

**Table S1.** Accessions of 15 spring barley varieties originating from seven cooperating gene banks, 157 derived single seed progenies (SSPs) and their postulated *MI* powdery mildew resistance genes, and their comparison with 75 SSPs of the same varieties from domestic gene bank studied previously.

Accession	SSP	Gene Bank	<i>MI</i> Resistance Gene(s)
<i>Abyssinian 1102</i> <sup>1</sup>	1	CZE <sup>2</sup>	<i>none</i>
<i>Abyssinian 1102</i>	2	CZE	<i>a8, He2</i>
<i>Abyssinian 1102</i>	3	CZE	<i>a8, He2</i>
<i>Abyssinian 1102</i>	4	CZE	<i>a7, g</i>
<i>Abyssinian 1102</i>	5	CZE	<i>a8, He2</i>
<i>Abyssinian 1102</i>	1	GBR	<i>mlo</i>
<i>Abyssinian 1102</i>	2	GBR	<i>mlo</i>
<i>Abyssinian 1102</i>	3	GBR	<i>mlo</i>
<i>Abyssinian 1102</i>	4	GBR	<i>mlo</i>
<i>Abyssinian 1102</i>	5	GBR	<i>mlo</i>
<i>Abyssinian 1102 (L94)</i>	1	USA	<i>mlo</i>
<i>Abyssinian 1102 (L94)</i>	2	USA	<i>mlo</i>
<i>Abyssinian 1102 (L94)</i>	3	USA	<i>mlo</i>
<i>Abyssinian 1102 (L94)</i>	4	USA	<i>mlo</i>
<i>Abyssinian 1102 (L94)</i>	5	USA	<i>mlo</i>
<i>Asse</i>	1	CZE	<i>ra, u</i>
<i>Asse</i>	2	CZE	<i>ra, u</i>
<i>Asse</i>	3	CZE	<i>ra, u</i>
<i>Asse</i>	4	CZE	<i>ra, u</i>
<i>Asse</i>	5	CZE	<i>ra, u</i>
<i>Asse</i>	1	USA	<i>a8</i>
<i>Asse</i>	2	USA	<i>a8</i>
<i>Asse</i>	3	USA	<i>a8</i>
<i>Asse</i>	4	USA	<i>a8</i>
<i>Asse</i>	5	USA	<i>a8</i>
<i>Black Hull-less</i>	1	CZE	<i>n</i>
<i>Black Hull-less</i>	2	CZE	<i>n</i>
<i>Black Hull-less</i>	3	CZE	<i>n</i>
<i>Black Hull-less</i>	4	CZE	<i>n</i>
<i>Black Hull-less</i>	5	CZE	<i>n</i>
<i>Black Hull-less</i>	1	USA	<i>n</i>
<i>Black Hull-less</i>	2	USA	<i>n</i>
<i>Diamant</i>	1	CZE	<i>mlo</i>
<i>Diamant</i>	2	CZE	<i>mlo</i>
<i>Diamant</i>	3	CZE	<i>a8</i>
<i>Diamant</i>	4	CZE	<i>a7, La</i>
<i>Diamant</i>	5	CZE	<i>a8, He2</i>

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Diamant	1	GBR	<i>a8, He2</i>
Diamant	2	GBR	<i>a8, He2</i>
Diamant	3	GBR	<i>a8, He2</i>
Diamant	4	GBR	<i>a8, He2</i>
Diamant	5	GBR	<i>a8, He2</i>
Diamant	1	SVK	<i>mlo</i>
Diamant	2	SVK	<i>mlo</i>
Diamant	3	SVK	<i>a6, La</i>
Diamant	4	SVK	<i>a8, He2</i>
Diamant	5	SVK	<i>mlo</i>
<i>Donaria Ackermanns</i>	1	CZE	<i>Ch, He2</i>
<i>Donaria Ackermanns</i>	2	CZE	<i>Ch, He2</i>
<i>Donaria Ackermanns</i>	3	CZE	<i>Ch, He2</i>
<i>Donaria Ackermanns</i>	4	CZE	<i>Ch, He2</i>
<i>Donaria Ackermanns</i>	5	CZE	<i>Ch, He2</i>
Donaria Ackermanns	1	DEU	<i>a8, He2</i>
Donaria Ackermanns	2	DEU	<i>a8, He2</i>
Donaria Ackermanns	3	DEU	<i>a8, He2</i>
Donaria Ackermanns	4	DEU	<i>a8, He2</i>
Donaria Ackermanns	5	DEU	<i>a8, He2</i>
Donaria Ackermanns	1	GBR	<i>a8, u</i>
Donaria Ackermanns	2	GBR	<i>a8, He2</i>
Donaria Ackermanns	3	GBR	<i>a8, He2</i>
Donaria Ackermanns	4	GBR	<i>a8, He2</i>
Donaria Ackermanns	5	GBR	<i>a8, He2</i>
Donaria Ackermanns	1	USA	<i>a8, He2</i>
Donaria Ackermanns	2	USA	<i>a8, He2</i>
Donaria Ackermanns	3	USA	<i>a8, He2</i>
Donaria Ackermanns	4	USA	<i>a8, He2</i>
Donaria Ackermanns	5	USA	<i>a8, He2</i>
<i>Emir</i>	1	CZE	<i>none</i>
<i>Emir</i>	2	CZE	<i>none</i>
<i>Emir</i>	3	CZE	<i>a8</i>
<i>Emir</i>	4	CZE	<i>a8</i>
<i>Emir</i>	5	CZE	<i>a8</i>
Emir	1	DEU	<i>a12</i>
Emir	2	DEU	<i>a12</i>
Emir	3	DEU	<i>a12</i>
Emir	4	DEU	<i>a12</i>
Emir	5	DEU	<i>a12</i>
Emir	1	GBR	<i>a12</i>
Emir	2	GBR	<i>a12</i>

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Emir	3	GBR	<i>a12</i>
Emir	4	GBR	<i>a12</i>
Emir	5	GBR	<i>a12</i>
Emir	1	USA	<i>a12</i>
Emir	2	USA	<i>a12</i>
Emir	3	USA	<i>a12</i>
Emir	4	USA	<i>a12</i>
Emir	5	USA	<i>a12</i>
<i>Falcon</i>	1	CZE	<i>Ch</i>
<i>Falcon</i>	2	CZE	<i>Ch</i>
<i>Falcon</i>	3	CZE	<i>Ch</i>
<i>Falcon</i>	4	CZE	<i>Ch</i>
<i>Falcon</i>	5	CZE	<i>Ch</i>
Falcon	1	DEU	<i>Ch</i>
Falcon	2	DEU	<i>Ch</i>
Falcon	3	DEU	<i>Ch</i>
Falcon	4	DEU	<i>Ch</i>
Falcon	5	DEU	<i>Ch</i>
<i>Gerda</i>	1	CZE	<i>g</i>
<i>Gerda</i>	2	CZE	<i>a8</i>
<i>Gerda</i>	3	CZE	<i>a7, k1, g</i>
<i>Gerda</i>	4	CZE	<i>a7, k1, g</i>
<i>Gerda</i>	5	CZE	<i>a7, k1, g</i>
Gerda	1	GBR	<i>a6, g</i>
Gerda	2	GBR	<i>a6, g</i>
Gerda	3	GBR	<i>a6</i>
Gerda	4	GBR	<i>a6, g</i>
Gerda	5	GBR	<i>a6, g</i>
Gerda	1	POL	<i>a8, He2</i>
Gerda	2	POL	<i>a8, He2</i>
Gerda	3	POL	<i>a8</i>
Gerda	4	POL	<i>a8, He2</i>
Gerda	5	POL	<i>a8, He2</i>
Gerda	1	USA	<i>a6, g</i>
Gerda	2	USA	<i>a6, g</i>
Gerda	3	USA	<i>a6, g</i>
Gerda	4	USA	<i>a6, g</i>
Gerda	5	USA	<i>a6, g</i>
<i>Hana</i>	1	CZE	<i>a8, He2</i>
<i>Hana</i>	2	CZE	<i>a8, He2</i>
<i>Hana</i>	3	CZE	<i>a8, He2</i>
<i>Hana</i>	4	CZE	<i>a8, He2</i>

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<i>Hana</i>	5	CZE	<i>g, He2</i>
Hana	1	USA	<i>g, He2</i>
Hana	2	USA	<i>g, He2</i>
Hana	3	USA	<i>a8, He2</i>
Hana	4	USA	<i>g, He2</i>
Hana	5	USA	<i>g, He2</i>
<i>Hanna</i>	1	CZE	<i>g</i>
<i>Hanna</i>	2	CZE	<i>g</i>
<i>Hanna</i>	3	CZE	<i>g</i>
<i>Hanna</i>	4	CZE	<i>g</i>
<i>Hanna</i>	5	CZE	<i>g</i>
Hanna	1	DEU	<i>g</i>
Hanna	2	DEU	<i>g</i>
Hanna	3	DEU	<i>g</i>
Hanna	4	DEU	<i>g</i>
Hanna	5	DEU	<i>g</i>
Hanna	1	HUN	<i>Ch, He2</i>
Hanna	2	HUN	<i>Ch, He2</i>
Hanna	3	HUN	<i>Ch, He2</i>
Hanna	4	HUN	<i>Ch, He2</i>
Hanna	5	HUN	<i>Ch, He2</i>
Hanna	1	POL	<i>Ch, He2</i>
Hanna	2	POL	<i>a8</i>
Hanna	3	POL	<i>a8</i>
Hanna	4	POL	<i>a8</i>
Hanna	5	POL	<i>a8</i>
<i>Manchuria</i>	1	CZE	<i>none</i>
<i>Manchuria</i>	2	CZE	<i>none</i>
<i>Manchuria</i>	3	CZE	<i>none</i>
<i>Manchuria</i>	4	CZE	<i>none</i>
<i>Manchuria</i>	5	CZE	<i>none</i>
Manchuria	1	USA	<i>none</i>
Manchuria	2	USA	<i>none</i>
Manchuria	3	USA	<i>none</i>
Manchuria	4	USA	<i>none</i>
Manchuria	5	USA	<i>none</i>
<i>Rupee</i>	1	CZE	<i>u</i>
<i>Rupee</i>	2	CZE	<i>u</i>
<i>Rupee</i>	3	CZE	<i>u</i>
<i>Rupee</i>	4	CZE	<i>u</i>
<i>Rupee</i>	5	CZE	<i>u</i>
Rupee	1	DEU	<i>a8</i>

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Rupee	2	DEU	<i>a13</i>
Rupee	3	DEU	<i>a13</i>
Rupee	4	DEU	<i>a13</i>
Rupee	5	DEU	<i>a13</i>
Rupee	1	GBR	<i>Ch</i>
Rupee	2	GBR	<i>Ch</i>
Rupee	3	GBR	<i>a13</i>
Rupee	4	GBR	<i>a13</i>
Rupee	5	GBR	<i>a8</i>
Rupee	1	USA	<i>a13</i>
Rupee	2	USA	<i>a13</i>
Rupee	3	USA	<i>a13</i>
Rupee	4	USA	<i>a13</i>
Rupee	5	USA	<i>a13</i>
Schwarzenberg Gerste 21	1	CZE	<i>a6, g</i>
Schwarzenberg Gerste 21	2	CZE	<i>a6, g</i>
Schwarzenberg Gerste 21	3	CZE	<i>a6, g</i>
Schwarzenberg Gerste 21	4	CZE	<i>a6, g</i>
Schwarzenberg Gerste 21	5	CZE	<i>a6, g</i>
Schwarzenberg Gerste 21	1	DEU	<i>none</i>
Schwarzenberg Gerste 21	2	DEU	<i>none</i>
Schwarzenberg Gerste 21	3	DEU	<i>none</i>
Schwarzenberg Gerste 21	4	DEU	<i>none</i>
Schwarzenberg Gerste 21	5	DEU	<i>none</i>
Schwarzenberg Gerste 21	1	POL	<i>a8</i>
Schwarzenberg Gerste 21	2	POL	<i>a8</i>
Schwarzenberg Gerste 21	3	POL	<i>a8</i>
Schwarzenberg Gerste 21	4	POL	<i>a8</i>
Schwarzenberg Gerste 21	5	POL	<i>a8</i>
Trumpf	1	CZE	<i>a9</i>
Trumpf	2	CZE	<i>a13, g</i>
Trumpf	3	CZE	<i>a13, g</i>
Trumpf	4	CZE	<i>a9</i>
Trumpf	5	CZE	<i>a7, k1, La</i>
Trumpf	1	DEU	<i>a7</i>
Trumpf	2	DEU	<i>a7</i>
Trumpf	3	DEU	<i>a7</i>
Trumpf	4	DEU	<i>a7</i>
Trumpf	5	DEU	<i>a7</i>
Trumpf	1	POL	<i>a8</i>
Trumpf	2	POL	<i>a8</i>
Trumpf	3	POL	<i>a8</i>

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Trumpf	4	POL	<i>a8</i>
Trumpf	5	POL	<i>a8</i>
Trumpf	1	USA	<i>a7</i>
Trumpf	2	USA	<i>a7</i>
Trumpf	3	USA	<i>a8, He2</i>
Trumpf	4	USA	<i>a8, He2</i>
Trumpf	5	USA	<i>a8, He2</i>
<i>Vega Abed</i>	1	CZE	<i>a13</i>
<i>Vega Abed</i>	2	CZE	<i>a13</i>
<i>Vega Abed</i>	3	CZE	<i>a13</i>
<i>Vega Abed</i>	4	CZE	<i>a13</i>
<i>Vega Abed</i>	5	CZE	<i>a13</i>
Vega Abed	1	DEU	<i>a8, He2, La</i>
Vega Abed	2	DEU	<i>a8</i>
Vega Abed	3	DEU	<i>a8</i>
Vega Abed	4	DEU	<i>a8</i>
Vega Abed	5	DEU	<i>a8</i>
Vega Abed	1	POL	<i>a8</i>
Vega Abed	2	POL	<i>a8</i>
Vega Abed	3	POL	<i>a8</i>
Vega Abed	4	POL	<i>a8, La</i>
Vega Abed	5	POL	<i>a8, He2, La</i>
Vega Abed	1	SWE	<i>a8</i>
Vega Abed	2	SWE	<i>a8, He2, La</i>
Vega Abed	3	SWE	<i>a8</i>
Vega Abed	4	SWE	<i>a8</i>
Vega Abed	5	SWE	<i>a8, La</i>

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<sup>1</sup> Accessions of 15 identical varieties from domestic gene bank (CZE) and their 75 SSPs written in italics were studied previously [3]. <sup>2</sup> Country of gene bank: CZE – Czech Republic, DEU – Germany, GBR – United Kingdom, HUN – Hungary, POL – Poland, SVK – Slovakia, SWE – Sweden, USA – United States.