

A New Web Site for Barley Genetic Resources: the Spanish Barley Core Collection

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Objective

To provide scientists access to a pool of largely underused genetic diversity, with a high level of phenotypic characterization

Available data

Passport data
Morphologic evaluation
Agronomic evaluation
Kernel and spike photographs

Web Address

www.eead.csic.es
Operative from Dec-2004

PASSPORT DATA	
1.1	Accession number
1.1.1	BNG number
1.2	Donor name
1.3	Donor number
1.7	Cultivar name
1.9	Acquisition date
2.1	Collecting Institute
2.2	Collecting number
2.4	Collecting date
2.5	Country of collecting
2.6	Region
2.7	Province
2.8	Department
2.9	Latitude
2.10	Longitude
2.11	Elevation
2.14	Status of sample
2.22	Local name

Table 1. Available passport data.

IPGRI Code	Character/Class	1	2	3	4	5
7.1.1	Growth class	Winter	Facultative	Spring		
7.1.2	Growth habit		3-Prostrate	5-Intermediate	7-Erect	
7.1.3	Plant height (CM)	<60,2	60,2-67,3	67,3-74,3	74,4-81,5	>81,6
7.1.4	Stem pigmentation	Green	Purple			
7.1.5	Auricle pigmentation	Green	Purple			
7.2.1	Photoperiod sensitivity		1-very low	3-Low	5-Intermediate	7-High
7.2.2	Heading (days to)	<96	96-102	103-111	112-118	>118
7.2.2.1	Grain filling period (days)	<31	31-34	35-38	39-42	>42
7.2.3	Row number			2-two row	5-six row	
7.2.4	Spike density		3-Lax	5-Intermediate	7-Dense	
7.2.5	Spikelets/spike	<13,5	13,5-16,5	16,5-19,5	19,5-22,5	>22,5
7.2.6	Lemma awn/hood	Awnless	Awnleted	Awned	Sessile hoods	Elevat. hoods
7.2.7	Lemma awn barbs		3-Smooth	5-Intermediate	7-Rough	
7.2.8	Glume and glume awn	Shorter th kern	As kernel	Longer th kern		
7.2.9	Glume colour	White	Yellow	Brown	Black	
7.2.10	Lemma type	No teeth	Teeth	Hair		
7.2.11	Awn colour	White	Yellow	Brown	Reddish	Black
7.2.12	Length of rachilla hairs	Short	Long			
7.2.13	Length of spike (cm)	<4,90	4,90-6,46	6,46-8,02	8,02-9,58	>9,58
7.3.1	Kernel covering	Naked	Semi-cover.	Covered		
7.3.6	1000-kernel weight (g)	<29	29-33,9	34-39	39,1-44	>44
8.1.3	Test weight (kg/Hl)	<51,7	51,7-55,5	55,6-59,3	59,4-63,2	>63,2
9.3	Yield under drought			1-Resistant	9-Susceptible	
9.8	Lodging			1-Resistant	9-Susceptible	
10.2.3	Reaction to <i>Puccinia hordei</i>			1-Resistant	9-Susceptible	
10.2.4	Reaction to <i>Erysiphe graminis</i>			1-Resistant	9-Susceptible	

Table 2. Key for the description of morphologic and agronomic evaluation traits

IPGRI Code	Character	Mean	Sd	1	2	3	4	5	6	7	8	9	Total
7.1.1	Growth class	2,64	0,71	23	16	133							172
7.1.2	Growth habit	4,68	1,05			40	122	12					174
7.1.3	Plant height (CM)	3,92	0,94	3	13	25	84	47					172
7.1.4	Stem pigmentation	1,63	0,48	64	111								175
7.1.5	Auricle pigmentation	1,63	0,48	65	110								175
7.2.1	Photoperiod sensitivity	3,33	1,84	40		85	26	21					172
7.2.2	Heading (days to)	3,33	1,84	8	43	80	25	15					171
7.2.2.1	Grain filling period (days)	36,25	3,72	16	35	68	47	6					172
7.2.3	Row number	5,57	1,25		19				156				175
7.2.4	Spike density	4,37	1,35			76	78	21					175
7.2.5	Spikelets/spike	2,99	0,90	5	44	84	29	12					174
7.2.6	Lemma awn/hood	3,00	0,00	0	0	175	0	0					175
7.2.7	Lemma awn barbs	6,58	0,92			4	29	142					175
7.2.8	Glume and glume awn	1,78	0,59	54	106	15							175
7.2.9	Glume colour	2,73	0,69	24	0	151	0						175
7.2.10	Lemma type	2,73	0,59	13	21	141							175
7.2.11	Awn colour	2,73	0,69	24	0	151	0	0					175
7.2.12	Length of rachilla hairs	1,47	0,50	93	82								175
7.2.13	Length of spike (cm)	7,24	1,56	8	41	90	23	13					175
7.3.1	Kernel covering	2,99	0,15	1	0	174							175
7.3.6	1000-kernel weight (g)	2,98	1,02	11	46	61	43	11					172
8.1.3	Test weight (kg/Hl)	2,97	1,02	9	42	62	30	13					156
9.3	Yield under drought	5,02	1,49	0	11	28	47	43	25	8	7	3	172
9.8	Lodging	3,95	1,87	25	15	31	29	34	22	14	2	0	172
10.2.3	R. to <i>Puccinia hordei</i>	7,07	2,05	4	3	6	11	4	12	29	47	40	156
10.2.4	R. to <i>Erysiphe graminis</i>	5,83	1,61	3	4	8	19	27	42	48	21	0	172

Table 3. Summary of distribution of morphologic and agronomic evaluation traits



Figure 1. Photographs of spikes, kernels

Related papers

IGARTUA E., GRACIA M.P., LASA J.M., MEDINA B., MOLINA-CANO J.L., MONTOYA J.L., ROMAGOSA J. (1999). The Spanish barley core collection. *Genet. Resour. Crop Evol.* 45: 473-481.

LASA J.M., IGARTUA E., CIUDAD F.J., CODESAL P., GARCIA E.V., GRACIA M.P., MEDINA B., ROMAGOSA J., MOLINA-CANO J.L., MONTOYA J.L. (2001). Morphological and agronomical diversity patterns in the Spanish barley core collection. *Hereditas* 135: 217-225.

Acknowledgments

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Additional information on a more thorough agronomic evaluation over 12 environments, disease resistance under artificial inoculation, and molecular markers, currently underway, will be also included.