

Winter barley 2022/23

Market options, yield and grain quality



	Electrum	Craft	KWS Tardis	Bolton	Lightning	Bordeaux	LG Dazzle	LG Mountain	KWS Gmlet	Jordan	KWS Hawking	Surge	LG Flynn	KWS Orwell	KWS Creswell	Valerie	California	KWS Cassia	SY Thunderbolt #	SY Kingsbarn #	SY Canyon #	SY Kingston #	Beimont #	Balfry #	Bazooka #	KWS Feeris	Funky	Average LSD (5%)	
End-use group	Two-row malting		Two-row feed														Six-row feed												
Scope of recommendation	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	N	UK	W	UK	UK	UK	UK	UK	UK	UK	UK	Sp	UK		
Variety status	C	C			NEW		NEW	C	*	*			*		*				UK	UK	UK	UK	UK	UK	C	NEW	C		
Fungicide-treated grain yield (% treated control)																													
United Kingdom (9.8 t/ha)	96	95	105	104	104	103	103	102	102	101	101	101	101	100	100	99	98	97	107	106	106	106	106	104	104	103	103	2.7	
East region (9.6 t/ha)	96	95	106	105	104	105	104	103	104	103	102	102	101	100	100	100	100	97	106	106	105	105	106	104	104	103	102	3.2	
West region (10.0t/ha)	95	94	104	102	[103]	101	[101]	102	100	101	101	100	100	101	99	99	98	98	108	107	[108]	108	106	106	104	[105]	104	3.9	
North region (10.0 t/ha)	95	96	104	103	103	103	102	102	99	98	99	98	100	99	100	99	[96]	96	106	106	105	106	105	104	104	101	103	3.6	
Untreated grain yield (% treated control)																													
United Kingdom (9.8 t/ha)	78	78	85	84	88	81	87	82	82	86	81	87	81	80	75	82	79	81	87	84	89	88	76	87	84	84	88	5.0	
Main market options																													
MBC malting approval for brewing use	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Grain quality																													
Specific weight (kg/hl)	70.0	70.1	70.2	69.5	68.6	70.7	68.9	70.5	69.5	69.8	69.4	70.1	70.9	68.8	69.4	70.9	68.8	72.1	70.5	70.4	71.2	70.4	69.3	69.1	70.0	69.5	69.8	0.8	
Screenings (% through 2.25 mm)	2.0	2.0	1.4	1.3	1.9	0.9	1.8	1.9	2.0	1.3	1.8	1.5	1.3	1.6	1.8	0.4	1.8	1.2	1.8	1.4	1.8	2.5	2.4	2.4	2.2	0.7	3.4	0.7	
Screenings (% through 2.5 mm)	5.9	6.2	4.3	4.2	5.6	2.7	5.4	6.0	5.9	3.7	5.6	4.7	3.7	4.9	5.8	1.0	5.9	3.5	7.2	5.7	6.4	8.6	8.8	9.1	7.7	3.7	13.2	1.8	
Nitrogen content (%)	1.73	1.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.75	-	0.20	
Status in RL system																													
Year first listed	18	16	21	21	22	21	22	19	19	20	20	16	19	16	17	19	13	10	21	19	22	21	18	16	16	22	17		

Varieties no longer listed: KWS Tower, Libra and SY Baracooda.

Comparisons of variety performance across regions are not valid.

UK = Recommended for the UK

N = Recommended for the North region

W = Recommended for the West region

Sp = Specific recommendation. KWS Feeris has a specific recommendation for tolerance to *Barley yellow dwarf virus* (BYDV). Tolerance to BYDV has not been verified in Recommended List tests

C = Yield control (for current table)

* = Variety no longer under test in RL trials

= Hybrid variety

[] = Limited data

F = Full MBC approval

LSD = Least significant difference

Average LSD (5%): Varieties that are more than one LSD apart are significantly different at the 95% confidence level

Winter barley 2022/23

Yield, agronomy and disease resistance



	Electrum	Craft	KWS Tardis	Bolton	Lightning	Bordeaux	LG Dazzle	LG Mountain	KWS Gimlet	Jordan	KWS Hawking	Surge	LG Flynn	KWS Orwell	KWS Creswell	Valerie	California	KWS Cassia	SY Thunderbolt #	SY Kingsbarn #	SY Canyon #	SY Kingston #	Belmont #	Belfry #	Barzooka #	KWS Feeris	Funky	Average LSD (5%)
End-use group	Two-row malting		Two-row feed														Six-row feed											
Scope of recommendation	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	N	UK	W	UK	UK	UK	UK	UK	UK	UK	Sp	UK		
Variety status	C	C			NEW		NEW	C	*	*			*		*						NEW			C	NEW	C		
United Kingdom (9.8 t/ha)	96	95	105	104	104	103	103	102	102	101	101	101	101	100	100	99	98	97	107	106	106	106	106	104	104	103	103	2.7
East region (9.6 t/ha)	96	95	106	105	104	105	104	103	104	103	102	102	101	100	100	100	100	97	106	106	105	105	106	104	104	103	102	3.2
West region (10.0 t/ha)	95	94	104	102	[103]	101	[101]	102	100	101	101	100	100	101	99	99	98	98	108	107	[108]	108	106	106	104	[105]	104	3.9
North region (10.0 t/ha)	95	96	104	103	103	103	102	102	99	98	99	98	100	99	100	99	[96]	96	106	106	105	106	105	104	104	101	103	3.6
Untreated grain yield (% treated control)																												
United Kingdom (9.8 t/ha)	78	78	85	84	88	81	87	82	82	86	81	87	81	80	75	82	79	81	87	84	89	88	76	87	84	84	88	5.0
Agronomic features																												
Resistance to lodging without PGR (1-9) - see note below	7	7	8	7	[6]	7	[7]	6	6	6	7	7	7	7	7	7	7	7	5	6	[7]	6	6	7	6	[8]	8	1.4
Resistance to lodging with PGR(1-9) - see note below	7	8	8	8	6	8	7	6	6	6	8	7	7	8	7	8	7	7	5	7	5	5	6	7	6	7	7	1.0
Straw height without PGR (cm)	97	97	95	95	[92]	94	[92]	92	102	92	94	93	98	93	96	94	96	96	114	112	[118]	118	112	110	117	[102]	97	3.9
Straw height with PGR (cm)	90	88	86	83	88	85	85	83	95	84	85	85	91	85	88	86	90	89	104	103	106	107	105	101	107	95	91	2.7
Ripening (+/-KWS Orwell, -ve = earlier)	-1	0	0	0	0	0	0	-1	+1	+1	+1	0	+1	0	0	-1	0	+1	-1	0	-1	-1	0	0	0	0	-1	1.1
Disease resistance																												
Mildew (1-9)	6	6	5	6	7	6	6	5	7	6	5	6	5	3	4	6	6	5	8	7	8	7	5	6	5	4	5	1.2
Brown rust (1-9)	7	7	6	6	8	6	8	7	6	8	6	7	7	7	6	5	5	7	6	5	6	6	4	6	5	5	7	1.0
Rhynchosporium (1-9)	6	6	7	5	6	4	7	6	6	7	6	7	5	6	6	6	5	5	6	5	6	6	7	7	6	6	6	1.4
Net blotch (1-9)	5	6	[5]	[5]	[5]	[5]	[4]	5	5	5	6	5	5	5	5	[6]	6	5	[6]	5	[5]	6	5	5	5	[6]	5	1.2
BaYMV	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	-

On the 1-9 scales, high figures indicate that a variety shows the character to a high degree (e.g. high resistance). Comparisons of variety performance across regions are not valid.

UK = Recommended for the UK
 N = Recommended for the North region
 W = Recommended for the West region
 Sp = Specific recommendation, KWS Feeris has a specific recommendation for tolerance to *Barley yellow dwarf virus* (BYDV). Tolerance to BYDV has not been verified in Recommended List tests

C = Yield control (for current table)
 * = Variety no longer under test in RL trials
 # = Hybrid variety
 PGR = Plant growth regulator
 [] = Limited data

R = Believed to be resistant to *Barley mild mosaic virus* (BaMMV) and to *Barley yellow mosaic virus* (BaYMV) strain 1, but this has not been verified in Recommended List tests

LSD = Least significant difference
 Average LSD (5%): Varieties that are more than one LSD apart are significantly different at the 95% confidence level

Winter barley 2022/23

Supplementary data



	Electrum	Craft	KWS Tardis	Boton	Lightning	Bordeaux	LG Dazzle	LC Mountain	KWS Ginlet	Jordan	KWS Hawking	Surge	LG Flynn	KWS Onwell	KWS Creswell	Valerie	California	KWS Cassia	SY Thunderbolt #	SY Kingsbarn #	SY Canyon #	SY Kingston #	Belmont #	Belfry #	Bazooka #	KWS Feeris	Funky	Average LSD (5%)
End-use group	Two-row malting		Two-row feed															Six-row feed										
Scope of recommendation	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	N	UK	W	UK	UK	UK	UK	UK	UK	UK	UK	Sp	UK	
Variety status	C	C			NEW		NEW	C	*	*			*		*						NEW				C	NEW	C	
Breeder/UK contact	SyP	SyP	KWS	Ack	Ack	NS	Lim	LimEur	KWS	Ack	KWS	SyP	LimEur	KWS	KWS	Bre	Lim	KWS	SyP	SyP	SyP	SyP	SyP	SyP	SyP	SyP	KWS	KWSMR
UK contact	Syn	Syn	KWS	ElsAck	ElsAck	Sen	Lim	Lim	KWS	ElsAck	KWS	Syn	Lim	KWS	KWS	Sen	Lim	KWS	Syn	Syn	Syn	Syn	Syn	Syn	Syn	Syn	KWS	KWS
Annual treated yield (% control)																												
2017 (10.0 t/ha)	94	94	-	-	-	-	-	101	103	101	101	99	100	101	98	100	100	97	-	106	-	106	106	106	106	-	105	-
2018 (10.3 t/ha)	96	97	105	103	-	104	-	103	100	101	103	99	102	101	101	101	98	97	106	107	-	106	106	104	103	-	102	-
2019 (10.4 t/ha)	97	94	104	103	103	104	101	103	102	101	100	101	100	99	98	-	97	96	107	106	106	106	105	104	104	103	103	-
2020 (9.2 t/ha)	95	94	103	104	104	102	103	104	101	100	100	100	101	101	101	99	96	97	106	105	105	107	106	105	104	102	103	-
2021 (9.5 t/ha)	96	95	105	102	103	101	101	100	99	99	99	101	100	100	100	99	98	98	108	107	108	107	105	104	106	103	103	-
Soil type (about 50% of trials are medium soils)																												
Light soils (9.5 t/ha)	95	96	103	104	102	103	102	102	100	100	99	100	101	99	101	99	96	97	103	105	105	105	104	102	104	101	102	3.6
Heavy soils (9.5 t/ha)	97	93	109	105	102	104	105	103	102	102	104	103	101	100	[99]	[99]	[100]	98	107	104	105	103	103	106	104	104	103	5.9
Agronomic characteristics																												
Lodging without PGR (%)	6	3	2	4	[12]	3	[5]	8	16	13	3	3	6	3	7	3	3	5	20	12	[6]	13	12	6	8	[1]	1	-
Lodging with PGR (%)	5	2	1	1	10	1	5	6	9	7	1	3	3	2	4	2	3	4	16	5	15	14	13	3	6	4	2	-
Brackling (%)	12	11	7	10	11	10	8	27	9	9	6	8	6	9	13	6	8	10	17	15	11	15	18	9	12	9	12	-
Malting quality																												
Hot water extract (l deg/kg)	303.6	309.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	297.0	-	3.6
Status in RL system																												
Year first listed	18	16	21	21	22	21	22	19	19	20	20	16	19	16	17	19	13	10	21	19	22	21	18	16	16	22	17	
RL status	-	-	P2	P2	P1	P2	P1	-	*	*	-	-	*	-	*	-	-	-	P2	-	P1	P2	-	-	-	P1	-	

All yields on this table are taken from treated trials receiving a full fungicide and PGR programme.

UK = Recommended for the UK
 N = Recommended for the North region
 W = Recommended for the West region
 Sp = Specific recommendation. KWS Feeris has a specific recommendation for tolerance to *Barley yellow dwarf virus* (BYDV). Tolerance to BYDV has not been verified in Recommended List tests

C = Yield control (for current table)
 * = Variety no longer under test in RL trials
 # = Hybrid variety
 PGR = Plant growth regulator
 [] = Limited data
 P1 = First year of recommendation
 P2 = Second year of recommendation

Ack = Ackermann Saatzzucht GmbH (sz-ackermann.de)
 Bre = Saatzzucht Josef Braun, Germany (zucht@breun.de)
 ElsAck = Elsoms Ackermann Barley (elsoms.com)
 KWS = KWS UK (kws-uk.com)
 KWSMR = KWS Momont Recherche (kws-uk.com)
 Lim = Limagrain UK (lgseeds.co.uk)

LimEur = Limagrain Europe SA (lgseeds.co.uk)
 NS = Nordic Seed, Denmark
 Sen = Senova (senova.uk.com)
 Syn = Syngenta UK Ltd (syngenta.co.uk)
 SyP = Syngenta Participations AG (syngenta.co.uk)

LSD = Least significant difference
 Average LSD (5%): Varieties that are more than one LSD apart are significantly different at the 95% confidence level

Lodging ratings for RL 2022/23

The scales used to calculate the lodging ratings for the RL 2022/23 have been adjusted to include susceptible and resistant fixed points. The aim is to make the ratings more representative of what is seen in the field and improve consistency of the ratings over years. This has contributed to a drop in ratings for some varieties, compared to the 2021/22 RL. However, this does not mean that these varieties have become more susceptible since last year. As for all ratings, statistical significance (LSD) should be taken into account when deciding if varieties have a different susceptibility to the trait.