocco 426/Janz, $n = 103$, (b) Iraq 43/Janz, $n = 107$, (c) Persia 11/Janz, $n = 108$, (d) C-70-3/Janz, $n = 108$, (e) El Neilain /Janz, $n = 107$, (f) Persia 62/Janz, $n = 107$, (g) GS50a/Janz, $n = 107$, (h) Persia 28/Janz, $n = 108$, and (i) Persia 92/Janz, $n = 109$. Note: Scale of Y axis for (a) to (f) = 0 to 200,000; (g) and (h) = 0 to 300,000; (i) = 0 to 800,000 *P. thornei*/kg soil.



Supplementary Fig. 2. Frequency distribution histograms of the ‘resistant’ parents x Janz F₂ populations (Experiment 4). (a) Morocco 426 x Janz (b) Iraq 43 x Janz, (c) Persia 11 x Janz (d) C-70-3 x Janz (e) El Neilain x Janz (f) Persia 62 x Janz (g) GS50a x Janz (h) Persia 28 x Janz and (i) Persia 92 x Janz. The Y-axis shows the frequency of the individual F₂s that fall into classes (X-axis) of nematode numbers transformed by ln(*P. thornei*/kg soil + 1750). Parental values, population mean (μ) and variance (σ^2), and number (n) of individuals are shown for each F₂ population.



Supplementary Fig. 3. Frequency distribution histograms of ‘resistant parent’ x Janz doubled-haploid populations (Experiment 5) (a) Morocco 426 x Janz (b) Iraq 43 x Janz, (c) GS50a x Janz (d) Persia 11 x Janz (e) El Neilain x Janz. The Y-axis shows the number of doubled-haploids (total of 126 for all populations) that fall into classes (X-axis) of nematode numbers transformed by $\ln(P. thornei/\text{kg soil}+200)$ for (a)-(c) and $\ln(P. thornei/\text{kg soil}+500)$ for (d)-(e). Parental values are shown for each population.