

LIST OF BARLEY GENETICS STOCKS

Masterlist of barley genes. Bodil Sjøgaard, R.A. Nilan¹⁾
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The masterlist of barley genes is stored on discs for the word processor (microcomputer) at the Carlsberg Laboratory and is reprinted in every issue of the Barley Genetics Newsletter with the additions and amendments which have been incorporated during the year. Please let us know if you have seeds for some of the gene loci mentioned in the list.

This must be considered as a "working" list of genes designed to 1) present all of the genes and gene symbols ever published, 2) avoid duplications between previous and future symbols, and, with the assistance of all barley geneticists, 3) develop a true and useful list of all previous symbols free from duplications and outdated synonyms, 4) determine availability of seed stocks and 5) make additions in an intelligent manner. For all barley workers it provides a means of quickly determining the genes and alleles of their interest and acquiring seed and new symbols.

It was agreed at the 4th International Barley Genetics Symposium that all symbols assigned to new genes will follow the rules of gene nomenclature adopted at the 3rd Symposium and most recently presented in BGN 11:1-16, 1981. The symbols in the Master List are altered with the consent of the International Committee on Barley Gene Nomenclature.

We appreciate if you again let us know mistakes or changes and amendments required. For a new symbol to be incorporated in the masterlist we suggest that you contact Dr. Bodil Sjøgaard at the above address by mail, telex or telephone. She acts as clearing station to avoid duplication of symbols and she is also willing to coordinate registration of allele designations for individual genes.

We are developing computer programs to store and retrieve all allele designations at the individual loci. It is intended to provide on request computer printouts for the allele collections including information on availability of seeds. For this purpose we are grateful to obtain lists on such allelic series you might have available.

The genes for reaction to Erysiphe graminis hordei (powdery mildew) are described briefly in the masterlist and a detailed list is given in the supplementary list No. 1.

Gene locus	Synonyms	Character	Alle- ^{a)} les	Chromo- some	Stock source	Authority(ies)
A	Sh2	spring habit of growth	-	7	-	-
A	K,LK2	long awn or hooded	-	4	-	-
a	r	smooth awn	-	7	-	-
a	kl, lk	short awn	-	1	-	-
a	-	albino seedling	-	2	-	75; 107; 128, 134, 134, 152;
a1	ebu ⁻² , ebu ⁻³	albino lemma	4	3S	F	30, BGN 2:28, 3:67, 12:42
a1	-	albino lemma	-	3	B108	BGN 1:130
a1	li	liguleless	-	-	-	-
a1	kl	short awn	-	-	-	-
a2	kl2	short awn	-	-	-	-
a2	al	albino seedling	-	2	B53	75; 107; BGN 1:113
a2	ebu	albino lemma	3	3	-	BGN 10:105
a3	a2, alb-za	albino seedling	3	-	C	75; 107
a4	a3	albino seedling	-	2	-	75; 107
a5	a4	albino seedling	-	2	-	75; 107
a _b	cm	cream seedling	-	7	-	75; 107
a _c	-	albino seedling	-	3	C	75; 118; 122; BGN 1:128
a _c 2	alb-m	albino seedling	2	1S	C	75; 84; BGN 1:107; 13:26; 5:90
a _c 3	-	albino seedling	-	-	-	75; 107
a _h	-	albino seedling	-	-	-	75; 107
a _n	-	albino seedling	-	3	C	75; 84; 118; BGN 1:134
a _t	-	albino seedling	-	5	B207	38; 75; BGN 1:152
a _t 2	-	albino seedling	-	-	-	75; 107
a _t 3	alb ^t	albino seedling	-	-	-	75; 107
Aat	-	aspartate aminotransferase	-	-	-	172,
Aat2	Got1, GotH2	aspartate aminotransferase	-	6	-	146, 172
Aat3	Got2, Got1	aspartate aminotransferase	-	3	-	172,
abr	-	accordian basal rachis internodes	3	7s	-	BGN 11:25
Acol	Fpd1	aconitate hydratase	3	6	R	172, BGN 12:68; 13:59
Aco2	-	aconitate hydratase	-	5?	-	172,
Acp1	Acph1	acid phosphatase	-	-	-	172,
Acp2	Acph2, AcphH1	acid phosphatase	-	4	-	172,
Acp3	Acph3, AcPh1	acid phosphatase	-	6?	-	172,
AcpH1	Acp3	acid phosphatase	-	-	-	-
Acph1	Acp1	acid phosphatase	-	-	-	-
Acph2	Acp2	acid phosphatase	-	-	-	-
Acph3	Acp3	acid phosphatase	-	-	-	-
AcPh1	Acp3	acid phosphatase	-	-	-	-
acr	ril	accordian rachis (lax rachis internode)	-	-	-	22; 36; 75; 134; 135
act	-	cold-temperature albino	-	-	-	75; 138
Adh 1	Adh2, AdhH1	alcohol dehydrogenase	-	4	-	172, BGN 10:26
Adh 2	Adh1	alcohol dehydrogenase	-	4	-	172, BGN 10:26
Adh3	-	alcohol dehydrogenase	-	-	-	BGN 14:28
adn	-	awned palea	-	-	-	BGN 7:8
aec 1	-	root basic amino acid uptake decreased	2	-	-	BGN 13:37
ag	-	agropyroides(calcaroides)	-	6	-	75; 92

^{a)} Allele numbers are difficult to ascertain and may not be accurate for certain genes.

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
alb	as	albostrians(white stripe)	-	-		33; 75
albt	at ³	albstrians	-	-		-
alb-a	-	albino seedling	2	-	C	BGN 3:113
alb-b	-	albino seedling	4	-	C	BGN 3:113
alb-c	y,yx	albino seedling	-	2	C	BGN 3:113, 12:93
alb-d	-	albino seedling	-	-	C	BGN 3:113
alb-e	-	albino seedling	-	-	C	BGN 3:113
alb-f	-	albino seedling	-	-	C	BGN 3:113
alb-g	-	albino seedling	-	-	C	BGN 3:113
alb-h	-	albino seedling	-	-	C	BGN 3:113
alb-i	-	albino seedling	-	-	C	BGN 3:113
alb-j	-	albino seedling	-	-	C	BGN 3:113
alb-k	-	albino seedling	-	-	C	BGN 3:113
alb-m	ac ²	albino seedling	2	1	C	BGN 3:113
alb-n	-	albino seedling	-	-	C	BGN 3:113
alb-o	-	albino seedling	-	-	C	BGN 3:113
alb-p	-	albino seedling	-	-	C	BGN 3:113
alb-q	-	albino seedling	-	-	C	BGN 3:113
alb-r	-	albino seedling	-	-	C	BGN 3:113
alb-s	-	albino seedling	-	-	C	BGN 3:113
alb-t	-	albino seedling	-	-	C	BGN 3:113
alb-u	-	albino seedling	-	-	C	BGN 3:113
alb-v	-	albino seedling	-	-	C	BGN 3:113
alb-x	-	albino seedling	-	-	C	BGN 3:113
alb-y	-	albino seedling	-	-	C	BGN 3:113
alb-z	-	albino seedling	-	-	C	BGN 3:113
alb-za	a3	albino seedling	2	-	C	BGN 3:113
alb-zb	-	albino seedling	-	-	C	BGN 3:113
alb-zc	-	albino seedling	-	-	C	BGN 3:113
alb-zd	-	albino seedling	-	-	C	BGN 3:113
alb-ze	-	albino seedling	-	3	C	BGN 3:113
alp	-	aluminum toxicity	-	-	-	-
als	uc	absent lower laterals	-	3L	F	46; 47; BGN 1:123 13:25
amol	-	high amylase	-	3		BGN 8:112; 9:9
Amp-A	-	aminopeptidase	2	1		BGN 8:31
Amp-C	-	aminopeptidase	2	-		BGN 8:31
AmpH1	Amp	aminopeptidase	-	-		
Amp-1	AmpH1, Lap	aminopeptidase	-	6		146, 172
Amy 1	αAmy1	alpha amylase	-	6L	R	172, BGN 6:133
Amy2	αAmy2	alpha amylase	-	1		172
Ang	-	angustifolia	-	5?		BGN 6:95
ant 1	rub-a	anthocyanin less	4	1	C,S	BGN 8:57, 14:76
ant 2	rub, pr	anthocyanin less	30	2	C,S	155, BGN 8:57, 14:76
ant 3	rub	decreased in anthocyanin	3	-	C,S	BGN 8:57
ant 4	rub	decreased in anthocyanin	10	-	C,S	BGN 8:57, 14:76
ant 5	rub, rs ₂	anthocyanin less	4	-	C,S	BGN 8:57
ant 6	rub	decreased in anthocyanin	2	-	C,S	BGN 8:57
ant 7	rub	decreased in anthocyanin	-	-	C,S	BGN 8:57
ant 8	rub	decreased in anthocyanin	-	-	C,S	BGN 8:57
ant 9	rub	decreased in anthocyanin	-	-	C,S	BGN 8:57
ant 10	rub	decreased in anthocyanin	-	-	C,S	BGN 8:57
ant 11	rub	decreased in anthocyanin	-	-	C,S	BGN 8:57
ant 12	rub	decreased in anthocyanin	-	-	C,S	BGN 8:57
ant 13	rub	anthocyanin, catechin and proanthocyanidin less	40	-	C,S	BGN 8:5, 14:76
ant 14	rub	decreased in anthocyanin	-	-	C,S	BGN 8:57

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
ant 15	rub	decreased in anthocyanin	-	-	C,S	BGN 8:57
ant 16	rub	decreased in anthocyanin	-	-	C,S	BGN 8:57
ant 17	-	anthocyanin, catechin and proanthocyanidin less	79	-	C,S	43; BGN 8:57, 14:76
ant 18	-	anthocyanin, catechin and proanthocyanidin less	63	-	C,S	43; BGN 8:57, 14:76
ant 19	-	catechin and proanthocyanidin less	-	-	C,S	43; BGN 8:57
ant 20	rub	anthocyanin rich	2	-	C,S	43; BGN 8:57
ant 21	-	proanthocyanidin-catechin and anthocyanin less	4	-	C,S	BGN 14:76
ant 22	-	proanthocyanidin-catechin and anthocyanin less	5	-	C,S	BGN 14:76
ant 23	-	decreased in antocyanin	-	-	C,S	BGN 14:76
ant 24	-	decreased in antocyanin	-	-	C,S	BGN 14:76
ari-a	lk	short awn (brevi aristatum)	3	3	S	30; BGN 4:80
ari-b	-	short awn	-	-	S	30
ari-c	lk 5	short awn	4	4S	S	30; BGN 4:80, 8:156, 10:119, 14:61
ari-d	lk 2?	short awn	2?	1	S	30; BGN 4:80
ari-e	-	short awn	-	7	S	30; BGN 4:80
ari-f	-	short awn	-	-	S	30;
ari-g	-	short awn	-	-	S	30; BGN 4:80
ari-h	-	short awn	-	-	S	30; BGN 4:80
ari-i	br	short awn	3	2	S	30; BGN 4:80
ari-j	-	short awn	-	-	S	30; BGN 4:80
ari-k	-	dehiscent awn	4	-	S	30
as	alb	albino stripe	-	-	-	-
aur-a	-	auricleless	5	-	S	30
B	lh	fertile intermedium	-	-	-	-
B	B ^g , B ^k , b, B ^{mb}	black lemma and pericarp	5	5	B203 B204 B205 B206	13; 18; 37; 72; 75; BGN 1:148, 10:133
b	B ^g , B ^k , B, B ^{mb}	white lemma and pericarp	5	5	B206	133; BGN 1:151
b	bt	non brittle rachis	-	-	-	-
Bg	B, B ^k , b, B ^{mb}	gray lemma and pericarp	5	5	-	75; 107; BGN 1:151
Bam 1	Bmy1	beta amylase	-	-	-	-
bb	-	broad leaf	-	7	-	75; 131
Bb 2	Br1, Nlh	broad leaf	-	7 ?	-	42; 75; 85; 92
bb 3	wlh	broad leaf	-	-	-	75; 85; 92
bc	-	barban resistance	-	-	-	-
be	Nb	branched ear(rachis)	-	-	-	75; 107
be 2	Nb1	branched ear	-	-	-	75; 107
Bg	G	brown-yellow lemma	-	-	-	75; 93
bh	-	bushy head(multiflorus)	-	-	-	75; 92
bi	-	long basal rachis internode	-	7	-	BGN 1:66
bir	s ⁱ	branching, inflorescent rachilla	-	7	-	BGN 11:25, 13:82
Bl	Bl ₁	blue aleurone (xenia)	-	4 S	-	35; 37; 40; 60; 75; 84; 136; BGN 2:109, 14:61
bl	bl ₁	white aleurone	-	4 S	B15	BGN 5:111, 8:163, 2:109, 14:61
Bl ₂	Bl ₁	blue aleurone	-	1	-	75; 133
bl ₂	bl ₁	white aleurone	-	1	B19	BGN 8:164, 5:100
Bl ₃	-	blue aleurone	-	4	-	26

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
bl ₃	-	white aleurone	-	4		BGN 8:165
Bl ₄	-	blue aleurone	-	4		26
bl ₄	-	pink aleurone	-	4		26; BGN 8:166
Bl ₅	-	blue aleurone	-	-		35; 37; 40; 60; 84; 136; 138; BGN 5:111, 8:163
bl ₅	-	white aleurone	-	-	B454	BGN 8:167
B ^{mb}	B, BK, b, B ^g	medium-black lemma and pericarp	5	5		75; 107; BGN 1:149
Bmy ¹	Bam ¹	beta amylase	2	4S	R	142, 172, BGN 12:68, 13:55 14:61
Br ¹	Bb ²	broad leaf	-	7		-
br ¹	br, ari-i	brachytic (dwarf)	3	1S	S	18; 37; 75; 84; BGN 13:27, 88; 118; BGN 1:104, 10:100, 4:80
br ²	-	brachytic (dwarf)	2	4S		BGN 1:143, 10:115, 14:61
bra-a	trd	third outer glume (bracteatum)	-	-	S	30
bra-b	trd	third outer glume (bracteatum)	-	-	S	30
bra-c	trd	third outer glume (bracteatum)	-	-	S	30
Bt	-	brittle rachis from Mars	-	5		61; 75; 130; BGN 2:181
bt	r, b, bt ²	non-brittle rachis	-	3	F	BGN 2:181
Bt ²	Bt, Bt ¹	brittle rachis	-	3	B115	61; 75; 117; 130; BGN 2:182
Bt ³	Bt ²	brittle rachis	-	3		75; 117
C	sh ³	spring habit of growth	-	-		-
C	Pc	purple veined lemma	-	-		140; BGN 5:108
cal-a	-	hooded	-	-	D	30
cal-b	-	hooded	-	-	D	30
Cat ¹	-	catalase	-	-		172
Cat ²	-	catalase	-	-		172
eceriferum (surface wax)						
ear stem leaf						
cer-a	gs ₃	- - ++	47	1	S	62; BGN 2:79
cer-b	-	- - ++	32	7	S	62; BGN 5:116
cer-c	-	- +/- ++	165	4	S	62
cer-d	-	+ ++ ++	11	2 or 3	S	62; BGN 5:117
cer-e	-	- ++ ++	32	5	S	62; BGN 5:118
cer-f	-	+ + ++	3	1	S	62; BGN 5:119
cer-g	-	+ + ++	32	2	S	62; BGN 5:120
cer-h	-	- ++ ++	5	-	S	62; BGN 5:121
cer-i	-	- ++ ++	62	7	S	62; BGN 5:122
cer-j	-	++ ++ -	41	4	S	62
cer-k	-	+ ++ ++	-	-	S	62; BGN 5:123
cer-l	-	+ ++ ++	-	-	S	62; BGN 5:124
cer-m	-	+ + ++	-	-	S	62; BGN 5:125
cer-n	cer-zm,	- + ++	45	2	S	62; BGN 5:126, 12:169
cer-o	-	- ++ ++	2	-	S	62; BGN 5:127
cer-p	-	++ ++ +	32	-	S	62; BGN 5:128

Gene locus	Synonyms	Character			Alleles	Chromosome	Stock source	Authority(ies)
cer-q	gs	-	-	++	129	4	S	62
cer-r	-	-	+	++	8	2	S	62; BGN 5:129
cer-s	-	+	-	++	17	2	S	62
cer-t	-	+	++	++	45	7	S	62; BGN 5:130
cer-u	-	+	+	++	141	4	S	62; BGN 5:131
cer-v	-	+/-	++	++	4	2	S	62; BGN 5:132
cer-w	-	+	++	++	18	7	S	62; BGN 5:133
cer-x	-	-	-	++	21	7	S	63; BGN 5:134
cer-y	-	+	+ / ++	++	2	-	S	63; BGN 5:135
cer-z	-	-	-	++	9	-	S	63; BGN 5:136
cer-za	-	++	++	-	62	-	S	63; BGN 5:137
cer-zb	-	-	++	++	5	-	S	63; BGN 5:138
cer-zc	-	+/-	++	++	15	-	S	63; BGN 5:139
cer-zd	-	++	++	-	5	3	S	63; BGN 5:140
cer-ze	-	++	++	-	43	-	S	63; BGN 5:141
cer-zf	-	++	++	+	-	-	S	63; BGN 5:142
cer-zg	-	++	++	+	2	4S	S	63; BGN 5:143, 14:61
cer-zh	gl	++	++	-	10	4	S	63; BGN 5:144, 1:101
cer-zi	-	+	+	++	15	5	S	63; BGN 5:145
cer-zj	-	++	++	-	51	7	S	63; BGN 5:146
cer-zk	-	+	+	+/-	11	-	S	63; BGN 5:147
cer-zl	-	-	-	++	3	-	S	63; BGN 5:148
cer-zm	cer-n	-	+ / ++	++	2	2	S	63
cer-zn	-	+/-	++	++	5	3	S	63; BGN 5:149
cer-zo	-	-	++	++	5	-	S	63; BGN 5:150
cer-zp	-	++	++	-	6	7	S	63; BGN 5:151
cer-zq	-	++	++	-	2	-	S	63; BGN 5:152
cer-zr	-	+	++	++	2	-	S	63; BGN 5:153
cer-zs	-	+	++	++	4	-	S	BGN 7:92; 5:154
cer-zt	-	+	++	++	2	-	S	BGN 1:97; 5:155
cer-zu	-	-	+	++	3	-	S	BGN 9:135; 3:110; 5:156
cer-zv	-	-	-	-	4	-	S	BGN 9:135; 5:157
cer-zw	-	+	+	++	-	-	S	BGN 3:110; 5:158
cer-zx	-	+	+	++	-	-	S	BGN 3:110; 5:159
cer-zy	-	++	++	+	-	-	S	BGN 3:110, 5:160
cer-zz	-	++	++	-	4	-	S	BGN 3:110, 5:161
cer-ya	-	++	++	-	-	-	S	BGN 3:110, 5:162
cer-yb	-	++	++	-	5	-	S	BGN 3:110, 5:163
cer-yc	-	-	++	++	2	-	S	BGN 3:110, 5:164
cer-yd	-	-	++	++	-	-	S	BGN 3:110, 5:165
cer-ye	-	++	++	-	4	-	S	BGN 3:110, 5:166
cer-yf	-	++	++	+	2	-	S	BGN 3:110, 5:167
cer-yg	-	-	-	-	-	-	S	BGN 3:110, 5:168
cer-yh	-	-	++	++	2	-	S	BGN 3:110, 5:169
cer-yi	-	++	++	-	2	-	S	BGN 7:92
cer-yj	-	++	++	-	2	-	S	BGN 7:92
cer-yk	-	+	+	++	2	-	S	BGN 7:92
cer-yl	-	-	-	++	2	-	S	BGN 7:92
cer-ym	-	-	-	-	2	-	S	BGN 7:92
cer-yn	-	+	+	++	-	-	S	BGN 7:92
cer-yo	-	++	++	-	2	-	S	BGN 9:135
cer-yp	-	++	++	+	2	-	S	BGN 9:135
cer-yq	-	++	++	-	1	-	S	BGN 12:169
cer-yr	-	+	+	++	1	-	S	BGN 12:169

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
cer-ys	-	++ ++ -	2	-	S	BGN 12:169
cer-yt	-	- ++ ++	3	-	S	BGN 12:169
Cer-yy	-	- ++ ++	17	-	S	BGN 12:169
cer-soh	-	secondary alcohols	-	-	C	BGN 9:75
Ch-a	-	chlorotic hybrids	-	-		BGN 6:71
Ch-e	-	chlorotic hybrids	-	4		BGN 6:71
Cl	K	hooded	-	-		-
cl	-	curly lateral	-	7		75; 131
clh	cud	curly lateral dwarf	-	7		BGN 10:49
cm	a _b	cream seedling	-	7	B305	52; 75; BGN 1:164
cm2	-	cream seedling	-	5		75; 77
cr	-	curved peduncle	-	-		75; 107
cs	-	corn stalk	-	7		22; 75
cu	-	curly	-	6	G395	75; 92
cu2	-	curly	-	3	B114	169, BGN 1:136
cu3	-	curly	-	6		BGN 8:50
cu4	spn	curly	-	-	B460	BGN 14:51, 14:97
cud	-	curly dwarf	-	7		BGN 10:49
cud-2	-	curly dwarf	-	5		168
D	-	dwarf (sterile)	-	2		75; 107
D	I _I	intermedium	-	4		75; BGN 7:34
d	x	xantha seedling	-	-		75; 131
De	L7	lax spike	-	1		-
da	lku	dehiscent awn	-	2		18; 75; 130
da2	-	dehiscent awn	-	-		75; 107
ddt	-	resistance to DDT	-	7	B317	75; 137, BGN 14:95, 14:96
des1	lc	desynapsis	-	1	B12	BGN 3:124
des2	ds	desynapsis	-	3	B119	BGN 3:125
des3	-	desynapsis	-	-	B386	BGN 3:126, 6:116
des4	-	desynapsis	-	1	B13	BGN 3:127, 6:116
des5	-	desynapsis	-	1	B14	BGN 3:128
des6	-	desynapsis	-	5	B215	BGN 3:129
des7	-	desynapsis	-	2	B64	BGN 3:130
des8	-	desynapsis	-	-	B387	BGN 3:131
des9	-	desynapsis	-	-	B388	BGN 4:137
des10	-	desynapsis	-	-	B389	BGN 4:138
des11	-	desynapsis	-	-	B390	BGN 4:139
des12	-	desynapsis	-	-	B391	BGN 4:140
des13	-	desynapsis	-	-	B392	BGN 4:141
des14	-	desynapsis	-	-	B393	BGN 4:142
des15	-	desynapsis	-	-	B394	BGN 5:113
dex1	sex2	defective endosperm xenia	-	7		BGN 11:104
dex2	-	defective endosperm xenia	-	-	B456	BGN 11:105, 13:118
dex3	-	defective endosperm xenia	2	-	B457	BGN 11:106, 13:119
dex4	-	defective endosperm xenia	-	-	B458	BGN 11:107, 13:120
Dip	amy	high diastatic power	-	2, 7		15; 75
Dip1	Pept1	dipeptidase	-	6		172
Dip2	Pept2	dipeptidase	-	3		172
dn	m3	many noded dwarf 3	-	3		75; 131
ds	des-2	desynaptic chromosomes	-	3		22; 23; 47; 75
dsk	-	dusky	-	7		BGN 2:75, 13:42
Dt	-	dented leaf margin	-	-		-
dw-1	-	light green dwarf	-	3		BGN 14:35
dwf	-	vegetative dwarf	-	-	B459	BGN 12:106, 13:121
E	Ea	early maturity	-	-		-
e	l	lax spike	-	-		-

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
e	lep-e	wide outer glume	-	2	S	30, BGN 5:101, 2:28
e 2	gh	fine-awned glume	-	1		18; 75
EA	Est 1	esterase				
EB	Est 2	esterase				
EC	Est 4	esterase				
ED	Est 5	esterase				
EE	Est 6	esterase				
EF	Est 7	esterase				
EG	Est 8	esterase				
Ea	E,X,Y,z	early maturity	-	1, 2		18; 27; 75; 138; BGN 2:148
Ea 2	-	early maturity	-	4		75; 107
ea 4	-	early maturity	-	1(?)		57; 75; 93
Ea 5	Ea 3	early maturity	-	7		42; 75
ea 7	Ea 5,ec	early heading	-	6		8; 75; BGN 1:155
ea _X	mat-a	early heading (light insensitive)	-	5	S	BGN 2:198, 8:125, 13:94
ebu	a2	albino lemma	-	-	S	
ebu-2	ebu-3,a1	albino lemma	-	-	S	30; BGN 3:67
ebu-3	ebu-2,a1	albino lemma	-	-	S	30;
ec	ea7	early maturity	-	6		75; 86
Edp-A	-	endopeptidase	2	-		BGN 8:31
eh	-	erect early growth	-	-		42; 75
en-min	-	enhancer for minute	-	-		75; 120
en-B1,b	en-B1?	enhancer of aleurone color	-	-		26
Enp	Ep-H1	endopeptidase	-	1		172
En-H1	Enp	endopeptidase				
er	-	erectum base on grain	-	-		75; 107
Er	Reg	reaction to E.graminis	-	-		BGN 13:152
er2	-	erectum base on grain	-	-		75; 107
ert-a	-	erectoides	-	1	S	31; 32; 75
ert-b	gs2	erectoides	-	5	S	31; 32; 75
ert-c	-	erectoides	-	3	S	31; 32; 75
ert-d	-	erectoides	-	1	S	31; 32; 75
ert-e	-	erectoides	-	6	S	31; 32; 75
ert-f	-	erectoides	-	-	S	31; 32; 75
ert-g	-	erectoides	-	7	S	31; 32; 75
ert-h	-	erectoides	-	-	S	31; 32; 75
ert-i	-	erectoides	-	4	S	31; 32; 75
ert-ii	-	erectoides	-	3	S	31; 32; 75
ert-j	-	erectoides	-	-	S	31; 32; 75
ert-k	-	erectoides	-	6	S	31; 32; 75
ert-l	-	erectoides	-	-	S	31; 32; 75
ert-m	-	erectoides	-	1	S	31; 32; 75
ert-n	-	erectoides	-	7	S	31; 32; 75
ert-o	-	erectoides	-	-	S	31; 32; 75
ert-p	-	erectoides	-	-	S	31; 32; 75
ert-r	-	erectoides	-	7	S	31; 32; 75
ert-s	-	erectoides	-	-	S	31; 32; 75
ert-t	-	erectoides	-	-	S	31; 32; 75
ert-u	-	erectoides	-	-	S	31; 32; 75
ert-v	-	erectoides	-	-	S	31; 32; 75
ert-x	-	erectoides	-	-	S	31; 32; 75
ert-y	-	erectoides	-	-	S	31; 32; 75
ert-z	-	erectoides	-	-	S	31; 32; 75
ert-za	-	erectoides	-	-	S	BGN 6:80
ert-zd	-	erectoides	-	-	S	BGN 6:80

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
Est 1	EA, Est 4	esterase	5	3L	R	39; 45, 172, BGN 14:28
Est 2	EB, Est 3	esterase	5	3L	R	39; 45, 172 BGN 14:28
Est 3	-	esterase	3	1	R	39; 172, BGN 12:6
Est 4	EC, Est 3	esterase	8	3L	R	39; 45, 172, BGN 14:28
Est 5	ED, Est 4	esterase	9	1	R	39; 45; 172, BGN, 14:28
Est 6	EE	esterase	-	3		172
Est 7	EF	esterase	-	2		172
Est 8	EG	esterase	-	-		172
Est 9	-	esterase	-	-	R	39;
Est 10	-	esterase	-	-	R	39;
ex	lep-e	elongated outer glume	-	-	S	-
f	lg,lg8,lg10	chlorina seedling (viridis)	4	2s	C	75; 84; BGN 10:10 3:71
f _c	-	chlorina seedling	-	1s	C	75; 107; BGN 1:105; 13:27, 3:71; 10:101
f2	-	chlorina	4	3s	C	141; BGN 2:183, 3:71
f3	-	chlorina	-	5L	C	107; BGN 9:132, 8:89, 3:71, 14:9
f4	yv	chlorina	-	1L	C	131; BGN 5:98, 10:103, 3:71
f5	z,yv2	chlorina	-	1s	C	131; BGN 5:99, 3:71
f6	yv	chlorina	-	7L	C	156; BGN 3:71, 3:99, 7:89, 13:50 13:111, 14:52
f7	-	chlorina	2	5L	C	BGN 1:146, 10:120 3:71
f8	-	chlorina	-	1s	C	BGN 1:108, 10:102 13:28, 3:71, 14:53, 14:81
f9	F _K	chlorina	-	4L	C	BGN 1:137, 3:71, 14:61
f10	-	chlorina	-	4	B107	BGN 14:93, 168
f11	pg	chlorina	-	6	G357	BGN 9:133
F _K	f9	chlorina	-	-		-
fb	sc	reaction to Fusarium blight (scab)	-	-		75; 92; 107;
fer	-	few roots	2	-	R	BGN 8:162, 7:43
fL	-	funnel-shaped lemma	-	-	O	162, 163
fla-a	fla-b	yellow spike	-	-	S	30; BGN 5:64
flo-a	-	extra floret	-	2	S	30; BGN 6:28
flo-b	-	extra floret	-	-	S	30; BGN 6:28
flo-c	-	extra floret	-	-	S	30
fls	msg	floral sensitivity (sterility)	-	-		75; 92
Fpd 1	Aco1	fructose-phosphofate-dehydrogenase				
fs	-	fragile stem	-	7	B301	75; 87; 126; BGN 1:160

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
fs2	-	fragile stem	-	5L	B208	47; 75; 131; BGN 1:153, 2:192, 10:122, 14:10
G	-	teeth on lemma	-	2	B69	75; 93; 133; BGN 5:109, 8:161
G	Bg	brown(gray)yellow lemma	-	-	-	-
G2	-	teeth on lemma	-	-	-	75; 107
ga	-	gametophyte factor	-	1	-	75; 113; 114
Gdh	-	glutamate dehydrogenase	-	7?	-	172
Ge	wh	glaucous ear (cer)	-	-	-	40; 75
Gh	-	long glume hairs	-	4(?)	-	49; 75
gh	e2	-	-	-	-	-
gl	wl,gl2, cer-zh	glossy leaf (cer)	4	4S	F,S	18; 40; 75; 106; 136; 138; BGN 1:141, 2:79, 2:80, 10:114, 10:116, 1:101, 14:61
gl2	gl	glossy seedling	-	-	-	-
gl3	gl4	glossy seedling	2	4S	C	BGN 1:159, 2:190, 10:117, 10:123, 14:61
gl4	gl3	glossy seedling	-	-	-	-
gl5	-	glossy leaf	-	1	-	BGN 8:48
Gle-1	-	glossy spike	-	5	-	BGN 12:13
glo-a	-	globe shaped grain(globosum)-	-	4	B168	BGN 8:152, 6:28, 30
glo-b	-	globe shaped grain(globosum)3	-	7	-	BGN 6:28, 10:30
glo-c	-	globe shaped grain(globosum)-	-	2	-	BGN 6:28, 10:30
glo-d	-	globe shaped grain(globosum)2	-	2	-	BGN 10:30
glo-e	-	globe shaped grain(globosum)-	-	5	-	BGN 10:30
Got-1	Aat2, Aat3	glutamate oxaloacetate transaminase	-	6	-	-
Got 2	Aat3	glutamate oxaloacetate transaminase	-	-	-	-
Got H2	Aat2	glutamate oxaloacetate transaminase	-	-	-	-
gp	gp2	grandpa	3	2L	C	18; 40; 75; 163, 164, BGN 1:119, 10:107
gp2	gp	grandpa	-	-	-	-
Gpd1	Gpd H1	glucose-6-phosphate dehydrogenase	-	2	-	172
Gpd H1	Gpd 1	glucose-6-phosphate dehydrogenase	-	-	-	-
Gpi1	Pgi H1, Pgi	glucosephosphate isomerase	-	5	-	142, 172
Gpi2	-	glucosephosphate isomerase	-	-	-	172
Gr	-	growth factors	-	3	-	75; 107
Gr2	-	high yield (growth factor)	-	7	-	25; 75; 91
Grb	Rsg	reaction to Schizaphis	-	-	-	12; 28; 75; BGN 6:119
Grb2	-	graminum Rondari (greenbug) reaction to Schizaphis	-	-	-	12; 28; 75
Grb3	-	graminum Rondari (greenbug) reaction to Schizaphis	-	-	-	12; 75
gs	gs,cer-q	graminum Rondari (greenbug) glossy sheath (cer)	14	4	C	1; 2; 37; 75; 136; BGN 1:168

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
gs2	cer-b	glossy sheath (cer)	5	(3L)?	C	75; 92; BGN 1:169, 13:25, 3:29
gs3	vs3,cer-a	glossy sheath (cer)	4	1S	C	75; 131; 132; BGN 1:169, 13:27, 2:86
gs4	wh1,wh2	glossy sheath (cer)	-	6	C	75; 107; BGN 1:170
gs5	gs6,gs8,gs7	glossy sheath (cer)	4	2s	C	BGN 1:171
gs6	gs5	glossy sheath (cer)	10	2	C	BGN 1:172
gs7	gs5	glossy sheath (cer)	-	-	-	-
gs8	gs5	glossy sheath (cer)	-	-	-	-
gs9	-	glossy sheath and ear	-	2	-	168
H	U	high (tall)	-	1, 2	-	1; 41; 54; 75; 138
h	u	short culm	-	2	-	BGN 5:102
H2	-	high (tall)	-	7	-	75; 107
H _I	-	high (tall), modifying factor	-	-	-	75; 107
Ha1	-	reaction to Heterodera avenae (cereal cyst nematode)	-	-	-	BGN 2:201
Ha2	-	reaction to Heterodera avenae (cereal cyst nematode)	-	2	-	BGN 2:201
hap	-	haploid initiator	-	-	-	144
hex-v	v	six-row	19	2	S	30; 143
hf	-	hairy furrow of palea	-	-	-	10; 75
Hg	-	reaction to Helminthosporium gramineum (leaf stripe)	-	-	-	75; 107
Hg2	-	reaction to Helminthosporium gramineum (leaf stripe)	-	-	-	75; 107
Hg3	-	reaction to Helminthosporium gramineum (leaf stripe)	-	-	-	75; 107
hl	-	reaction to Helminthosporium sativum (foot rot)	-	2	-	75; 107
hl2	-	reaction to Helminthosporium sativum (foot rot)	-	5	-	75; 197
hl3	-	reaction to Helminthosporium sativum (foot rot)	-	7	-	75; 107
hl4	-	reaction to Helminthosporium sativum (foot rot)	-	-	-	5; 75
Hn	-	hairs on the lemma nerves	-	4	B164	75; 119; BGN 2:189, 11:44
Hor1	Hrd A,Pr-a	hordein	8	5S	-	16; 17; 97; 145
Hor2	Hrd B	hordein	17	5S	-	108; BGN 11:44
Hor3	-	hordein	-	5S	-	16; 17; 97; 145
Hrd C	-	hordein	-	5S	-	108; BGN 11:44
Hrd D	-	hordein	-	5S	-	147
Hrd E	-	hordein	-	5S	-	109
Hrd F	-	hordein	-	5S	-	109
Hrd G	-	hordein	-	5S	-	109
Hr	Pbr	hairy rachis	-	2	-	BGN 12:13
Hr2	Pbr2	hairy rachis	-	7	-	BGN 14:4
Hr3	Pbr3	hairy rachis	-	-	-	75; 133
						75; 107

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
Hs	-	hairy leaf sheath	-	4L	F	10; 75; 80;
Hyp1	-	possible decreased feedback 3 regulation of proline synthesis	3	-		BGN 2:184, 14:61 BGN 13:37
I	R2	rough awn	-	-		-
I ^h	W	infertile intermedium	-	4s		75; 138; BGN 7:34
I _I	B	fertile intermedium	-	4s		47; 75; BGN 7:34
i	D	intermedium	-	4s		1; 75; BGN 7:34
ibl	-	deficiens	-	4L		BGN 9:106, 14:61
Ica1	-	intense blue aleurone layer	-	-		BGN 6:26
	-	inhibitor of chymotrypsin and Aspergillus protease	-	-		167, BGN 13:53
Ica2	-	inhibitor of chymotrypsin and Aspergillus protease	-	-		167, BGN 13:53,
Idh1	-	isocitrate dehydrogenase	-	-		172
Idh2	-	isocitrate dehydrogenase	-	2		172
Inc	-	partial incompatibility with H. bulbosum	-	7	B316	171, BGN 13:114
int-a	int-g	intermedium spike	20	5L	S	30; 81; 82; 143
int-b	-	intermedium spike	2	-	S	30; 143, BGN 14:9
int-c	-	intermedium spike	17	4s	S	30; 143; BGN 7:34
int-d	-	intermedium spike	9	-	S	30; 143
int-e	-	intermedium spike	5	3	S	30; 81; 82; 143
int-f	-	intermedium spike	-	-	S	30; 143
int-g	int-a	intermedium spike	-	-	-	
int-h	-	intermedium spike	3	-	S	143
int-i	-	intermedium spike	-	-	S	143
int-k	-	intermedium spike	-	-	S	161
Isa-1	-	inhibitor of subtilisin	-	2	R	167, BGN 13:53
	-	amylase	-	-		
Itc-1	-	inhibitor of trypsin and chymotrypsin	-	3	R	167, BGN 13:53
j	-	complementary factor inhibiting red pericarp color	-	-		75; 107
j2	j1	complementary factor inhibiting red pericarp color	-	-		75; 107
JM1-K	Reg-A, C1, K ^e	reaction to E.graminis hordei hooded lemma	2	4L		BGN 13:152
					B152	1; 60; 61; 75;
					B153	84; 88; 126;
					B154	136; 138; 139;
						BGN 1:138, 1:140, 14:61
K2	-	hooded (second factor)	-	-		1; 75; 138
K ^e	K	elevated hood	2	4	B153	1; 58; 75;
						BGN 1:139
K _r	-	hooded (calcaroides)	-	3,4		75; 131
K1	a, v, al	short awned	-	1		75; 107
K1 2	K11, a 2	short awned	-	-		75; 107
Kw	-	heavy kernels (several factors)	-	1,2,7		7; 73; 74; 75
L	(lax)E	lax spike	-	1		18; 75; 115; 126; 138; BGN 2:173
L2	L1	lax spike	-	1	D	75; 107
L3	L2	lax spike	-	7		7; 75; 93
L4	L3	lax spike	-	-		75; 107
L5	L4	lax spike	-	2		75; 107

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
L6	L5	lax spike	-	-		75; 107
L7	De	lax spike	-	1		75; 131
L _a	-	lax spike	-	1		75; 107
L _c	-	lax spike	-	3		75; 84; 93; BGN 1:132
l _c	-	dense spike	-	3	B111	BGN 1:133, 13:91
L _d	-	lax spike	-	-		75; 93
Lax-a	-	lax spike (laxatum)	13	7	S	30; 81; 82; BGN 2:28
Lb	Bi	short basal rachis internode-		7	B307	93; BGN 1:66
lb	bi	long basal rachis internode	-	7	B308	BGN 1:66
l	e	dense spike	-	1	B9	BGN 2:174
l9	la	dense spike	-	6	F	BGN 6:132
Lap	Amp	aminopeptidase				
lb	-	long basal rachis internode	3	7		BGN 1:167, 5:64
lb2	-	long weak basal rachis internode 2	-	4S	B156	46; 47; 75; BGN 1:142, 14:61
lb3	-	long weak basal rachis internode 3	-	1		47; 75
lb3 ^m	-	moderately long weak rachis basal internode	-	1		46; 47; 75
lc	-	long chromosome(desynaptic)	-	-		75; 107;
lep-e	log,e,w,ex, tr,	elongated outer glume	24	2	S	17; 28; 30; 36; 45; 56; 81; 107; BGN 5:101, 2:28
let	-	pollen lethal	-	7		75;
lfb	-	leafy bract (bracteatum)	-	7		75; 131
Lf1	-	leafless	-	1L or 4		BGN 5:67
lg 1	f	light-green seedling	-	2	B171	47; 75; 84; BGN 8:155
lg2	lg3	light-green	-	45	B169 B170	51; 75; 107 BGN 8:153, 8:154, 13:93, 14:61
lg3	lg2	light-green	-	-		
lg4	lg9	light-green	-	4S		168, BGN 3:17, 14:61
lg5	-	light-green	2	4L		BGN 3:17, 8:156
lg6	-	light-green	-	-		
lg7	-	light-green	-	-		
lg8	lg10	light-green	-	-		BGN 3:17
lg9	lg4	light-green	-	-		
lg10	lg8	light-green	-	-		BGN 3:17
lgr	-	long-shaped grain	-	-		BGN 12:4
li	a 1	liguleless	4	2		75; 84; 98; 126; 138; BGN 1:120, 10:39
lin	S,rin	lesser internode number	-	2	B57	BGN 14:91
lig-a	-	liguleless	4	-	S	30
lk	ari	short awn (awnless)	-	1	C	75; 84; 99; 126 BGN 14:59
LK2	A,LK	long awn	-	1L	B9	BGN 2:175, 13:28
lk2	a,lk4,lk	short awn (fine)	-	1		75; 107; BGN 3:119, 2:175, 14:59
lk3	lk2	short awn	-	-		75; 107
lk4	lk3	short awn	-	-		75; 107
lk5	ari-c	short awn	3	4S		60; 75; BGN 8:156, 10:119, 14:61

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
lk6	lk5	short awn	-	4		
lka	da	dehiscent awn	-	-		60; 75
lnt	-	low number of tillers	-	3	B118	BGN 10:113
lo	-	small lodicule	-	-		75; Wiebe (unpubl.)
log	lep-e	long glume awn	-	-		-
lp	-	lethal seedling	-	-		75; 107
lp2	lp1	lethal seedling	-	-		75; 107
lr	-	reduced lateral spikelet appendage on the lemma (awnless lateral floret)	-	2	B58	58; 75; BGN 1:118
lr2	lr1	reduced lateral and central spikelet appendage on the lemma	-	-		60; 75
ls	shs	spring habit of growth	-	-		-
Lt1	-	aspartate kinase isoenzyme 11 lysineinsensitive	2	-		BGN 13:37
Lt2	-	aspartate kinase isoenzyme 11 lysineinsensitive	-	-		BGN 13:37
lys	-	high-lysine	-	7		BGN 2:54
lys-2	-	high-lysine	-	1		24
lys-3	sex 3	high-lysine	3	7		BGN 9:33
lys-4	sex 5	high-lysine	-	5		BGN 9:33, 13:94
lys-5	sex 1, sex 4, sex 6	high-lysine	11	-		BGN 9:33, 12:90
lys-6	-	high-lysine	-	-		BGN 9:33
lys-x	-	high lysine xenia	-	-		-
lzd	-	dwarf	-	3		153, 154, 169 BGN 13:89
m	-	many-noded dwarf	3	-		75; 107
m2	mnd	many-noded dwarf 2	-	2		58; 75
m3	dn	many-noded dwarf 3	-	3		75; 131
mat-a	ea _k	early maturity	-	5	S	30; BGN 2:198, 8:125
mat-b	-	early maturity	-	-	S	30
mat-c	-	early maturity	-	-	S	30
mat-d	-	early maturity	-	-	S	30
mat-e	-	early maturity	-	-	S	30
mat-f	-	early maturity	-	-	S	30
mat-g	-	early maturity	-	-	S	30
mat-h	-	early maturity	-	-	S	30
mat-i	-	early maturity	-	-	S	30
Mdh1	Mdh-H1	malate dehydrogenase	-	5L		142, 172
Mdh2	-	malate dehydrogenase	-	3		172
Mdh-H1	-	malate dehydrogenase	-			
min-en-min	min	minute (dwarf)	-	4S	B160	75; 120; BGN 2:185, 14:61
min-En-min	-	semi minute	-	4	B161	2:186
M1	Reg-	reaction to E.graminis hordei	-	5		BGN 13:152
mlt	mul	multiflorous	-	-		-
mn	-	many noded	5	-	0	166
mn2	-	many noded	-	-	0	166
mnd	m2	many noded dwarf	-	2	F	58; 75
mo1	mo2, mo3, mo4, mo5	multi-ovary	5	1L		66; 75; BGN 10:69, 12:86
ms20	msg20	male sterile	-	-		-
ms21	msg21	male sterile	-	-		-

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
msg	ms	male sterile	5	5	F	75; 84; BGN 1:175, 13:9
msg2	-	male sterile 2	2	2	F	75; 107; BGN 1:175
msg3	msg10	male sterile (brachytic-like dwarf)	2	2	B359	46; 47; 75; BGN 1:176
msg4	-	male sterile	-	-	F	75; 92; BGN 1:177
msg5	-	male sterile	2	3	F	75; 92; BGN 1:178
msg6	-	male sterile	-	6	G370	13:9, 4:16; 75; 92; BGN 1:178
msg7	-	male sterile	2	-	F	10:137; 75; 92; BGN 1:179
msg8	-	male sterile	-	-	F	75; 92; BGN 1:180
msg9	-	male sterile	-	-	-	75; 92; BGN 1:181
msg10	ms3	male sterile	2	1	F	75; 92; BGN 1:181
msg11	ms10, ms12	male sterile	2	-	-	75; 92; BGN 1:182
msg12	ms11, ms10	male sterile	-	-	-	BGN 1:182
msg13	-	male sterile	-	-	-	BGN 1:183
msg14	-	male sterile	3	1	-	BGN 1:184
msg15	-	male sterile	-	-	-	BGN 1:184
msg16	-	male sterile	-	7	-	BGN 1:185
msg17	-	male sterile	-	-	-	BGN 1:186
msg18	-	male sterile	2	-	-	BGN 1:186
msg19	-	male sterile	-	7	F	BGN 1:187
msg20	ms20	male sterile	-	5	-	BGN 1:188, 12:107
msg21	ms21	male sterile	-	-	-	BGN 1:188, 12:107
msg22	-	male sterile	2	1	B383	BGN 2:178, 3:121
msg23	-	male sterile	3	1	B384	BGN 2:179, 3:122
msg24	-	male sterile	5	4S	F	BGN 2:191, 3:123, 13:9, 14:61
msg25	-	male sterile	-	4	B166	BGN 4:135, 5:112
msg26	-	male sterile	-	-	B395	BGN 4:136, 5:170
msg27	-	male sterile	-	-	-	BGN 9:124
msg28	-	male sterile	-	-	-	BGN 9:124
msg29	-	male sterile	-	-	-	BGN 9:124
msg30	-	male sterile	-	-	-	BGN 9:124
msg31	-	male sterile	-	-	-	BGN 9:124
msg32	-	male sterile	-	-	-	BGN 9:124
msg33	-	male sterile	-	-	-	BGN 13:70
msg, bk	-	male sterile	-	6	-	BGN 10:138
msg, u	-	male sterile	-	1	-	BGN 10:138
mss	-	midseason stripe	-	2	-	75; 131;
mt	-	mottled leaves	-	2	-	47; 75; 131;
mt2	-	mottled leaves	-	7	B302	75; 131; BGN 1:16
mt3	-	mottled leaves	-	-	-	46; 47; 75;
mu	-	multiploid sporocytes	-	-	-	75; 107
mul	mlt	multiflorous	-	2	-	47; 75; 131
mul2	mlt2	multiflorous	-	6	B251	75; 131; BGN 2:15
n	-	naked caryopsis	-	1L	C	18; 37; 40; 52; 75; 84; BGN 1:110, 12:86
nar1	-	nitrate reductase-deficient	9	-	-	BGN 9:55
nar2	-	nitrate reductase-deficient	-	-	-	BGN 9:55
Nb	be	branched spike	-	-	-	-
Nb1	be2	branched spike	-	-	-	-
Nadh1	Ndh1	NADH dehydrogenase	-	-	-	-
Nadh2	Ndh2	NADH dehydrogenase	-	-	-	-
Ndh1	Nadh1	NADH dehydrogenase	-	4	-	172
Ndh2	Nadh2	NADH dehydrogenase	-	-	-	172

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
nec 1	-	necrotic leaf	-	5	R,S	BGN 11:101, 30
nec 2	-	necrotic leaf	-	6	R,S	BGN 11:102, 30
nld	-	narrow leafed dwarf	-	7L		BGN 10:138, 14:52
Nlh	Bb2	broad leaf	-	-		
nls	-	nodeless	-	4 or 7		BGN 10:138, 3:65
No	-	high nitrogen content of caryopsis	-	2(?)		14; 75;
notch 1	-	high protein	-	-		BGN 2:21
notch 2	-	high protein	-	-		BGN 2:21
Np	-	resistance to nonparasitic leaf spot	-	-		68; 69; 75
o	rob-o	orange lemma base and nodes	5	6S	C	30; 37; 75; 84; BGN 13:83, 1:157
op	-	opposite spikelets	-	1		75; 88; 138;
or	-	orange seedling	-	2	C	75; 84; BGN 1:112, 10:104
ovl	-	ovaryless (male)	-	4	B176	BGN 10:118, 13:111
P	-	purple lemma	-	2		75; 107
P2	P1	purple lemma	-	-		75; 107
P3	P2	purple lemma	-	-		75; 107
P3	-	purple veined lemma	-	2		75; 107
Pe	-	purple veined lemma	-	-		75; 107
Pf	-	purple veined lemma	-	-		75; 107
Pa	Rph 1	reaction to P. hordei	-	-		75; 107
Pa2	Pa 1, Rph 1	reaction to P. hordei	-	-		
Pa3	Pa1, Pa2, Rph3	reaction to P. hordei	-	-		
Pa4	-	reaction to P. hordei	-	5		157, 158, 159
Pc	C, Re	purple veined lemma	-	2	B68	BGN 5:108
Pau	Pr _a	purple auricle	-	2	C	18; 58; 72; 75;
Paz1	-	protein albumin z	-	4S		BGN 13:55, 14:61
Pbg	-	pubescence on outer glume	-	1		75; 107
Pbr	Hr	hairy rachis	-	-		
Pbr2	Hr2	hairy rachis	-	-		
Pbr3	Hr3	hairy rachis	-	-		
Pept1	Dip1	dipeptidase	-	-		
Pept2	Dip2	dipeptidase	-	-		
pg	F 11	chlorina	-	-	G357	
Pgd1	6Pgd1	phosphogluconate dehydrogenase	-	-		172
Pgd2	6Pgd2, 6Pgdh1	phosphogluconate dehydrogenase	2	5L	R	172, BGN 12:68
Pgi	Gpi1	phosphoglucose isomerase	-	-		
Pgi H1	Gpi1	phosphoglucose isomerase	-	-		
Pgm	-	phosphoglucomutase	-	4		172
phd	-	post-harvest dormancy	-	-		61; 75
Plm	-	anthocyanin rich	-	1		BGN 8:31
Pm	Reg	reaction to E.graminis hordei	-	-		-
Pn	-	purple node	-	2		72; 75;
Pr	Ant2	purple stem	-	2	C	18; 72; 75; 84; 126; 138; BGN 5:107
pr	ant2	non purple stem	-	-	C	
Pr-a	Hor1	hordein	-	-		
Pr _a	Pau	purple auricle	-	-		
Prx1	-	peroxidase	-	-		172
Prx2	-	peroxidase	-	-		172
Prx3	-	peroxidase	-	-		172

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
Pt	-	reaction to Pyrepophora teres (net blotch)	-	-		65; 75; 95;
Pt2	-	reaction to Pyrepophora teres (net blotch)	-	-		65; 75;
Pt3	-	reaction to Pyrepophora teres (net blotch)	-	-		65; 75;
r	bt1	brittle rachis	-	-		
r	a	smooth awn	-	7L	F	BGN 8:158, 14:52
r ₂	r5	smooth awn	-	6		BGN 1:25, 6:131
R	A	rough awn	-	7L	B6	BGN 8:157, 14:52
R2	R1,S,I	rough awn	-	7		6; 75;
R3	R2,A	rough awn	-	2 or 4		44; 75; 133
R4	R3	rough awn	-	1		75; 107;
r5	r2	smooth awn	-	-		
ra	-	short rachilla	-	2		75; 107;
ra2	-	short rachilla	-	-		75; 107;
ra3	-	short rachilla	-	-		75; 107;
rac-a	lb, bi	long basal rachis internode	-	-	S	30;
rac-b	lb, bi	long basal rachis internode	-	-	S	30;
rb	-	ribbon grass (white stripe on early leaves)	-	6	G397	18; 22; 75; 131; 138;
Re	C,P1,P _C	purple lemma and pericarp	-	5		75; 129; 138; 140;
Re2	R1,P	purple lemma and pericarp	-	2		75; 74; 129; 138; 140;
Reg 1	Jmlsn	reaction to Erysiphe graminis hordei (powdery mildew)	-	5		BGN 13:152; 6:127
Reg 2	Jmlg	reaction to Erysiphe graminis hordei (powdery mildew)	-	4S		BGN 13:152; 6:124
Reg 3	-	reaction to Erysiphe graminis hordei (powdery mildew)	-	-		BGN 13:152; 6:143
Reg 4	Jml ka	reaction to Erysiphe graminis hordei (powdery mildew)	-	5		BGN 13:152; 6:126
Reg 5	Jml p	reaction to Erysiphe graminis hordei (powdery mildew)	-	5		BGN 13:152; 6:128
Reg 6	-	reaction to Erysiphe graminis hordei (powdery mildew)	-	4S	B175	BGN 13:152; 8:168; 14:61
Rh	Rha	reaction to Rynchosporium secalis (scald)	-	3		9; 19; 20; 21; 75; BGN 13:89
Rh2	-	reaction to Rynchosporium secalis (scald)	-	-		19; 20; 21; 75;
Rh3	-	reaction to Rynchosporium secalis (scald)	-	3		19; 20; 21; 75;
Rh4	-	reaction to Rynchosporium secalis (scald)	-	3		19; 20; 21; 75;
Rh5	-	reaction to Rynchosporium secalis (scald)	-	-		19; 20; 21; 75;
Rha	Rh	reaction to Rynchosporium secalis (scald)	-	-		-
rin	S, lin	low number of rachis internodes	-	2	B57	56; 75; 84; BGN 1:117
rin2	-	low number of rachis internodes	-	4		75; 107;
rnt	-	reduced number of tillers	-	3		BGN 3:120
rob-o	o	orange lemma	5	-	S	30;
Rph-1	Pa,Pa ₂ ,C	reaction to Puccinia hordei Otth (leaf rust)	-	2	B70	107; BGN 6:120

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
Rph-2	-	reaction to Puccinia hordei - Otth (leaf rust)	-	-	-	-
Rph-3	Pa, Pa ₃	reaction to Puccinia hordei - Otth (leaf rust)	-	3	B121	91; 110; BGN 6:12
Rph-4	Pa ₄ , D	reaction to Puccinia hordei - Otth (leaf rust)	-	5	B218	BGN 6:129
Rph-5	Pa ₅ , B	reaction to Puccinia hordei - Otth (leaf rust)	-	3	B122	BGN 6:122
Rps-4	Yr4	reaction to Puccinia strii- formis Otth (stripe rust)	-	5	B219	BGN 6:130, 7:37
Rs	Ant-	red stem and leaf sheath	-	1	B15	75; 107, BGN 5:96
Rsg	Grb	reaction to Schizaphis graminum Rondari (greenbug)	-	1	B22	BGN 6:119
rt	-	rattail spike	-	2	B51	75; 107; BGN 1:11
rub-a	ant-1	-	-	-	-	-
Run 1a	un	reaction to Ustilago nuda (Jens) Rostr (loose smut)	-	1	B21	3; 4; BGN 6:118
rub	ant	anthocyanin pigmentation	-	-	-	-
rvl	-	revoluted leaf	-	-	-	BGN 5:67
Ryd 2	Yd2, BYDV	resistant to barley yellow dwarf virus	-	3	B123	BGN 6:123
Rym 1	Ym, BYMV	resistant to barley yellow mosaic virus	-	4	-	BGN 6:125
Rym 2	Ym2, BYMV	resistant to barley yellow mosaic virus	-	1	-	BGN 6:117
s	l, s ⁱ , bir	short rachilla hairs	-	7L	F	18; 37; 61; 75; 84; 87; 133;
s	rin, lin	low number of rachis internode	-	2	-	-
S	R2	rough awn	-	-	C	BGN 8:159
sb	-	subnodal bract	-	1	-	75; 131;
sbn	-	semi-naked caryopsis	-	-	-	75; 97;
sc	-	short chromosome(desynaptic)-	-	5(?)	-	67; 75;
sca	-	short crooked awn	-	3	-	169; BGN 10:47
Sdh	-	shikimate dehydrogenase	-	7	-	172
sdw-b	-	bracteatum semidwarf	-	3	-	BGN 14:35
se 1	seg1	shrunk endosperm	-	-	-	-
se 2	seg2	shrunk endosperm	-	-	-	-
se 3	seg3	shrunk endosperm	-	-	-	-
se 4	seg4	shrunk endosperm	-	-	-	-
se 5	seg5	shrunk endosperm	-	-	-	-
se 6	sex1	shrunk endosperm(genetic)	-	6	-	BGN 1:22, 1:193, 5:114, 10:130, 13:115, 14:
se 7	seg7	shrunk endosperm	-	-	-	-
seg1	se1	shrunk endosperm(genetic)	-	1	B377	BGN 1:190, 1:22, 10:124
seg2	se2	shrunk endosperm(genetic)	-	1	B378	BGN 1:190, 1:22, 10:125
seg3	se3	shrunk endosperm(genetic)	-	3	B379	BGN 1:191, 1:22, 10:126
seg4	se4	shrunk endosperm(genetic)	-	1	B380	BGN 1:192, 1:22, 10:127
seg5	se5	shrunk endosperm(genetic)	-	1	B381	BGN 1:192, 1:22, 10:128
Seg6	-	shrunk endosperm(genetic)	-	3	-	10:130, 6:141, 13:115, 14:

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
seg7	se7	shrunken endosperm(genetic)	-	-	B397	BGN 6:142, 10:131
seg8	-	shrunken endosperm(genetic)	-	1	B453	BGN 11:34, 11:103, 13:116, 13:117, 13:64
sep	-	reaction to Septoria avenae triticae (Septoria leaf blotch)	-	-		75; 79;
Sep2	-	reaction to Septoria avenae triticae (Septoria leaf blotch)	-	-		75; 79;
Sep3	-	reaction to Septoria avenae triticae (Septoria leaf blotch)	-	-		75; 79;
Sex1	Se6	shrunken endosperm Xenia	3	6	F	BGN 6:140, 10:129, 7:28, 12:90
Sex2	dex1	shrunken endosperm Xenia	-	7	B311	BGN 6:134, 11:30, 11:104
sex3	Risø 1508	shrunken endosperm Xenia	-	7		BGN 8:114, 7:66
sex4	Risø 13,lys 5	shrunken endosperm Xenia	-	-		BGN 7:66
sex5	Risø 8	shrunken endosperm Xenia	-	-		BGN 7:66
sf	-	female sterile - gigas plant	-	-		151, BGN 5:64
sfa	-	silver fall off awnes	-	-	O	165
Sg	-	grooves on palea	-	-		10; 75;
Sh	-	winter habit of growth	-	4	B310	BGN 2:200
sh	-	spring habit of growth	-	4	B163	75; 110; BGN 2:188
sh2	-	winter habit of growth	-	7	B310	BGN 2:200
Sh2	A	spring habit of growth	-	7	B309	75; 127; BGN 2:199
Sh3	C	spring habit of growth	-	5	B213	75; 127; BGN 2:197
sh3	-	winter habit of growth	-	5	B310	BGN 2:200
shs	ls	spring habit of growth	-	-		75; 123; 128;
sid	-	stem-internode shorten	-	4		168
sk	-	subadjacent hood	-	2	B62	75; 126; BGN 1:122
sld	-	dwarf	-	3		152, 153, 169, BGN 13:89
sld-2	-	culm short and slender	-	2		168
sln	-	slender	-	-		BGN 7:24
sm	-	reaction to stripe mosaic, California "E" isolate	-	-		75; 103
sm2	-	reaction to stripe mosaic, California "E" isolate	-	-		75; 103
smn	-	semi-naked caryopsis	-	-		75; 97;
smn2	-	semi-naked caryopsis	-	1		BGN 7:33
sp	-	necrotic mutant (spotted)	-	-		-
spm	cu4	spiral	-	-		BGN 14:97
st	-	striped	-	3		47; 75;
sts	-	breaking strength of straw	-	-		75; 93;
t	trd	third outer glume	-	-		-
T	-	reaction to Puccinia graminis tritici (stem rust)	-	1		2; 3; 75; 79; 80;
T2	-	reaction to Puccinia graminis tritici (stem rust)	-	-		75; 92;
tg	ti	third inner glume	-	7		75; 131;
tig-a	-	tigrina-seedling	8	-	C	76; BGN 3:113
tig-b	-	tigrina-seedling	4	-	C	76; BGN 3:113

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
tig-c	-	tigrina-seedling	2	-	C	76; BGN 3:113
tig-d	-	tigrina-seedling	-	7	C	76; BGN 3:113
tig-e	-	tigrina-seedling	-	-	C	76; BGN 3:113
tig-f	-	tigrina-seedling	-	-	C	76; BGN 3:113
tig-g	-	tigrina-seedling	-	-	C	76; BGN 3:113
tig-h	-	tigrina-seedling	-	-	C	76; BGN 3:113
tig-i	-	tigrina-seedling	-	-	C	76; BGN 3:113
tig-j	-	tigrina-seedling	-	-	C	76; BGN 3:113
tig-k	-	tigrina-seedling	-	-	C	76; BGN 3:113
tig-l	-	tigrina-seedling	-	-	C	76; BGN 3:113
tig-m	-	tigrina-seedling	-	-	C	76; BGN 3:113
tig-n	-	tigrina-seedling	-	-	C	76; BGN 3:113
tig-o	-	tigrina-seedling	-	7	C	76; BGN 3:113, 8:46
tl	-	tube-leaves	-	-	O	165
tr	lep-e	triple-awned lemma	-	2	S	2; 18; 40; 58; 75; 98; 138; BGN 1:12
Tr2	-	triple-awned lemma	-	-		75; 98;
tr3	tr2	triple-awned lemma	-	3		46; 47; 75;
trd	t, bra-c ¹	third outer glume	4	5L	F	1; 2; 37; 50; 75; 126; 131; BGN 1:147, 10:121, 14:9, 2:28
trd2	-	third outer glume (bracteatum)	-	-		75; 92;
tri	-	triploid inducer	-	-		BGN 7:4, 12:22
tric	-	tricomposite floret	-	-		-
ts	Un6	reaction to U.nuda	-	-		-
tw	-	tweaky spike	-	2, 5		22; 75; 93;
u	-	unbranched style	-	7		75; 93;
u	h	short culm	-	-		-
U	Uc, als	uniculm	-	-		-
U	H	tall culm (high)	-	-		-
u2	u 1	unbranched style	-	-		75; 107;
u3	u2	unbranched style	-	-		75; 107;
u4	-	unbranched style	-	1	B11	75; 125; BGN 2:17;
uc	u, als	uniculm	-	-		75; 138;
uc2	als	uniculm	-	6	B253	75; 92; BGN 1:156
Uh	-	reaction to Ustilago hordei (covered smut)	-	-		75; 100; 133;
Uh2	-	reaction to Ustilago hordei (covered smut)	-	-		75; 133;
uh3	-	reaction to Ustilago hordei (covered smut)	-	-		75; 133;
uh4	-	reaction to Ustilago hordei (covered smut)	-	-		75; 133;
Un	Run 1a	dei (covered smut)	-	-		BGN 6:118
Un2	-	reaction Ustilago nuda (loose smut)	-	-		75; 107;
Un3	-	reaction to Ustilago nuda (loose smut)	-	-		75; 107;
Un4	-	reaction to Ustilago nuda (loose smut)	-	-		75; 107;
Un5	-	reaction to Ustilago nuda (loose smut)	-	-		75; 107;
Un6	Ts	reaction to Ustilago nuda (loose smut)	-	-		75; 104;

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
un7	-	reaction to Ustilago nuda (loose smut)	-	1		2; 3; 4; 75;
uz	uz2, uz3	"uzu" (semi-brachytic)	-	3L	B102, F	59; 64; 75; 84; 92; 115; 118; 121; 124; BGN 1:124, 10:108, 12:42
uz2	uz	"uzu" (semi-brachytic)	-	-		
uz3	uz	"uzu" (semi-brachytic)	-	-		
v	kl	short awn	-	-		
v	hex-v, a ^s , a ^f a, z	six-row	-	2	C	34; 58; 60; 75; 78; 84; 133; BGN 5:105:12, 5:104, 5:108:46
V	v ^d , v ^t , v ^{M20} , V _{isa}	two-row	6	2	B66 B67	18; 40; 44; 58; 75; 107; BGN 5:105:105
v2	-	six-row (intermedium)	-	7	B314	BGN 10:140, 5:12, 13:112
v3	-	six-row (intermedium)	4	5	B315	170, BGN 10:140, 5:12, 13:113
v4	-	six-row (intermedium)	2	3		170, BGN 10:140, 5:12
v5	-	six-row (intermedium)	-	4L		170, BGN 10:140, 5:12, 14:61
v _f	-	four-rowed	-	-		BGN 5:40
va	var, wst	variegated	-	7	C	75; 131; BGN 1:165
var2	-	variegated 2	-	7		75; 131;
va3	-	variegated 3	-	7	C	BGN 1:162
vbn	-	low number of vascular bundles	-	1		55; 75; 94; 102;
vir-a	-	viridis-seedling	5	-	C	102;
vir-b	-	viridis-seedling	2	-	C	102;
vir-c	-	viridis-seedling	2	-	C	102;
vir-d	-	viridis-seedling	2	-	C	102;
vir-e	-	viridis-seedling	3	-	C	102;
vir-f	-	viridis-seedling	-	-	C	102;
vir-g	-	viridis-seedling	-	-	C	102;
vir-h	-	viridis-seedling	-	-	C	102;
vir-i	-	viridis-seedling	-	-	C	102;
vir-j	-	viridis-seedling	-	-	C	102;
vir-k	-	viridis-seedling	-	-	C	102;
vir-l	X _C	viridis-seedling	2	3	C	102; BGN 12:93
vir-m	-	viridis-seedling	-	-	C	102;
vir-n	-	viridis-seedling	-	-	C	102;
vir-o	-	viridis-seedling	-	-	C	102;
vir-p	-	viridis-seedling	-	-	C	102;
vir-q	-	viridis-seedling	2	-	C	102;
vir-r	-	viridis-seedling	-	-	C	102;
vir-s	-	viridis-seedling	-	-	C	102;
vir-t	-	viridis-seedling	-	-	C	102;
vir-u	-	viridis-seedling	-	-	C	102;
vir-v	-	viridis-seedling	-	-	C	102;
vir-w	-	viridis-seedling	-	-	C	102;
vir-x	-	viridis-seedling	-	-	C	102;
vir-y	-	viridis-seedling	2	-	C	102; 105;
vir-z	-	viridis-seedling	-	-	C	102;

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
vir-za	-	viridis-seedling	-	-	C	102;
vir-zb	-	viridis-seedling	-	-	C	102;
vir-zc	-	viridis-seedling	-	-	C	102;
vir-zd	-	viridis-seedling	-	-	C	102;
vir-ze	-	viridis-seedling	-	-	C	102;
vir-zf	-	viridis (temp. sensitive)	-	-	C	105;
vir-zg	-	viridis (temp. sensitive)	-	-	C	105;
vir-zh	-	viridis (temp. sensitive)	-	-	C	105;
vir-zi	-	viridis (temp. sensitive)	-	-	C	105;
vir-zj	-	viridis (temp. sensitive)	-	-	C	105;
vs3	gs3, cer-a	glossy sheath	-	-	C	105;
w	lep-e	elongated outer glume	-	-		
w	wlk	wide lateral kernels	-	-		
wh1	gs4	glossy sheath	-	-		-
wh2	gs4	glossy sheath	-	-		
wi	-	wide glume inhibitor	-	-		
wl	gl	glossy leaf	-	-		75; 107;
wlh	bb3	broad leaf	-	-		
wlk	w	wide lateral kernels	-	-		
W	I	infertile intermedium	-	-		11; 75;
Wr	-	weak rachis	-	-		
Ws	-	weakly attached spikelet	-	-		48; 75;
wst	wst3	white stripe	-	3S	C	75; 107;
wst2	-	white stripe	-	7	B304	BGN 1:125, 1:129, 10:109, 10:110
wst3	wst	white stripe	-	-	-	BGN 1:163
wst4	-	white stripe	-	2	B56	10:110
wst5	-	white stripe	-	5	B221	BGN 1:116
wx	-	high amylopectin endosperm (waxy endosperm)	2	1	F	BGN 3:19, 13:94, 11:100
X	Ea	early maturity	-	-		52; 75; 113; 114; BGN 5:97
x	d	xantha seedling	-	-		
x _a	-	xantha seedling	-	IL		75; 107;
x _c	vir-1	xantha seedling	2	3	C	BGN 10:140, 2:43
x _c ²	-	xantha seedling	-	-		53; 75; 83; 84;
x _n	-	xantha seedling	-	6	C	118; BGN 1:127, 12:93, 75; 107;
x _s	-	xantha seedling	-	3	C	52; 75; 112; BGN 1:158
x _g	-	xantha seedling	-	3	C	BGN 1:135, 10:112
xan-a	-	albo-xantha	15	-	C	75; 107;
xan-b	-	xantha seedling	6	-	C	BGN 3:113
xan-c	-	xantha seedling	2	-	C	BGN 3:113
xan-d	-	xantha seedling	2	-	C	BGN 3:113
xan-e	-	xantha seedling	2	-	C	BGN 3:113
xan-f	-	xantha seedling	8	-	C	BGN 3:113
xan-g	-	xantha seedling	5	-	C	BGN 3:113
xan-h	-	xantha seedling	4	-	C	BGN 3:113
xan-i	-	xantha seedling	2	-	C	BGN 3:113
xan-j	-	xantha seedling	3	-	C	BGN 3:113
xan-k	-	xantha seedling	-	-	C	BGN 3:113
xan-l	-	xantha seedling	-	-	C	BGN 3:113
xan-m	-	xantha seedling	5	-	C	BGN 3:113
xan-n	-	xantha seedling	3	-	C	BGN 3:113
xan-o	-	xantha seedling	2	-	C	BGN 3:113
xan-p	-	xantha seedling	-	-	C	BGN 3:113
xan-q	-	xantha seedling	7	-	C	BGN 3:113, 102

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
xan-s	-	xantha seedling	-	-	C	BGN 3:113
xan-t	-	xantha seedling	-	-	C	BGN 3:113
xan-u	-	xantha seedling	-	-	C	BGN 3:113
Y	Ea	early maturity	-	-		
y	yx	virescent seedling	2	2	B63	75; 107; BGN 2:18; 12:93
Y _C	-	virescent seedling	-	1	C	75; 84; BGN 1:106
Y _X	y	xantha seedling	2	2	B54	75; 107; BGN 1:11; 12:93
yd	yd 1	reaction to yellow dwarf	-	-		75; 111;
Yd2	-	reaction to yellow dwarf	-	3		75; 90; BGN 6:123
yh	-	yellow spike	-	4S	F	75; 116; 119; BGN 1:144, 14:61
Ym1	Rym1	resistance to barley yellow mosaic virus	-	4		BGN 6:125
Ym2	Rym2	resistance to barley yellow mosaic virus	-	1		BGN 6:117
Ym3	-	resistance to barley yellow mosaic virus	-	-		BGN 14:31
Yr4	Rps-4	reaction to P.striiformis	-	5		BGN 6:130, 13:95
yst	ys	yellow stripe	-	3	B104	75; 131; BGN 1:12
yst ₂	-	yellow stripe	-	3	B109	BGN 1:131
yst ₃	-	yellow stripe	-	2	B462	BGN 9:106
yv	f4,f6		-	-		156
yv2	f5,z		-	-		
yw	-	yellow wavy	-	-		19; 75;
z	Ea	early maturity	-	-		
z	zd,zb _C ,z _C ,zb2	zoned leaf	-	-		
z	f5,yv2	yellow viable	-	2		
z _C	z,zd,zb _C ,	zoned leaf	-	-		2; 37; 44; 75; 84
z _w	z,zd	zoned leaf	-	-		37; 75; 136; 138;
zb	-	zebra stripe (tigrina)	-	3	C	47; 75; BGN 5:64
zb2	z,z _C ,zb _C ,zd	zebra stripe	-	4	B461	5:110, 14:21; BGN 4:167; 5:64; 14:21; 14:98
zb3	zb _C ,zb _C ²	zebra striped leaf	-	5	B223,C	BGN 4:107; 5:64; 8:86; 12:78
zb _C	z _C ,zd,z,zb ₁ ³	zebra stripe (tigrina)	-	-	C	13:85; 14:10; 14:1
zb _C ²	zb3	zebra stripe	-	5		
zbw	z _v	zebra stripe (tigrina)	-	-		BGN 5:64

Genes on chloroplast DNA

Plasmid

atpA		α-subunit of ATP synthetase CF ₁	pHvC 21,180, 238	C	173
atpB	-	β-subunit of ATP-synthetase CF ₁	pHvC 209	C	148, 174
atpE	-	ε subunit of ATP-synthetase CF ₁	pHvC 209	C	148, 174
atpH		DCCD-binding proteolipid of ATP-synthetase CF ₀	pHvC 208,238 180,174	C	173
petA		thylakoid membrane protein cytochrome f	pHvC 186,46	C	173
petD		thylakoid membrane protein cytochrome f/b-6-subunit 4	pHvC 79	C	173

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
rbcl	-	large subunit of ribulose biphosphate carboxylase	pHvC 186		C	148, 149
rrf	-	5S ribosomal RNA	pHvC 203,192		C	148
rri	-	23S ribosomal RNA	pHvC 203,205, 192		C	148
rrs	-	16S ribosomal RNA	pHvC 205		C	148
trnG-GCC	-	transfer RNA-glycin anticodon GCC	pHvC 35,208			160
trnG-UCC	-	transfer RNA-glycin anticodon UCC	pHvC 35,208			160
trnM1-CAU	-	transfer RNA-formyl-methionine - anticodon CAU	pHvC 35,208			160
trnM2-CAU	-	transfer RNA methionine anticodon GCC	pHvC 209, pHvu SH13		C	173, 174
trnS-UGA	-	transfer RNA-serine anticodon UGA	pHvC 35,208		C	160
trnT-GGU	-	transfer RNA-threonine anticodon GGU	pHvC 35,208		C	160
trnV-UAC	-	transfer RNA valin anticodon UAC	pHvC 209, pHvu SH13		C	173, 174

Addresses from which seeds of the stocks containing the gene in question can be obtained:

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- C : B. Sjøgaard, Department of Physiology, Carlsberg Laboratory, Gamle Carlsberg Vej 10, DK-2500 Copenhagen Valby, Denmark. Telex 15434.
- F : R.I. Wolfe, Agriculture Canada, Beaverlodge, Alberta, Canada.
- G (number) = GBC (Guelph Barley Collection number), K. Kasha, Department of Crop Science, University of Guelph, Ontario N16 2W1, Canada.
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- O : G.G. Shvedov, All-Union Institute of Plant Breeding and Genetics, Ovidiopolskaya doroga 3, Odessa, 270036, USSR.

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Supplementary list No. 1 (to masterlist of barley genes):
Genes for reaction to *Erysiphe graminis hordei* (powdery mildew)

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The present list of gene symbols for genes for reaction to powdery mildew comprises about 150 symbols in the five systems proposed over time, *Reg* (Reaction *Erysiphe graminis*), *Ml* (mildew), *JMl* (Japanese mildew), *Pm* (Powdery mildew), and *Er* (*Erysiphe*). It is prepared from the symbols listed by Nilan (1964) to which we have added the symbols that we have found in the literature since about 1960.

The first section of the list comprises the *Reg* symbols, followed by sections comprising the *Ml*, the *JMl*, the *Pm*, and the *Er* symbols. Within each section the gene symbols are arranged according to locus designation and according to allele designation in either numerical or alphabetical order.

Following gene symbols are given the chromosome and -arm for the gene (S and L means short and long chromosome arm, respectively (cf. BGN 12:102), and - means unknown). Then are listed the synonyms that are known or that we consider likely. Then follows a column indicating the name or designation of the barley variety or line either a) in which the gene was identified, b) a derivative of that barley, or c) a barley known to possess the gene (- indicates that the name is unknown). The last column indicate the institution(s) from which seed samples may be obtained. The CI or HOR numbers when known are listed in this column.

Gene	Chromosome	Synonym	Authority	Barley variety-line	Stock source
<u>Reg-symbols</u>					
Reg1a1	5S	M1-a	BGN 5:87, BGN 6:127	Algerian	CI 1179
		M1-A ^O	Favret 1971		
		JM1 ^a _{sn}	Hiura 1960		
		Pm 1a	Moseman 1971		
		Er ^a ₁	Lau 1962		
Reg1b2	5S	M1-a2	BGN 5:87	Black Russian	CI 2202
		M1-A ²	Favret 1971		
		M1-b	Luig et al. 1958		
		JM1 ^{br} _{sn}	Hiura 1960		
		Pm 1b	Moseman 1971		
Reg1c3	5S	M1-a3	BGN 5:87	Ricardo	CI 6306
		Pm 1c	Moseman 1971		
Reg1d4	5S	M1-a4	BGN 5:87	No.22 (Weider)	HOR 1063
			(M1-a4) should be Reg 4ae (M1-k). Giese et al. 1981		
		Pm 1d	Moseman 1971		
Reg1e5	5S	M1-a5	BGN 5:87	Gopal	CI 1091
		M1-go	Favret 1971		
		Pm 1e	Moseman 1971		
Reg1f6	5S	M1-a6	BGN 5:87	Franger H. spont. nigr. H 204	CI 8811
		M1-A ⁶	Favret 1971		
		JM1 _{sn}	Hiura 1960		
		Pm 1f	Moseman 1971		
Reg1g7	5S	M1-a7	BGN 5:87	Line 4831, and Lyallpur 3645	R
		M1-A ¹⁰	Favret 1971		
		Pm 1g	Moseman 1971		
Reg1h8	5S	M1-a8	BGN 5:87	Heils Hanna	CI 682
		JM1 ^{h4} _{sn}	Hiura 1960		
Reg1i9	5S	M1-a9	BGN 5:87	Monte Cristo	CI 1017
		M1-M ¹	Favret 1971		
		JM1 ^{mc} _{sn}	Hiura 1960		
Reg1j10	5S	M1-a10	BGN 5:87	Iso 12 (Durani)	CI 16149
Reg1k11	5S	M1-a11	BGN 5:87	A222	CI 11555
		JM1 ^{al} _{sn}	Hiura 1960		
Reg1l	5S	M1-a?	BGN 5:87	Durani	CI 6316

Gene	Chromo- some	Synonym	Authority	Barley variety-line	Stock source
Reg1m	5S	M1-a?	BGN 5:87	Rupee	CI 4355
Reg1n	5S	M1-a?	BGN 5:87	Rupee	CI 4355
Reg1o	5S	M1-a?	BGN 5:87	Multan	CI 3401
		M1-a7	Torp et al. 1978		
		M1-A ¹	Favret 1971		
reg1p	5S	M1-a?	BGN 5:87	Multan	CI 3401
		M1-(Mu2)	Giese 1981		
Reg1q	5S	M1-a?	BGN 5:87	Long Glumes	CI 6168
		M1-a7	Torp et al. 1978		
Reg1r	5S	M1-a?	BGN 5:87	Long Glumes	CI 6168
		M1-(LG2)	Giese 1981		
Reg1t12	5S	M1-a12	Giese et al. 1981	Emir	R
		M1-as	Wolfe and Schwartzbach 1978		
		M1-a(Ar)	Torp et al. 1978		
Reg1u13	5S	M1-a13	Giese et al. 1981	Iso 42R (Rupee)	CI 16155
			Meyer & Lehmann 1979	J 25	Hor 805
		M1-a(Ru1)	Torp et al. 1978		
Reg1v14	5S	M1-a14	Giese et al. 1981	Iso 20R (Franger)	CI 16155
			Brückner 1982a	Koral ^{x)}	
		M1-a(Sp2)	Jensen & Jørgensen 1981		
Reg1aa	5S	M1-a?	BGN 5:87, BGN 6:127	Algerian	CI 1179
reg1ab	5S	M1-a?	BGN 5:87	Franger	CI 8811
Reg2ac	4S	M1-g	BGN 5:87, BGN 6:124	Goldfoil	CI 928
		JM1g	Hiura 1960		
		Pm 2	Moseman 1971		
		ER _{CP}	Moseman 1966		
Reg3ad	-	M1-h	BGN 6:143	Hanna	CI 906
		JM1 _h	Hiura 1960		
		Pm 3	Moseman 1971		
Reg4ae	5S	M1-k	BGN 6:12	Kwan	CI 1016
		M1-a4	Giese et al. 1981		
		M1-(1063)	Torp et al. 1978		
		JM1 _k	Hiura 1960		
		Pm 4	Moseman 1971		
Reg5af	5	M1-p	BGN 6:128	Psaknon	CI 6305
		JM1p	Hiura 1960		
		Pm 5	Moseman 1971		
reg6a	4S	ml-o1	BGN 8:168	M66	CI 15217, R
		er _m	Lau 1962		

x) Brückner 1982b: Koral has gene M1-a13

Gene	Chromo- some	Synonym	Authority	Barley variety-line	Stock source
reg6b	4S	ml-o2	BGN 8:168	H3502	CI 15223, R
reg6c	4S	ml-o3	BGN 8:168	M.C.20	CI 152225, R
reg6d	4S	ml-o4	BGN 8:168	SR1	R, S
reg6e	4S	ml-o5	BGN 8:168	Risø 5678	CI 15219, R
reg6f	4S	ml-o6	BGN 8:168	Risø 6018	CI 15220, R
reg6g	4S	ml-o7	BGN 8:168	Risø 7085	CI 15622, R
reg6h	4S	ml-o8	BGN 8:168	Risø 7372	CI 15221, R
reg6i	4S	ml-o9	BGN 8:168	SZ 5139b	CI 15227, R
reg6j	4S	ml-o10	BGN 8:168	SR7	R, S
reg6k	4S	ml-o11	BGN 8:168	Grannenlose Zweizeilige	HOR 2937
		er _n	Lau 1962		
reg6-	4S	ml o/1	Hentrich 1977	Mutant No. 4122	
reg6-	4S	ml o/2	Hentrich 1977	Mutant No. 2018	
reg6-	4S	ml o/3	Hentrich 1977	Mutant No. 2029	
reg6-	4S	ml o/4	Hentrich 1977	Mutant No. 4123	
reg6-	4S	ml o/5	Hentrich 1977	Mutant No. 2267	
reg6-	4S	ml o/6	Hentrich 1977	Mutant No. 2034	
reg6-	4S	ML-3A	Yamaguchi and Yamashita 1979	Mutant ML-3A	
reg6-	4S	ML-4F	Yamaguchi and Yamashita 1979	Mutant ML-4F	
reg6-	4S	ML-9F	Yamaguchi and and Yamashita 1979	Mutant ML-9F	
reg6-	4S	ML-13F	Yamaguchi and Yamashita 1979	Mutant ML-13F	
Reg,,s	-	ML-?	BGN 5:87	Long Glumes	CI 6168

Ml-symbols

Ml-a	Reg1a1
Ml-a2	Reg1b2
Ml-a3	Reg1c3
Ml-a4 ^{x)}	Reg4ae
Ml-a5	Reg1e5
Ml-a6	Reg1f6
Ml-a7	Reg1g7
Ml-a8	Reg1h8
Ml-a9	Reg1i9

x) Giese et al. 1981. Ml-a4 (Reg1d4) should be Ml-k (Reg4ae)

Gene	Chromosome	Synonym	Authority	Barley variety-line	Stock source
Ml-a10		Reg1j10			
Ml-a11		Reg1k11			
Ml-a12		Reg1t12			
Ml-a13		Reg1u13			HOR 805
Ml-a14		Reg1v14			
Ml-a15			Wise & Ellingboe 1983	Long Glumes	CI 16153
Ml-a?		Reg1l			
Ml-a?		Reg1m			
Ml-a?		Reg1n			
Ml-a?		Reg1o			
ml-a?		reg1p			
Ml-a?.		Reg1q			
Ml-a?		Reg1r			
Ml-a?		Reg1aa			
ml-a?		reg1ab			
Ml-a(Ar)		Reg1t12			
Ml-a(Ru1)		Reg1u13			
Ml-a(Sp2)		Reg1v14			
Ml-a ¹			Favret 1960	Multan	
Ml-ab			Brückner 1977	Ab. 1128	HOR 2932
Ml-as		Reg1t12			
Ml-A ⁰		Reg1a1			
Ml-A ¹		Reg1o			
Ml-A ²		Reg1b2			
Ml-A ⁶		Reg1f6			
Ml-A ¹⁰		Reg1g7			
Ml-at	5		Nilan 1964	Atlas	CI 4118
		JMl _r 12	Hiura 1960		
		Pm 7	Moseman 1971		
Ml-b		Reg1b2			
Ml-(BR2)	-		Giese 1981	Black Russian	CI 2202
Ml-c	5		Nilan 1964	Cebada Nigra	
		Ml-C ⁰	Favret 1971		
Ml-C ⁰	-	Ml-c			
Ml-ci	5		Favret 1965		CI 6576
Ml-(CP)	4		Wiberg 1974a	Weihenstephan	R
				CP 127422	
ml-d	5		Nilan 1964	Duplex	CI 2433
Ml-(Du2)	5		Giese 1981	Iso 12R (Durani)	CI 16149

Gene	Chromosome	Synonym	Authority	Barley variety line	Stock source
Ml-g		Reg2ac			
Ml-go		Reg1e5			
Ml-h		Reg3ad			
Ml-k		Reg4ae			
Ml-(La)	-		Torp et al. 1978	H.dist.laevigatum R	
		Mlv	Wolfe and Schwartzbach 1978		
Ml-(LG2)	5		Giese 1981	Iso 26R (Long Glumes)	CI 16153
Ml-m	5S		Nilan 1964	Monte Cristo	
		Ml-M ¹	Favret 1971		
Ml-m ¹	5S		Favret 1960	Engledow India	
		Ml-M ⁰	Favret 1971		
Ml-m ³	5S		Favret 1960	H.spontaneum	
		Ml-M ²	Favret 1971		
Ml-M ⁰		Ml-m ¹			
Ml-M ¹		Ml-m			
Ml-M ²		Ml-m ³			
Ml-m/a/c	5S		Favret 1971	-	
		Reg1a1			
		Ml-c			
		Ml-m			
Ml-mu	5		Favret 1965	Mulyan	
ml-mu	-		Favret 1971	-	
Ml-(Mu2)	5		Giese 1981	Iso 10R (Multan)	CI 16147
Ml-mw	5		Favret 1965	Mian Wali	
Ml-n	-	Pm 6	Moseman 1971	Nepal	CI 595
ml-n	-		Nilan 1964	Nigrate	CI 2444
Ml-ne	-		Favret 1971		
Ml-nn	5		Jensen & Jørgensen 1975	Nigrinudum	R
Ml-(NO3)	-		Giese 1981	Nordal	R
ml-o		Reg6			
Ml-p		Reg5af			
Ml-r	-		Nilan 1964	Rabat	CI 4979
Ml-a(Ru1)		Reg1u13			
Ml-(Ru2)	-		Giese et al. 1981	Ruppee gene 2	S, R
Ml-(Ru3)	5		Giese 1981	Iso 42 (Ruppee)	CI 16155
ml-s			Favret 1960	Spiti	
Mlv		Ml-(La)			
ml-w			Nilan 1964	West China	
Ml-(Wo)			Jensen & Jørgensen 1981	Wong	CI 6728

Gene	Chromo- some	Synonym	Authority	Barley variety-line	Stock source
M1-x	-		Nilan 1964	-	
M1-y	-		Nilan 1964	Arlington Awnless	CI 702
M1-z	-		Nilan 1964	-	
M1-(41/145)	-		Jensen and Jørgensen 1981	Weihestephane 41/145	R
M1-501	-		Favret 1971	Gatersleben Mutante 501	
M1-(1063)	5		Wiberg 1974a		HOR 1063
		Reg1d4	Torp et al. 1978		
M1-(1402)	5		Wieberg 1974a		HOR 1402
M1-3576			Favret 1971	-	
<u>JM1-symbols</u>					
JM1 _g		Reg2ac			
JM1 _h		Reg3ad			
JM1 _k		Reg4ae			
JM1 _{kb}	-		Hiura 1960	Kairyobozu-mugi	K
JM1 _{nn}	5		Hiura 1960	Nigrinudum	K
JM1 _{nz}	5		Hiura 1960	Nakaizumi-zaivai	K
JM1 _p		Reg5af			
JM1 _{r12}		M1-at			
JM1 _{r74}	-		Hiura 1960	Russian No. 74	R, K
JM1 _{r81}	-		Hiura 1960	Russian No. 81	R, K
JM1 _{sn}		Reg1f6			
JM1 ^a _{sn}		Reg1a1			
JM1 ^{al} _{sn}		Reg1k11			
JM1 ^{br} _{sn}		Reg1b2			
JM1 ^{h4} _{sn}		Reg1h8			
JM1 ^{mc} _{sn}		Reg1i9			
JM1 ⁿ _{sn}	5 S		Hiura 1960	Nigrate	CI 2444
JM1 ^t _{sn}	5 S		Hiura et al. 1969	Turkey 290	R, K
<u>Pm-symbols</u>					
Pm1a		Reg1a1			
Pm1b		Reg1b2			
Pm1c		Reg1c3			
Pm1d		Reg1d4			
Pm1e		Reg1e5			
Pm1f		Reg1f6			
Pm1g		Reg1g7			
Pm2		Reg2ac			

Gene	Chromo- some	Synonym	Authority	Barley variety-line	Stock source
Pm3		Reg3ad			
Pm4		Reg4ae			
Pm5		Reg5af			
Pm6		M1-n			
Pm7		M1-at			

Er-symbols

Er ^a ₁	Reg1a1
ER _{cp}	Reg2ac
er _m	Reg6a
er _n	Reg6k

Addresses from which seeds of the stocks containing the gene in question can be obtained:

- CI (number): Dr. D.H. Smith, Jr., USDA Small Grains Collection, Beltsville, Maryland 20705, USA.
- HOR (number): Dr. Chr. Lehmann, Gene Bank at Zentralinstitut für Genetik und Kulturpflanzenforschung, DDR-4325 Gatersleben, Germany (DDR). Telex kupfga 48558
- K: Professor T. Konishi, Barley Germ Plasm Center, Institute for Agriculture and Biological Sciences, Okayama University, 2-20-1 Kurashiki, 710, Japan.
- R: J. Helms Jørgensen, Agricultural Research Department, Risø National Laboratory, DK-4000 Roskilde, Denmark. Telex 43116
- S: U. Lundqvist, Svalöf AB, S-26800 Svalöv, Sweden. Telex 72476

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