

Supplementary Material

Marker-assisted selection and validation of DNA markers associated with cadmium content in durum wheat germplasm

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Supplementary Table 1. Assessment of cultivars and landraces associated with low and high Cd content based on molecular and analytical analysis.

This table shows the genotyping of the durum wheat panel and reflects the accuracy of grain cadmium contents with three different molecular markers and the grain cadmium contents with biochemical analysis. This table successfully showed the association of phenotypic and genotypic data for each durum wheat cultivar/genotype

No	Name	usw47	Cad-5B	KASPar	Grain Cd concentration (µg/kg)
1	Kunduru-1149	Low	Low	Low	58.8
2	Çeşit-1252	Low	Low	Low	56.9
3	Yılmaz-98	High	High	High	105.1
4	Yelken-2000	Low	Low	Low	68.2
5	Altın (ALTIN-40-98)	Low	Low	Low	55.0
6	Meram-2002	Low	Low	Low	51.3
7	Dumlupınar	Low	Low	Low	48.9
8	Şölen-2002	Low	Low	Low	66.4
9	Altıntoprak-98	Low	Low	Low	35.1
10	Çakmak-79	Low	Low	Low	45.7
11	Eminbey	Low	Low	Low	31.6
12	Kümbet-2000	Low	Low	Low	31.1
13	imren	Low	Low	Low	39.8
14	Balcalı-2000	High	High	High	82.2
15	Sham-1	High	High	High	91.9
16	Ankara-98	Low	Low	Low	48.0
17	Balcalı-85	Low	Low	Low	44.7
18	Fuatbey-2000	Heterozygotes	High	High	79.9
19	Akbaşak-073144	Low	Low	Low	44.8
20	Artuklu	Low	Low	Low	62.4
21	Mirzabey-2000	Low	Low	Low	52.4
22	Aydın-93	High	High	High	93.4
23	Diyarbakır-81	High	High	High	68.2
24	Eyyubi	High	High	High	66.8
25	Selçuklu-97	High	High	High	78.3
26	Fatase1-185/1	Low	Low	Low	35.8
27	Altınbaç-95	High	High	High	87.8
28	Harran-95	Heterozygotes	High	High	79.6
29	Sarıçanak-98	Low	Low	Low	43.5
30	Tüten-2002	Low	Low	Low	50.6
31	Turabi	High	High	High	84.7
32	Ege-88	High	High	High	85.3
33	Güney yıldızı	Heterozygotes	High	High	92.7

		es			
34	Fırat-93	High	High	High	82.3
35	Şahinbey	High	High	High	67.0
36	Zühre	Low	Low	Low	35.2
37	Gündaş	High	High	High	72.9
38	Akçakale-2000	High	High	High	75.0
39	Gökgöl-79	Low	Low	Low	62.0
40	Amanos 97	Low	Low	Low	49.5
41	Kızıltan-91	Low	Low	Low	37.9
42	Özberk	Low	Low	Low	63.2
43	Urfa-2005	High	High	High	65.5
44	Ceylan-95	High	High	High	65.3
45	Salihli-92	High	High	High	71.2
46	Gap	Low	Low	Low	29.8
47	Soylu	Low	Low	Low	64.0
48	Ali baba	High	High	High	92.6
49	Tunca-79	Low	Low	Low	48.0
50	Saribasak	Low	Low	Low	37.1
51	Vatan	Low	Low	Low	38.6
52	Zenit	Low	Low	Low	64.4
53	Saragolia	High	High	High	75.5
54	Svevo	High	High	High	93.4
55	Clavdio	Low	Low	Low	66.7
56	Baio	High	High	High	86.7
57	UN Darwin	High	High	High	68.8
58	Uc.1113	High	High	High	78.9
59	Pathfinder	Heterozygot es	High	High	78.3
60	Navigator	High	High	High	66.9
61	Floradur	Low	Low	Low	33.8
62	C9	High	High	High	68.1
63	C43	Low	Low	Low	38.8
64	Inbar	High	High	High	66.9
65	Creso	High	High	High	77.3
66	Simeto	High	High	High	79.7
67	Irıde	Low	Low	Low	47.6
68	Dylan	High	High	High	87.6
69	Ofanto	High	High	High	112.7
70	Cham-1	High	High	High	99.3
71	Cham-9	Low	Low	Low	52.0
72	TR 32090 - Ankara	Low	Low	Low	53.1
73	TR 53861 - Yozgat	Low	Low	Low	46.3
74	TR 80984 - Eskişehir	Low	Low	Low	46.1

75	TR 72025 - Konya	Low	Low	Low	36.1
76	TR 81249 - Elazığ	Low	Low	Low	64.7
77	TR 81371 -Niğde	Low	Low	Low	69.8
78	TR 71914 -Konya	High	High	High	128.7
79	TR 81356 -Konya	Low	Low	Low	62.8
80	TR 81381 -Sivas	Low	Low	Low	62.9
81	TR 45305 -Yozgat	Low	Low	Low	39.2
82	TR 46881 - Erzincan	Low	Low	Low	49.5
83	TR 81259 - Malatya	Low	Low	Low	46.5
84	TR 81273 -Ankara	Low	Low	Low	46.2
85	TR 47949 -Kars	Low	Low	Low	47.6
86	TR 54969 -Yozgat	Low	Low	Low	48.1
87	TR 63315 -Konya	Low	Low	Low	57.9
88	TR 81238 - Erzincan	Low	Low	Low	47.5
89	TR 56206 - Eskişehir	Low	Low	Low	30.7
90	TR 56128 - Eskişehir	Low	Low	Low	37.2
91	TR 54977 -Yozgat	Low	Low	Low	46.8
92	TR 54973 -Yozgat	Low	Low	Low	39.2
93	TR 53860 -Yozgat	Low	Low	Low	38.3
94	TR 56135 - Eskişehir	Low	Low	Low	44.7
95	TR 32015 - Malatya	Low	Low	Low	30.7
96	TR 31930 - Malatya	Low	Low	Low	64.1
97	TR 32167 -Yozgat	Low	Low	Low	55.0
98	TR 35150 -Yozgat	High	High	High	78.9
99	TR 31887 -Elazığ	Low	Low	Low	44.6
100	TR 31902 - Malatya	Low	Low	Low	42.0
101	TR 31893 - Malatya	Low	Low	Low	58.1
102	TR 35148 -Yozgat	Low	Low	Low	42.2
103	TR 81277 -Ankara	Low	Low	Low	37.1
104	TR 81283 -Ankara	Low	Low	Low	34.8
105	TR 81284 -Ankara	Low	Low	Low	46.3
106	TR 81367 -Konya	Low	Low	Low	44.1
107	TR 81374 -Konya	Low	Low	Low	43.6
108	TR 81258 - Malatya	Low	Low	Low	53.7
109	TR 81278 -Ankara	Low	Low	Low	46.8
110	TR 81323 -Ankara	Low	Low	Low	50.5
111	TR 81304 - Malatya	Low	Low	Low	57.4
112	TR 81369 -Niğde	Low	Low	Low	26.2
113	TR 81550 -Niğde	Low	Low	Low	37.7
114	TR 81544 -Niğde	Low	Low	Low	34.0

115	TR 81338 -Ankara	Low	Low	Low	39.7
116	Bağacak	Heterozygotes	High	High	95.9
117	Menceki	Low	Low	Low	60.4
118	Mersiniye	Low	Low	Low	43.3
119	Sivaslan	Low	Low	Low	40.4
120	Şırnak Alkaya	High	High	High	65.3
121	Kurtulan	High	High	High	69.0
122	Karadere	High	High	High	67.3
123	Hacıhalil	Low	Low	Low	39.7
124	Hevidi	High	High	High	71.3
125	Beyaziye	Low	Low	Low	40.0
126	Mısır	Low	Low	Low	45.4
127	İskenderiye	Low	Low	Low	45.4
128	Karakılçık	Low	Low	Low	46.9
129	Havrani	Low	Low	Low	50.0
130	Similar of Levante	High	High	High	61.8
Average					58.2