VII.2. Masterlist of barley genes.

Bodil Søgaard, R. A. Nilan[1] and D. von Wettstein, Department of Physiology, Carlsberg Laboratory, Gamle Carlsberg Vej 10, KD-2500 Copenhagen Valby, Denmark, Telex: 15434, Telephone (01) 22 10 22 ext. 5236 [1] Program in Genetics and Cell Biology, Washington State University, Pullman, Washington 99164, U. S. A.

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. This year we have extended the gene list with addresses of laboratories from which seeds can be obtained. 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of all barley geneticists, 3) develop a true and useful list of all previous symbols free from duplications and outdated synonyms, 4) determine availability of seed stocks and 5) make additions in an intelligent manner.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 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 Søgaard 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.

Ramage has suggested in BGN vol. 13 p. 115 seg 6 to be synonym with se 6. Gene seg 6 has been located on chromosome 3 BGN vol. 1 p. 193. Therefore we have retained seg 6 and se 6 as separate genes in the master list.

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	Alleles[a]	Chromosome	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	BGN 2:28, 3:67, 12:42
a1	-	albino lemna	-	3	B108	BGN 1:130
a1	li	liquless	-	-		-
a1	kl	short awn	-	-		-
a2	kl2	short awn	-	-		-
a2	al	albino seedling	-	2	B53	75; 107; BGN 1:11 BGN 10:105
a2	ebu	albino lemma	3	3		75; 118; BGN 10:111
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_c2	alb-m	albino seedling	2	1S	C	75; 84; BGN 1:107; 13:26; 5:90
a_c3	-	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_t2	-	albino seedling	-	-		75; 107
a_t3	alb^t	albino seedling	-	-		75; 107
abr	-	accordian basal rachis internodes	3	7s		BGN 11:25
Acol	Fpdl	aconitate hydratase	3	6	R	BGN 12:68, 13:59
acr	ril	accordian rachis (lax rachis internode)	-	-		22; 36; 75; 134; 135
act	-	cold-temperature albino	-	-		75; 138
adh 1	-	alcohol dehydrogenase	-	-		BGN 10:26
adh 2	-	alcohol dehydrogenase	-	-		BGN 10:26
adn	-	awned palea	-	-		BGN 7:8
aec 1	-	root basic amino acid uptake decreased	2	-		BGN 13:37
ag	-	agropyroides(calcaroides)	-	6		75; 92
alb	as	albostrians(white stripe)	-	-		33; 75
alb^t	a_t3	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

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-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
Amp-1	-	aminopeptidase	-	6		146
Amy 1	-	alpha amylase	-	6L	R	BGN 6:133
Ang	-	angustifolia	-	5?		BGN 6:95
ant 1	rub-a	anthocyanin less	4	1	C	BGN 8:57, 14:
ant 2	rub, pr	anthocyanin less	30	2	C	155, BGN 8:57, 14:
ant 3	rub	decreased in anthocyanin	3	-	C	BGN 8:57
ant 4	rub	decreased in anthocyanin	10	-	C	BGN 8:57, 14:
ant 5	rub, rs_2	anthocyanin less	4	-	C	BGN 8:57
ant 6	rub	decreased in anthocyanin	2	-	C	BGN 8:57
ant 7	rub	decreased in anthocyanin	-	-	C	BGN 8:57
ant 8	rub	decreased in anthocyanin	-	-	C	BGN 8:57
ant 9	rub	decreased in anthocyanin	-	-	C	BGN 8:57
ant 10	rub	decreased in anthocyanin	-	-	C	BGN 8:57
ant 11	rub	decreased in anthocyanin	-	-	C	BGN 8:57
ant 12	rub	decreased in anthocyanin	-	-	C	BGN 8:57
ant 13	rub	anthocyanin,catechin and proanthocyanidin less	40	-	C	BGN 8:5, 14:
ant 14	rub	decreased in anthocyanin	-	-	C	BGN 8:57
ant 15	rub	decreased in anthocyanin	-	-	C	BGN 8:57
ant 16	rub	decreased in anthocyanin	-	-	C	BGN 8:57
ant 17	-	anthocyanin,catechin and proanthocyanidin less	79	-	C	43; BGN 8:57, 14:
ant 18	-	anthocyanin,catechin and proanthocyanidin less	63	-	C	43; BGN 8:57, 14:
ant 19	-	catechin and proanthocyanidin less	-	-	C	43; BGN 8:57
ant 20	rub	anthocyanin rich	2	-	C	43; BGN 8:57
ant 21	-	proanthocyanidin-catechin and anthocyanin less	4	-	C	BGN 14:
ant 22	-	proanthocyanidin-catechin and anthocyanin less	5	-	C	BGN 14:
ant 23	-	decreased in antocyanin	-	-	C	BGN 14:
ant 24	-	decreased in antocyanin	-	-	C	BGN 14:

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
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	4L	S	30; BGN 4:80, 8:156, 10:119
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	I^h	fertile intermedium	-	-		-
B	B^g,Bk,b,B^{mb}	black lemma and pericarp	5	5	B203 B204 B205	13; 18; 37; 72; 75; BGN 1:148, 10:133
b	B^g,BK,B, B^{mb}	white lemma and pericarp	5	5	B206	133; BGN 1:151
b	bt	non brittle rachis	-	-		-
Bg	B,BK,b,B^{mb}	gray lemma and pericarp	5	5		75; 107; BGN 1:150
B^{mb}	B,BK,b,B^g	medium-black lemma and pericarp	5	5		75; 107; BGN 1:149
Bam 1	Bmy1	beta amylase				
bb	-	broad leaf	-	7		75; 131
Bb 2	Brl,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		35; 37; 40; 60; 75; 84; 136; BGN 2:109
bl	bl_1	white aleurone	-	4	B15	BGN 5:111, 8:163, 2:109
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
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
Bmy1	Bam1	beta amylase	2	4	R	142, BGN 12:68, 13:55
Brl	Bb2	broad leaf	-	7	S	-
br1	br, ari-i	brachytic (dwarf)	3	1S	S	18; 37; 75; 84; BGN 13:27, 88; 118; BGN 1:104, 10:100, 4:80

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
br2	-	brachytic (dwarf)	2	4	S	BGN 1:143, 10:115
bra-a	trd	third outer glume (bracteatum)	-	-		30
bra-b	trd	third outer glume (bracteatum)	-	-		30
bra-c	trd	third outer glume (bracteatum)	-	-		30
Bt	-	brittle rachis from Mars	-	5		61; 75; 130; BGN 2:181
bt	r,b,bt2	non-brittle rachis	-	3	F	BGN 2:181
Bt2	Bt,Bt1	brittle rachis	-	3	B115	61; 75; 117; 130; BGN 2:182
Bt3	Bt2	brittle rachis	-	3		75; 117
C	sh3	spring habit of growth	-	-		-
C	Pc	purple veined lemma	-	-		140; BGN 5:108
cal-a	-	hooded	-	-	D	30
cal-b	-	hooded	-	-	D	30
		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
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	4	S	63; BGN 5:143
cer-zh	-	++ ++ -	10	4	S	63; BGN 5:144
cer-zi	-	+ + ++	15	5	S	63; BGN 5:145
cer-zj	-	++ ++ -	51	7	S	63; BGN 5:146

Gene locus	Synonyms	Character			Alleles	Chromosome	Stock source	Authority(ies)
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
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	-	chloratic hybrids			-	-		BGN 6:71
Ch-e	-	chloratic 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	BGN 1:136
cu3	-	curly			-	6		BGN 8:50
cud	-	curly dwarf			-	7		BGN 10:49
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

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
da2	-	dehiscent awn	-	-		75; 107
ddt	-	resistance to DDT	-	7		75; 137
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
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	-	-		-
dwf	-	vegetative dwarf	-	-	B459	BGN 12:106,13:121
E	Ea	early maturity	-	-		-
e	l	lax spike	-	-		-
e	lep-e	wide outer glume	-	2	S	BGN 5:101, 2:28
e 2	gh	fine-awned glume	-	1		18; 75
Ea	E,X,Y,z	early maturity	-	1, 2	S	18; 27; 75; 138; BGN 2:148
Ea 2	-	early maturity	-	4	S	75; 107
ea 4	-	early maturity	-	1(?)	S	57; 75; 93
Ea 5	Ea 3	early maturity	-	7	S	42; 75
ea 7	Ea 5,ec	early heading	-	6	S	8; 75; BGN 1:155
ea_K	mat-a	early heading (light insensitive)	-	5	S	BGN 2:198, 8:125, 13:94
ebu^{-2}	ebu^{-3},al	albino lemma	-	-	S	30; BGN 3:67
ebu^{-3}	ebu^{-2},al	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-Bl,b	en-Bl?	enhancer of aleurone color	-	-		26
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	gs_2	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

Gene locus	Synonyms	Character	Alle-les	Chromo-some	Stock source	Authority(ies)
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
Est 1	-	esterase	-	3L	R	39; 45
Est 2	-	esterase	-	3L	R	39; 45
Est 3	-	esterase	3	1	R	39; BGN 12:68
Est 4	Est 3	esterase	-	3L	R	39; 45
Est 5	Est 4	esterase	5	1	R	39; 45; BGN 12:68
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	-	5	C	107; BGN 9:132, 8:89, 3:71
f4	yv	chlorina	-	1L	C	131; BGN 5:98, 156, 10:103, 3:71
f5	z,yv2	chlorina	-	1s	C	131; BGN 5:99, 3:71
f6	yv	chlorina	-	7	C	BGN 3:71, 3:99, 7:89, 13:50, 13:111
f7	-	chlorina	2	5L	C	BGN 1:146, 10:120 3:71
f8	-	chlorina	-	1L	C	BGN 1:108, 10:102, 13:28, 3:71
f9	F_K	chlorina	-	4s	C	BGN 1:137, 3:71
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	-	-		30; BGN 5:64
flo-a	-	extra floret	-	2	S	30; BGN 6:28
flo-b	-	extra floret	-	-	S	30; BGN 6:28

Gene locus	Synonyms	Character	Alle-les	Chromo-some	Stock source	Authority(ies)
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
fs2	-	fragile stem	-	5L	B208	47; 75; 131; BGN 1:153, 2:192, 10:122
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
Ge	wh	glaucous ear (cer)	-	-		40; 75
Gh	-	long glume hairs	-	4(?)		49; 75
gh	e2	-	-	-		-
gl	wl,gl2	glossy leaf (cer)	4	4	F	18; 40; 75; 106; 136; 138; BGN 1:141, 2:79, 2:80, 10:114, 10:116
gl2	gl	glossy seedling	-	-		
gl3	gl4	glossy seedling	2	4	C	BGN 1:159, 2:190, 10:117, 10:123
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
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	-	glutamate oxaloacetate transaminase	-	6		146
gp	gp2	grandpa	3	2L	C	18; 40; 75; 163, 164, BGN 1:119, 10:107
gp2	gp	grandpa	-	-		-
Gr	-	growth factors	-	3		75; 107
Gr2	-	high yield (growth factor)	-	7		25; 75; 91
Grb	Rsg	reaction to Schizaphis graminum Rondari (greenbug)	-	-		12; 28; 75; BGN 6:119
Grb2	-	reaction to Schizaphis graminum Rondari (greenbug)	-	-		12; 28; 75
Grb3	-	reaction to Schizaphis graminum Rondari (greenbug)	-	-		12; 75
gs1	gs,cer-q	glossy sheath (cer)	14	4	C	1; 2; 37; 75; 136; BGN 1:168
gs2	-	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, 1:169, 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

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
gs6	gs5	glossy sheath (cer)	10	2	C	BGN 1:172
gs7	gs5	glossy sheath (cer)	-	-		-
gs8	gs5	glossy sheath (cer)	-	-		-
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; 145 108; BGN 11:44
Hor2	Hrd B	hordein	17	5S		16; 17; 97; 145 108; BGN 11:44
Hor3	-	hordein	-	5		147
Hrd C	-	hordein	-	5		109
Hrd D	-	hordein	-	5		109
Hrd E	-	hordein	-	5		109
Hrd F	-	hordein	-	5		BGN 12:13
Hr	Pbr	hairy rachis	-	2		75; 133
Hr2	Pbr2	hairy rachis	-	7		75; 133
Hr3	Pbr3	hairy rachis	-	-		75; 107
Hs	-	hairy leaf sheath	-	4	F	10; 75; 80; BGN 2:184
Hyp1	-	possible decreased feedback regulation of proline synthesis	3	-		BGN 13:37
I	R2	rough awn	-	-		-
I	W	infertile intermedium	-	4s		75; 138; BGN 7:34
I^h	B	fertile intermedium	-	4s		47; 75; BGN 7:34

Gene locus	Synonyms	Character	Alle-les	Chromo-some	Stock source	Authority(ies)
I_I	D	intermedium	-	4s		1; 75; BGN 7:34
i	-	deficiens	-	4s		BGN 9:106
ibl	-	intense blue aleurone layer	-	-		BGN 6:26
Ica1	-	inhibitor of chymotrypsin and Aspergillus protease	-	-		167, BGN 13:53
Ica2	-	inhibitor of chymotrypsin and Aspergillus protease	-	-		167, BGN 13:53
Inc	-	partial incompability with H. bulbosum	-	7	B316	BGN 13:114
int-a	int-g	intermedium spike	20	5	S	30; 81; 82; 143
int-b	-	intermedium spike	2	-	S	30; 143
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 amylase	-	2	R	167, BGN 13:53
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-	Reg-	reaction to E.graminis hordei		-		BGN 13:152
K	A,C1,K^e	hooded lemma	2	4	B152 B153 B154	1; 60; 61;75; 84; 88; 126; 136; 138; 139; BGN 1:138,1:140
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
kl	a,v,al	short awned	-	1		75; 107
kl 2	Kl1, 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	S	7; 75; 93
L4	L3	lax spike	-	-	S	75; 107
L5	L4	lax spike	-	2	S	75; 107
L6	L5	lax spike	-	-	S	75; 107
L7	De	lax spike	-	1	S	75; 131
L_a	-	lax spike	-	1	S	75; 107
L_c	-	lax spike	-	3	S	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

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
l	e	dense spike	-	1	B9	BGN 2:174
l9	la	dense spike	-	6	F	BGN 6:132
lb	-	long basal rachis internode	3	7		BGN 1:167, 5:64 46; 47; 75;
lb2	-	long weak basal rachis internode 2	-	4	B156	BGN 1:142
lb3	-	long weak basal rachis internode 3	-	1		47; 75
lb3m	-	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
Lfl	-	leafless	-	1L or 4		BGN 5:67
lg 1	f,lg4,lg9	light-green seedling	-	2	B171	47; 75; 84, BGN 3:17, 8:155, 13:93
lg2	lg3	light-green	-	4	B169 B170	51; 75; 107 BGN 8:153, 8:154, 13:93
lg3	lg2	light-green	-	-		
lg4	lg1	light-green	-	-		
lg5	-	light-green	2	4L		BGN 3:17, 8:156
lg6	-	light-green	-	-		BGN 3:17
lg7	-	light-green		-		BGN 3:17
lg8	lg10	light-green		-		BGN 3:17
lg9	lg1	light-green		-		BGN 3:17
lg10	lg8	light-green		-		BGN 3:17
lgr	-	long-shaped grain	-	-		BGN 12:4
li	a 1	liguleless	4	2	S	75; 84; 98; 126; 138; BGN 1:120, 10:39
lig-a	-	liguleless	4	-	S	30
lk	ari	short awn (awnless)	-	1,2	S	75; 84; 99; 126
LK2	A,LK	long awn	-	1L	B9	BGN 2:175, 13:28
lk2	a,lk4,lk	short awn (fine)	-	1	S	75; 107; BGN 3:119 2:175
lk3	lk2	short awn	-	-	S	75; 107
lk4	lk3	short awn	-	-	S	75; 107
lk5	ari-c	short awn	3	4L	S	60; 75; BGN 8:156, 10:119
lk6	lk5	short awn	-	4	S	60; 75
lka	da	dehiscent awn	-	-		-
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

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
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, 152
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, 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
Mdh-H1	-	malate dehydrogenase	-	5L		142
min-en-min	min	minute (dwarf)	-	4	B160	75; 120; BGN 2:185
min-En-min	-	semi minute	-	4	B161	2:186
Ml-	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	-	-		-
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 13:9, 4:16
msg6	-	male sterile	-	6	G370	75; 92; BGN 1:178 10:137
msg7	-	male sterile	2	-	F	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

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
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	4	F	BGN 2:191, 3:123, 13:9
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
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 1:161
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 2:154
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	-	-		
nec 1	-	necrotic leaf	-	5	R	BGN 11:101
nec 2	-	necrotic leaf	-	6	R	BGN 11:102
nld	-	narrow leafed dwarf	-	7		BGN 10:138
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, 13:110
P	-	purple lemma	-	2		75; 107
P2	P1	purple lemma	-	-		75; 107

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
P3	P2	purple lemma	-	-		75; 107
P_3	-	purple veined lemma	-	2		75; 107
P_e	-	purple veined lemma	-	-		75; 107
P_f	-	purple veined lemma	-	-		75; 107
Pa	Rph 1	reaction to P. hordei	-	-		
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
P_c	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	-	4		BGN 13:55
Pbg	-	pubescence on outer glume	-	1		75; 107
Pbr	Hr	hairy rachis	-	-		
Pbr2	Hr2	hairy rachis	-	-		
Pbr3	Hr3	hairy rachis	-	-		
pg	F 11	chlorina	-	-	G357	
Pgd 2	-	phospho-gluconate-dehydrogenase	2	5L	R	BGN 12:68
Pgi H1	-	phosphoglucose isomerase	-	5S		142
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	-	-		
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	-	7	F	BGN 8:158
r_2	r5	smooth awn	-	6		BGN 1:25, 6:131
R	A	rough awn	-	7	B6	BGN 8:157
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)	-	4		BGN 13:152; 6:124

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
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)	-	4	B175	BGN 13:152; 8:168
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	-	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
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 6:121
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 hordei Otth (leaf 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 1:111
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	1,s^i	short rachilla hairs	-	7L	F	18; 37; 61; 75; 84; 87; 133; BGN 11:25, 8:160
S^i	S,bir	short rachilla hairs				

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
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		BGN 10:47
se 1	seg1	shrunken endosperm	-	-		
se 2	seg2	shrunken endosperm	-	-		
se 3	seg3	shrunken endosperm	-	-		
se 4	seg4	shrunken endosperm	-	-		
se 5	seg5	shrunken endosperm	-	-		
se 6	sex1	shrunken endosperm(genetic)	-	6		BGN 1:22, 1:193, 5:114, 10:130, 13:115, 14:
se 7	seg7	shrunken endosperm	-	-		
seg1	se1	shrunken endosperm(genetic)	-	1	B377	BGN 1:190, 1:22, 10:124
seg2	se2	shrunken endosperm(genetic)	-	1	B378	BGN 1:190, 1:22, 10:125
seg3	se3	shrunken endosperm(genetic)	-	3	B379	BGN 1:191, 1:22, 10:126
seg4	se4	shrunken endosperm(genetic)	-	1	B380	BGN 1:192, 1:22, 10:127
seg5	se5	shrunken endosperm(genetic)	-	1	B381	BGN 1:192, 1:22, 10:128
Seg6		shrunken endosperm(genetic)	-	3		10:130, 6:141, 13:115, 14:
seg7	se7	shrunken endosperm(genetic)	-	-	B397	BGN 6:142, 10:131
seg8	-	shrunken endosperm(genetic)	-		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, 2:200
sh2	-	winter habit of growth	-	7	B310	BGN 2:200
Sh2	A	spring habit of growth	-	7	B309	75; 127; BGN 2:199, 2:200

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
Sh3	C	spring habit of growth	-	5	B213	75; 127; BGN 2:19 2:200
sh3	-	winter habot of growth	-	5	B310	BGN 2:200
shs	ls	spring habit of growth	-	-		75; 123; 128;
sk	-	subjacent hood	-	2	B62	75; 126; BGN 1:12
sld	-	dwarf	-	3		152, 153, BGN 13:89
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)	-	-		-
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
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	5	F	1; 2; 37; 50; 75; 126; 131; BGN 1:147, 10:121, 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	-	-		-

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
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 2:177
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;
un7	-	reaction to Ustilago nuda (loose smut)	-	1		2; 3; 4; 75;
uz	-	"uzu" (semi-brachytic)	-	3L	F	75; 84; 115; 118; 121; 124; BGN 1:124, 10:108, 12:42
uz2	-	"uzu" (semi-brachytic)	-	-	F	59; 64; 75;
uz3	-	"uzu" (semi-brachytic)	-	-		75; 92;
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 5:106 5:12, 5:104, 5:105 8:46
V	v^d,v^t	two-row	-	2	B66 B67	BGN 5:104, 5:105
v_{isa}	v^d,v^t,v^{M20},	six-row	6	2		18; 40; 44; 58; 75 107
v_2	-	six-row (intermedium)	-	7	B314	BGN 10:140,5:12, 13:112
v_3	-	six-row (intermedium)	4	7	B315	BGN 10:140,5:12, 13:113
v_4	-	six-row (intermedium)	2	3		BGN 10:140, 5:12
v_5	-	six-row (intermedium)	-	4		BGN 10:140, 5:12
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;

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
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;
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	-	-		
w	lep-e	elongated outer glume	-	-		
w	wlk	wide lateral kernels	-	-		-
wh1	gs4	glossy sheath	-	-		
wh2	gs4	glossy sheath	-	-		
wi	-	wide glume inhibitor	-	-		75; 107;
wl	gl	glossy leaf	-	-		
wlh	bb3	broad leaf	-	-		
wlk	w	wide lateral kernels	-	-		11; 75;
W	I	infertile intermedium	-	-		
Wr	-	weak rachis	-	-		48; 75;
Ws	-	weakly attached spikelet	-	-		75; 107;
wst	wst3	white stripe	-	3S	C	BGN 1:125, 1:129, 10:109, 10:110
wst2	-	white stripe	-	7	B304	BGN 1:163
wst3	wst	white stripe	-	-	-	10:110
wst4	-	white stripe	-	2	B56	BGN 1:116
wst5	-	white stripe	-	5	B221	BGN 3:19, 13:94, 11:100
wx	-	high amylopectin endosperm (waxy endosperm)	2	1	F	52; 75; 113; 114; BGN 5:97
X	Ea	early maturity	-	-		
x	d	xantha seedling	-	-		75; 107;

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
x_a	-	xantha seedling	-	IL		BGN 10:140, 2:43
x_c	vir-1	xantha seedling	2	3	C	53; 75; 83; 84; 118; BGN 1:127,
x_c^2	-	xantha seedling	-	-		12:93, 75; 107;
x_n	-	xantha seedling	-	6	C	52; 75; 112; BGN 1:158
x_s	-	xantha seedling	-	3	C	BGN 1:135, 10:112
x_8	-	xantha seedling	-	3		75; 107;
xan-a	-	albo-xantha	15	-	C	BGN 3:113
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
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 2:180 12:93
y_c	-	virescent seedling	-	1	C	75; 84; BGN 1:106
y_x	y	xantha seedling	2	2	B54	75; 107; BGN 1:114 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	-	4	F	75; 116; 119; BGN 1:144
Ym	Rym1	resistance to barley yellow mosaic virus	-	-		BGN 6:125
Ym1	Rym2	resistance to barley yellow mosaic virus	-	-		BGN 6:117
Yr4	Rps-4	reaction to P.striiformis	-	5		BGN 6:130, 13:95
yst	ys	yellow stripe	-	3	B104	75; 131; BGN 1:126
yst_2	-	yellow stripe	-	3	B109	BGN 1:131
yst_3	-	yellow stripe	-	2		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	zoned leaf	-	-		BGN 5:64, 4:167
z	f5,yv2	yellow viable	-	2		
z_c	z,zd	zoned leaf	-	4		2; 37; 44; 75; 84;
z_w	z,zd	zoned leaf	-	-		37; 75; 136; 138; BGN 5:64

Gene locus	Synonyms	Character	Alleles	Chromosome	Stock source	Authority(ies)
zb	-	zebra stripe (tigrina)	-	3	C	47; 75; BGN 5:110, 5:64
zb_c	z_c, zd	zebra stripe (tigrina)	-	-	C	BGN 8:86, 5:64, 4:107
zb_c2	-	zebra stripe	-	-		BGN 13:84, 12:78
zbw	z_w	zebra stripe (tigrina)	-	-		BGN 5:64
						BGN 5:64
Genes on chloroplast DNA			Plasmid			
atpB	-	β subunit of ATP-synthetase CF1	pHvC 209		C	148
atpE	-	ε subunit of ATP-synthetase CF1	pHvC 209		C	148
rbcL	-	large subunit of ribulose bisphosphate carboxylase	pHvC 186		C	148, 149
rrs	-	16S ribosomal RNA	pHvC 205		C	148
rrl	-	23S ribosomal RNA	pHvC 203,205, 192 -		C	148
rrf	-	5S ribosomal RNA	pHvC 203,192		C	148
trnS-UGA	-	transfer RNA-serine anticodon UGA	pHvC 35,208		C	160
trnT-GGU	-	transfer RNA-threonine anticodon GGU	pHvC 35,208		C	160
atpA		α-subunit of ATP synthetase CF_1	pHvC 21,180, 238		C	160
atpH		DCCD-binding proteolipid of ATP-synthetase CF_o	pHvC 208,238 180,174		C	160
tmpD		thylakoid membrane protein cytochrome f/b-6-subunit 4	pHvC 79		C	160
tempF		thylakoid membrane protein cytochrome f	pHvC 186,46		C	160

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

B (number) = BGS. (Barley genetics stock number) T. Tsuchiya, Department of Agronomy. Colorado State University, Fort Collins, Colorado 80523, USA.

C : B. Søgaard, 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. Kaska, Department of Crop Science, University of Guelph, Ontario N16 2W1, Canada.

R : V. Hdahr, Agricultural Research Department, Risø, National Laboratory, DK-4000 Roskilde, Denmark. Telex 43116.

S : U. Lundqvist, Svalöf AB, S-26800 Svalöv, Sweden. Telex 72476.

O : G.G. Shvedov, All-Union Institute of Plant Breeding and Genetics, Ovidiopolskaya doroga 3, Odessa, 270036, USSR.

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VII.3. Supplementary list No. 1 (to masterlist of barley genes): Genes for reaction to *Erysiphe graminis hordei* (powdery mildew).

Bodil Søgaard, Department of Physiology, Carlsberg Laboratory, Gamle Carlsberg Vej 10, DK-2500 Copenhagen Valby, and J. Helms Jørgensen, Agricultural Research Department, Risø National Laboratory, DK-4000 Roskilde, Denmark.

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, and an appropriate recent reference. Then follows a column indicating one or more recent references/authorities, and 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	Chromo-some	Synonym	Authority	Barley variety-line	Stock source
Reg-symbols					
Reg1a1	5S	Ml-a	BGN 5:87, BGN 6:127	Algerian	CI 1179
		Ml-A^{o}	Favret 1971		
		$JM1^{a}_{sn}$	Hiura 1960		
		Pm 1a	Moseman 1971		
		Er^{a}_{1}	Lau 1962		
Reg1b2	5S	Ml-a2	BGN 5:87	Black Russian	CI 2202
		Ml-A^{2}	Favret 1971		
		Ml-b	Luig et al. 1958		
		$JM1^{br}_{sn}$	Hiura 1960		
		Pm 1b	Moseman 1971		
Reg1c3	5S	Ml-a3	BGN 5:87	Ricardo	CI 6306
		Pm 1c	Moseman 1971		
Reg1d4	5S	Ml-a4	BGN 5:87 (Ml-a4) should be Reg 4ae (Ml-k)	No.22 (Weider)	HOR 1063
		Pm 1d	Moseman 1971		
Reg1e5	5S	Ml-a5	BGN 5:87	Gopal	CI 1091
		Ml-go	Favret 1971		
		Pm 1e	Moseman 1971		
Reg1f6	5S	Ml-a6	BGN 5:87	Franger H. spont. nigr. H 204	CI 8811
		Ml-A^{6}	Favret 1971		
		$JM1_{sn}$	Hiura 1960		
		Pm 1f	Moseman 1971		
Reg1g7	5S	Ml-a7	BGN 5:87	Line 4831, and Lyallpur 3645	R
		Ml-A^{10}	Favret 1971		
		Pm 1g	Moseman 1971		
Reg1h8	5S	Ml-a8	BGN 5:87	Heils Hanna	CI 682
		$JM1^{h4}_{sn}$	Hiura 1960		
Reg1i9	5S	Ml-a9	BGN 5:87	Monte Cristo	CI 1017
		Ml-M^{1}	Favret 1971		
		$JM1^{mc}_{sn}$	Hiura 1960		
Reg1j10	5S	Ml-a10	BGN 5:87	Iso 12 (Durani)	CI 16149
Reg1k11	5S	Ml-a11	BGN 5:87	A222	CI 11555
		$JM1^{al}_{sn}$	Hiura 1960		
Reg1l	5S	Ml-a?	BGN 5:87	Durani	CI 6316

Giese et al. 1981: Reg1d4 (Ml-a^{4}) should be Reg4ae (Ml-k)

Gene	Chromo-some	Synonym	Authority	Barley variety-line	Stock source
Reg1m	5S	Ml-a?	BGN 5:87	Rupee	CI 4355
Reg1n	5S	Ml-a?	BGN 5:87	Rupee	CI 4355
Reg1o	5S	Ml-a?	BGN 5:87	Multan	CI 3401
		Ml-a7	Torp et al. 1978		
		$Ml\text{-}A^1$	Favret 1971		
reg1p	5S	Ml-a?	BGN 5:87	Multan	CI 3401
		Ml-(Mu2)	Giese 1981		
Reg1q	5S	Ml-a?	BGN 5:87	Long Glumes	CI 6168
		Ml-a7	Torp et al. 1978		
Reg1r	5S	Ml-a?	BGN 5:87	Long Glumes	CI 6168
		Ml-(LG2)	Giese 1981		
Reg1t12	5S	Ml-a12	Giese et al. 1981	Emir	R
		Ml-as	Wolfe and Schwartzbach 1978		
		Ml-a(Ar)	Torp et al. 1978		
Reg1u13	5S	Ml-a13	Giese et al. 1981	Iso 42R (Rupee)	CI 16155
			Meyer & Lehmann 1979	J 25	Hor 805
		Ml-a(Ru1)	Torp et al. 1978		
Reg1v14	5S	Ml-a14	Giese et al. 1981	Iso 20R (Franger)	CI 16155
			Brückner 1982a	Koral x)	
		Ml-a(Sp2)	Jensen & Jørgensen 1981		
Reg1aa	5S	Ml-a?	BGN 5:87, BGN 6:127	Algerian	CI 1179
reg1ab	5S	Ml-a?	BGN 5:87	Franger	CI 8811
Reg2ac	4S	Ml-g	BGN 5:87, BGN 6:124	Goldfoil	CI 928
		JMlg	Hiura 1960		
		Pm 2	Moseman 1971		
		ER_{CP}	Moseman 1966		
Reg3ad	-	Ml-h	BGN 6:143	Hanna	CI 906
		JMl_h	Hiura 1960		
		Pm 3	Moseman 1971		
Reg4ae	5S	Ml-k	BGN 6:12	Kwan	CI 1016
		Ml-a4	Giese et al. 1981		
		Ml-(1063)	Torp et al. 1978		
		JMl_k	Hiura 1960		
		Pm 4	Moseman 1971		
Reg5af	5	Ml-p	BGN 6:128	Psaknon	CI 6305
		JMlp	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 Ml-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	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	Reg4ae
Ml-a5	Reg1e5
Ml-a6	Reg1f6
Ml-a7	Reg1g7
Ml-a8	Reg1h8
Ml-a9	Reg1i9

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			Wiese & 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			
$Ml\text{-}a^1$			Favret 1960	Multan	
Ml-ab			Brückner 1977	Ab. 1128	HOR 2932
Ml-as		Reg1t12			
$Ml\text{-}A^o$		Reg1a1			
$Ml\text{-}A^1$		Reg1o			
$Ml\text{-}A^2$		Reg1b2			
$Ml\text{-}A^6$		Reg1f6			
$Ml\text{-}A^{1o}$		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	
		$Ml\text{-}C^o$	Favret 1971		
$Ml\text{-}C^o$	-	Ml-c			
Ml-ci	5		Favret 1965		CI 6576
Ml-(CP)	4		Wiberg 1974a	Weihenstephan CP 127422	R
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^o	Favret 1971		
Ml-m^3	5S		Favret 1960	H.spontaneum	
		Ml-M^2	Favret 1971		
Ml-M^o		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	Rupee gene 2	S
Ml-(Ru3)	5		Giese 1981	Iso 42 (Rupee)	CI 16155
ml-s			Favret 1960	Spiti	
Mlv		Ml-(La)			
ml-w			Nilan 1964	West China	
Ml-Wo			Jensen & Jørgensen	Wong	CI 6728

Gene	Chromosome	Synonym	Authority	Barley variety-line	Stock source
Ml-x	-		Nilan 1964	-	
Ml-y	-		Nilan 1964	Arlington Awnless	CI 702
Ml-z	-		Nilan 1964	-	
Ml-(41/145)	-		Jensen and Jørgensen 1981	Weihenstephan 41/145	R
Ml-501	-		Favret 1971	Gatersleben Mutante 501	
Ml-(1063)	5		Wiberg 1974a		HOR 1063
		Reg1d4	Torp et al. 1978		
Ml-(1402)	5		Wieberg 1974a		HOR 1402
Ml-3576			Favret 1971	-	
JMl-symbols					
JMl_g		Reg2ac			
JMl_h		Reg3ad			
JMl_k		Reg4ae			
JMl_{kb}	-		Hiura 1960	Kairyobozu-mugi	K
JMl_{nn}	5		Hiura 1960	Nigrinudum	K
JMl_{nz}	5		Hiura 1960	Nakaizumi-zaivai	K
JMl_p		Reg5af			
JMl_{r12}		Ml-at			
JMl_{r74}	-		Hiura 1960	Russian No. 74	R
JMl_{r81}	-		Hiura 1960	Russian No. 81	R
JMl_{sn}		Reg1f6			
JMl^{a}_{sn}		Reg1a1			
JMl^{al}_{sn}		Reg1k11			
JMl^{br}_{sn}		Reg1b2			
JMl^{h4}_{sn}		Reg1h8			
JMl^{mc}_{sn}		Reg1i9			
JMl^{n}_{sn}	5 S		Hiura 1960	Nigrate	CI 2444
JMl^{t}_{sn}	5 S		Hiura et al. 1969	Turkey 290	R
Pm-symbols					
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		Ml-n			
Pm7		Ml-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): **USDA Small Grains Collection, Beltsville, Maryland, USA.**

HOR (number): **Gene Bank at Zentralinstitut für Genetik und Kulturpflanzenforschung, Gatersleben, Germany (GDR).**

K: **Konishi, Institute for Agricultural and Biological Sciences, Okayama University, Kurashiki, 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**