Supplementary data

Estimation of usefulness of RAPD, RFLP and SCAR molecular markers and *AGPaseB* gene methylation level in the screening of resistance to the golden cyst nematode (*Globodera rostochiensis*) pathotype Ro1 in different Polish potato genotypes

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Supplementary Table 1. The presence of PCR products amplified by respective markers in the analysed potato genotypes

No.	Cultivars (no. 1- 19) and breeding lines (no. 20- 58)	R/S	Product				
			2 kb RAPD	SCAR I	SCAR II	1.6 kb *AGPaseB*	0.7 kb RAPD
1	Accent	R	0	1	1	n.t.	1
2	Agria	R	1	0	1	n.t.	1
3	Albina	R	1	1	0	0	1
4	Arnika*	R	1	1	1	1	1
5	Bóbr	R	1	0	1	1	1
6	Elba	R	1	1	1	1	0
7	Fregata	R	0	1	1	0	1
8	Gitte	R	0	1	1	1	1
9	Lyra	R	1	1	1	1	1
10	Moreene	R	1	1	1	1	1
11	Mors	R	1	1	1	0	1
12	Pamir	R	0	0	0	0	1
13	Remarka	R	1	1	1	0	0
14	Rustica	R	0	0	0	n.t.	1
15	Sante	R	0	1	1	n.t.	1
16	Ceza*	S	1	1	1	0	1
17	Desirée	S	1	1	1	0	1
18	Lena	S	1	0	1	1	1
19	Liu	S	0	1	0	0	1
20	B-56018 (Liu x Rebecca)	R	1	1	1	1	1
21	B-56109 (Liu x Rebecca)	R	1	1	1	n.t.	1
22	B-57085	R	1	1	1	n.t.	1
23	Bu 58.109	R	0	1	1	n.t.	1
24	K.95-1730 (Bóbr x Lyra)	R	1	1	1	n.t.	0
25	K.95-1731 (Bóbr x Lyra)	R	1	1	0	n.t.	0
26	K.95-1738 (Bóbr x Lyra)	R	1	1	1	0	0
27	K.95-1752 (Bóbr x Lyra)	R	1	1	1	0	0

28	K.95-2111 (PS-646N x Lyra)	R	0	1	1	n.t.	1
29	K.96-1357 x B-57122	R	0	1	0	n.t.	0
30	P.94-1082 x K.96-297	R	1	1	1	n.t.	1
31	PB 2151 x K.96-278	R	0	0	0	n.t.	1
32	PS-113	R	0	1	1	n.t.	1
33	PS-1216	R	0	1	1	n.t.	0
34	PS-1611	R	1	1	0	1	0
35	PS-1667	R	0	1	0	n.t.	0
36	PS-622	R	0	1	1	n.t.	0
37	PS-646*	R	1	1	1	1	1
38	S-39106 (PS-113 x Bu 58.109)	R	0	1	1	n.t.	0
39	S-39143 (PS-647 x PS-1216)	R	1	1	1	n.t.	1
40	S-39176 (PS-1611 x Gitte)	R	0	1	1	n.t.	1
41	S-39186	R	0	1	1	n.t.	1
42	S-39375 (PS-1667 x Arnika)	R	0	1	1	n.t.	1
43	S-39376 (PS-1667 x Arnika)	R	0	1	1	n.t.	0
44	S-39382 (PS-1667 x Arnika)	R	1	1	1	1	0
45	S-39392 (PS-646 x Arnika)*	R	1	1	1	0	0
46	S-39399 (PS-646 x Arnika)*	R	1	1	1	0	1
47	B-56004 (Liu x Rebecca)	S	1	1	1	n.t.	1
48	B-57038	S	1	0	0	n.t.	0
49	B-57060	S	0	1	1	n.t.	0
50	B-57107	S	0	1	1	n.t.	1
51	B-57118	S	0	1	1	n.t.	0
52	K.95-3227 (PS-646 x Ceza)*	S	0	1	1	1	1
53	P.94-1162-4	S	0	1	0	n.t.	0
54	P.94-1188-2 (Remarka x PW-363)	S	0	1	1	n.t.	1
55	PS-109	S	0	0	1	n.t.	1
56	PW-362	S	0	1	1	n.t.	1
57	PW-363	S	0	1	1	n.t.	1
58	S-39326	S	0	1	1	n.t.	1

All the genotypes were categorised either as resistant (R) or susceptible (S). The presence of PCR-based markers was indicated (1- amplification product present; 0- amplification product absent; n.t.- not tested). Asterisks (*) denote the genotypes used for the methylation analysis (three resistant breeding lines S039403, S039415 and S039425 were also considered).

Supplementary Table 2. Correlation coefficients between the evaluation of resistance/tolerance in the analysed potato genotypes, based on the results of a biological test and the presence of DNA fragments amplified by markers

	Biological test	2 kb RAPD	SCARI	SCARII	0.7 kb RAPD
2 kb RAPD	0,21				
SCARI	0,09	-0,01			
SCARII	0,00	0,12	0,32*		
0.7 kb RAPD	-0,10	-0,06	-0,17	0,22	
1.6 kb *AGPase B*	0,10	0,10	-0,13	0,22	0,09

In addition to the biological test, all the investigated PCR-based markers were also indicated. Calculations were done using STATISTICA (v 10.0). * - significant at the level $\alpha = 0,05$