

## Mechanisms and manipulation of resistance to powdery scab in potato roots: QTL analysis

**Supplementary Table S1.** The DNA quantities and phenotype scores for the lines assessed in a GWAS to identify QTL association with root attachment as received from the University of Tasmania.

Code	Cultivar	DNA yield (ng/ $\mu$ L) in 50 $\mu$ L TE buffer	Root attachment score	Mark
1	P03 172	230	6.09	
2	A 8495-1	487	6.94	
3	780 69-17	237	4.38	
4	A 8792-1	106	6.87	
5	TK 51.6 155	690	10.68	
6	AG31	880	10.13	
7	Eureka	241	6.17	
8	Emmanuelle	180	10.53	
9	Evora	382	10.85	
10	Lilly	324	5.52	
11	Papageno	110	4.31	
12	TAURUS	118	6.22	
13	AG66	252	5.43	
14	A 83164-6	610	8.69	
15	A 8612-1	720	5.66	
16	15006	402	11.49	
17	TXAV 657-27	270	5.71	
18	92-37-1(Fergie Fry)	305	11.76	
19	AG102	>1000	5.94	
20	A 8519-5	471	9.32	
21	RUSSET P89 W1005	117 (98 $\mu$ L)	9.86	
22	1-001 18	530	5.61	
23	89-27-6	340	4.25	
24	86 C 16 B 12	>1000	9.99	
25	TX 1385	167	5.01	
26	661 07 51	580	12.92	
27	A84180 -8	970	12.31	
28	Whitestar	>1000	5.43	
29	Belmonda	313	6.20	
30	KT3 152	148	9.64	
31	Almonda	241	9.11	
32	Otolia	114 (98 $\mu$ L)	7.03	
33	97-100	>1000	4.91	
34	Agria	530	8.14	
35	WONT SCAB	190	7.11	
36	93-6-3	257	6.82	
37	V60-31-1	870	6.19	
38	Baby Lou	353	3.88	
39	Queen Annet	69.3 (98 $\mu$ L)	7.96	
40	Red Lady	75.3 (98 $\mu$ L)	4.09	

Code	Cultivar	DNA yield (ng/ $\mu$ L) in 50 $\mu$ L TE buffer	Root attachment score	Mark
41	Verdi	411	3.85	
42	Concordia	354	5.98	
43	Crop80	204	6.04	
44	Crop56	343	9.26	
45	Russet Burbank Netted Gem	112 (98 $\mu$ L)	8.00	
46	Top Cat	590	3.91	
47	Winterset	450	5.26	
48	Ranger Russet	103	8.42	Genotyping unsuccessful
49	Carrera	321	2.98	
50	Ivory Russet	162	4.92	
51	Jurata	157	6.82	
52	Sifra	107	9.33	
53	Red Tinta	117 (98 $\mu$ L)	4.61	
54	Juventa	105	5.22	
55	Anivia	322	11.33	same as 154
56	Ottawa	131 (98 $\mu$ L)	2.98	
57	Colomba	307	1.16	
58	Corinna	137	5.84	
59	Innovator	>1000	4.75	
60	La vie	121	3.97	
61	Prince of orange	105 (98 $\mu$ L)	7.14	
62	Crop13	640	2.40	
63	Alturas Russet	475	1.73	
64	Bliss	492	5.30	
65	Clearwater Russet	580	2.33	
66	Red La Soda	55.4 (98 $\mu$ L)	4.05	
67	Carlingford	348	3.41	
68	Star	258	1.64	
69	Granola	325	1.57	
70	Crop78	271	8.25	
71	AG109	285	5.71	
72	Norland wiscons super	101	No screening result	
73	Crop77	209	6.27	
74	Snowden	113 (98 $\mu$ L)	2.84	
75	Crop37	427	5.73	
76	Summit Russet	188	4.63	
77	Cranberry Red	160	4.16	
78	Bison	184	7.27	
79	Pink Fir Apple	144	6.52	
80	Spey	164	4.54	
81	Frontier Russet	129	6.40	
82	Legend	125	3.39	
83	Leven	115	6.13	
84	Lustre	125 (98 $\mu$ L)	6.40	
85	Gold Rush	344	6.80	
86	Ida Rose	394	9.98	

Code	Cultivar	DNA yield (ng/ $\mu$ L) in 50 $\mu$ L TE buffer	Root attachment score	Mark
87	King Edward	107	7.67	
88	Kennebec	128	8.06	
89	Kipfler	131	7.68	
90	Krantz	148 (98 $\mu$ L)	9.65	
91	Lionheart	133	10.26	
92	Pontiac	141	6.44	
93	Mainstay	146	5.94	
94	Maris Piper	128 (98 $\mu$ L)	5.17	
95	Mac Russet	95.8 (98 $\mu$ L)	5.56	
96	Nampa	119	5.03	
97	Nooksack	109	8.67	
98	Patrones	143	8.82	
99	Purple congo	121	3.75	
100	Pentland Dell	88.7 (98 $\mu$ L)	5.98	
101	Pink eye	150	4.76	
102	Sapphire	142	7.59	
103	Red Ruby	104	8.12	
104	RB MS	96.9 (96 $\mu$ L)	4.20	
105	Russet Nugget	91.6 (98 $\mu$ L)	1.24	
106	Russet Burbank Victoria	118 (98 $\mu$ L)	3.74	
107	Ruby Lou	105	3.61	
108	Russet Burbank Ruen	121	2.25	
111	Nicola	93.4 (98 $\mu$ L)	12.19	
112	Russet Burbank A380	84.4 (98 $\mu$ L)	3.31	
113	Russet Burbank British Columbia Russet	111	3.06	
114	Red Pontiac	109 (98 $\mu$ L)	4.66	
115	Sunrise	122	7.48	
116	Shepody	107 (98 $\mu$ L)	9.40	
117	Russet Burbank Starks	138	2.30	
118	Southern Cross	76.6 (98 $\mu$ L)	8.12	
119	Atlantic	291	5.71	
121	Akersegen	282	4.20	
122	Banana	237	4.66	
123	Bintje	306	6.12	
124	Bismark	263	5.36	
125	Brakelight	550	4.69	
126	Cariboo	218	5.85	
127	Chiefton	442	5.52	
128	Coliban	179	8.24	
129	Crystal	311	7.35	
130	White rose (Delware)	580	8.76	
131	Dutch Cream	156	4.93	
132	Dawmor	710	3.24	
133	Desiree	423	3.15	
134	Dev	273	6.23	
135	Diamant	233	7.91	

Code	Cultivar	DNA yield (ng/ $\mu$ L) in 50 $\mu$ L TE buffer	Root attachment score	Mark
136	Fontenot	144	3.65	
137	Sequoia	139 (98 $\mu$ L)	5.47	
138	Sebago-E	142 (98 $\mu$ L)	6.16	
139	Shine	154	9.29	
140	Spunta	168	6.44	
141	Amisk Ranger	435	4.51	
142	Tasman	355	6.52	
143	Tolaas	800	2.02	
144	Toolangi Delight	485	2.15	
145	Up to Date	>1000	7.08	
146	Wilwash	287	6.34	
147	Yellow King	370	5.27	
148	Yukon Gold	464	6.72	
149	Umatilla Russet	231	1.58	
150	Gladiator	224	1.64	
151	Iwa	205	11.64	
152	Calwhite	630	8.12	
153	Coronada	196	4.24	
154	Anivia	190	11.33	same as 55
155	Avanti	302	3.68	
156	Pike A	100	3.41	
157	Rosi	102 (98 $\mu$ L)	6.31	
158	Sunred	422	7.88	
159	VDM 07-197	>1000	9.63	
160	Canberra	110	4.55	
161	DOP 08-12	243	3.71	
162	Lamoka	119	7.44	
163	Mozart	113	9.37	
164	Rodeo	108	2.45	
165	Tiger	253	4.76	
166	Edison	115	6.23	
167	Gioconda	259	4.42	
168	HZD	590	5.22	
169	Royal blue	117	4.11	
170	Flame	124	7.70	
171	Billabong	387	6.25	
172	Neptune	62.3 (98 $\mu$ L)	7.71	
173	Peela	137	5.35	
174	Simcoe	87.9 (98 $\mu$ L)	8.25	
175	Sunita	110	5.81	