

Winter barley 2023/24

Market options, yield and grain quality



	Buccaneer	Electrum	Craft	LG Caravelle	Bolivia	KWS Tardis	Bolton	Lightning	Bordeaux	LG Mountain	LG Dazzle	Surge	KWS Hawking	KWS Orwell	Valerie	California	KWS Cassia	SY Thunderbolt #	SY Kingsbarn #	SY Kingston #	SY Canyon #	Belmont #	SY Nephin #	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	UK	W	UK	UK	UK	UK	UK	UK	UK	UK	UK	Sp	UK	
Variety status	NEW	C	C	NEW	NEW					C		*				*	*	UK	C	UK	UK	*	NEW	UK	UK		*C	
<b>Fungicide-treated grain yield (% treated control)</b>																												
United Kingdom (9.8 t/ha)	100	96	94	106	104	103	103	103	103	102	101	101	100	100	99	98	97	106	106	106	106	105	105	104	104	103	102	2.4
East region (9.5 t/ha)	101	96	94	109	105	105	105	104	105	102	104	102	102	100	100	100	97	106	106	105	106	106	106	104	104	103	101	2.9
West region (9.9 t/ha)	[97]	96	94	[105]	[104]	102	101	102	101	102	99	100	99	101	97	97	97	108	106	107	107	105	[103]	104	103	103	103	3.6
North region (10.4 t/ha)	[102]	96	94	[104]	[102]	102	102	103	102	101	101	99	98	98	100	94	95	105	107	106	105	105	[105]	104	104	100	103	3.3
<b>Untreated grain yield (% treated control)</b>																												
United Kingdom (9.8 t/ha)	87	79	79	89	89	85	86	90	83	83	88	88	83	82	78	80	82	89	85	88	91	78	90	88	84	85	88	4.7
<b>Main market options</b>																												
MBC malting approval for brewing use	P	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Grain quality</b>																												
Specific weight (kg/hl)	70.3	70.5	70.7	71.8	70.2	70.6	69.9	69.4	71.1	71.1	69.5	70.6	69.8	69.3	71.2	69.1	72.4	70.9	70.9	70.7	71.7	69.9	71.4	69.7	70.5	69.8	70.0	0.7
Screenings (% through 2.25 mm)	2.2	2.3	2.2	1.5	1.1	1.7	1.5	1.9	1.2	1.9	1.9	1.7	2.0	1.8	0.8	2.2	1.5	2.1	1.4	2.7	2.0	2.6	3.1	2.6	2.4	1.2	3.5	0.7
Screenings (% through 2.5 mm)	6.7	6.6	6.7	4.3	2.6	5.2	4.7	5.5	3.5	5.8	5.8	4.9	5.9	5.5	1.9	7.1	4.1	7.5	5.4	9.0	6.4	9.0	10.9	9.2	8.1	5.3	13.4	1.7
Nitrogen content (%)	1.73	1.76	1.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.76	-	0.14
<b>Status in RL system</b>																												
Year first listed	23	18	16	23	23	21	21	22	21	19	22	16	20	16	19	13	10	21	19	21	22	18	23	16	16	22	17	

Varieties no longer listed: Jordan, KWS Creswell, KWS Gimlet and LG Flynn. Comparisons of variety performance across regions are not valid.

UK = Recommended for the UK  
 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 RL tests

C = Yield control  
 \* = Variety no longer under test in RL trials  
 # = Hybrid variety

MBC = Malting Barley Committee  
 [ ] = Limited data  
 P = Provisional MBC approval  
 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 2023/24

Yield, agronomy and disease resistance



End-use group	Buccaneer	Electrum	Craft	LG Caravelle	Bolivia	KWS Tardis	Bolton	Lightning	Bordeaux	LG Mountain	LG Dazzle	Surge	KWS Hawking	KWS Orwell	Valerie	California	KWS Cassia	SY Thunderbolt #	SY Kingsbarn #	SY Kingston #	SY Canyon #	Belmont #	SY Nephin #	Belfry #	Bazooka #	KWS Feeris	Funky	Average LSD (5%)	
	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	UK	W	UK	UK	UK	UK	UK	UK	UK	UK	UK	Sp	UK		
Variety status	NEW	C	C	NEW	NEW					C		*				*	*	C				*	NEW				*C		
<b>Fungicide-treated grain yield (% treated control)</b>																													
United Kingdom (9.8 t/ha)	100	96	94	106	104	103	103	103	103	102	101	101	100	100	99	98	97	106	106	106	106	105	105	104	104	103	102	2.4	
East region (9.5 t/ha)	101	96	94	109	105	105	105	104	105	102	104	102	102	100	100	100	97	106	106	105	106	106	106	104	104	103	101	2.9	
West region (9.9 t/ha)	[97]	96	94	[105]	[104]	102	101	102	101	102	99	100	99	101	97	97	97	108	106	107	107	105	[103]	104	103	103	103	3.6	
North region (10.4 t/ha)	[102]	96	94	[104]	[102]	102	102	103	102	101	101	99	98	98	100	94	95	105	107	106	105	105	[105]	104	104	100	103	3.3	
<b>Untreated grain yield (% treated control)</b>																													
United Kingdom (9.8 t/ha)	87	79	79	89	89	85	86	90	83	83	88	88	83	82	78	80	82	89	85	88	91	78	90	88	84	85	88	4.7	
<b>Agonomic features</b>																													
Resistance to lodging without PGR (1-9)	-	7	7	-	-	8	7	[6]	7	6	[7]	7	7	7	7	7	7	5	6	6	[7]	6	-	7	6	[8]	8	1.7	
Resistance to lodging with PGR(1-9)	7	7	8	7	8	8	8	6	8	7	7	7	8	8	8	7	7	5	7	5	5	6	6	7	6	7	7	1.4	
Straw length without PGR (cm)	[99]	98	96	[93]	[91]	95	94	92	93	91	93	92	95	94	93	96	95	111	111	117	115	112	[110]	109	117	100	95	3.9	
Straw length with PGR (cm)	90	90	89	85	89	85	83	88	84	84	85	85	86	86	87	91	90	104	104	107	107	106	102	102	108	95	91	2.4	
Ripening (days +/- KWS Orwell)	+1	-1	0	0	0	0	0	0	0	-1	+1	0	+1	0	-1	0	0	-1	0	-1	0	0	0	0	0	0	-1	1.0	
<b>Disease resistance</b>																													
Mildew (1-9)	6	6	6	7	7	5	6	7	6	5	6	5	6	3	7	6	5	7	7	8	7	6	6	6	5	4	5	1.2	
Brown rust (1-9)	-	7	7	-	-	6	6	8	6	7	8	8	7	7	4	6	7	6	5	6	7	5	-	6	5	6	7	1.0	
Rhynchosporium (1-9)	7	5	6	6	6	6	5	7	4	5	7	7	6	6	6	5	6	6	6	6	7	8	7	7	6	6	1.2		
Net blotch (1-9)	[6]	5	5	[5]	[6]	5	5	5	5	5	5	5	5	5	5	5	6	5	6	5	5	[5]	5	5	6	5	0.9		
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	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  
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 RL tests

C = Yield control  
\* = 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 RL tests

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

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Supplementary data



	Buccaneer	Electrum	Craft	LG Caravelle	Bolivia	KWS Tardis	Boiton	Lightning	Bordeaux	LG Mountain	LG Dazzle	Surge	KWS Hawking	KWS Orwell	Valerie	California	KWS Cassia	SY Thunderbolt #	SY Kingsbarn #	SY Kingston #	SY Canyon #	Belmont #	SY Nephin #	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	UK	W	UK	UK	UK	UK	UK	UK	UK	UK	UK	Sp	UK	
Variety status	NEW	C	C	NEW	NEW					C		*				*	*	C				*	NEW				*C	
Breeder/UK contact	Sej	SyP	SyP	LimEur	NS	KWS	Ack	Ack	NS	LimEur	Lim	SyP	KWS	KWS	Bre	Lim	KWS	SyP	SyP	SyP	SyP	SyP	SyP	SyP	SyP	SyP	KWS	KWSMR
UK contact	SU	Syn	Syn	Lim	Agr	KWS	ElsAck	ElsAck	Sen	Lim	Lim	Syn	KWS	KWS	Sen	Lim	KWS	Syn	Syn	Syn	Syn	Syn	Syn	Syn	Syn	Syn	KWS	KWS
Annual treated yield (% control)																												
2018 (10.4 t/ha)	-	96	96	-	-	104	102	-	103	102	-	99	102	100	100	97	96	105	106	105	-	105	-	103	102	-	101	-
2019 (10.5 t/ha)	-	96	94	-	-	103	103	103	103	102	101	101	100	99	-	96	96	107	106	105	105	104	-	104	104	102	102	-
2020 (9.3 t/ha)	102	95	94	107	105	103	104	104	101	104	102	100	99	101	98	96	97	105	105	107	105	105	104	104	104	102	103	-
2021 (9.7 t/ha)	99	96	95	105	103	104	102	102	101	99	101	101	98	100	99	97	97	107	107	106	107	105	106	104	105	103	103	-
2022 (9.9 t/ha)	99	96	92	105	105	101	103	103	103	102	100	101	99	99	99	98	96	107	108	107	107	106	104	105	104	103	103	-
Soil type (about 50% of trials are medium soils)																												
Light soils (9.7 t/ha)	99	96	95	103	104	102	103	102	102	102	102	100	99	99	99	96	95	104	105	106	105	104	104	103	103	101	102	3.4
Heavy soils (9.3 t/ha)	[99]	97	95	[106]	[104]	107	105	103	104	102	104	103	102	101	[100]	[99]	99	107	105	104	105	104	[104]	104	105	105	102	6.0
Agronomic characteristics																												
Lodging without PGR (%)	-	6	3	-	-	2	4	[11]	3	8	[5]	3	3	3	4	3	5	20	11	12	[6]	12	-	5	8	[2]	1	-
Lodging with PGR (%)	4	5	2	2	2	1	1	9	1	5	5	2	1	2	1	3	4	15	5	13	15	12	7	2	6	4	2	-
Brackling (%)	4	9	9	7	12	6	8	11	9	22	7	7	5	8	6	7	8	14	13	13	9	15	16	8	10	8	12	-
Malting quality																												
Hot water extract (l deg/kg)	306.9	304.6	307.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	295.8	-	3.9
Status in RL system																												
Year first listed	23	18	16	23	23	21	21	22	21	19	22	16	20	16	19	13	10	21	19	21	22	18	23	16	16	22	17	
RL status	P1	-	-	P1	P1	-	-	P2	-	-	P2	*	-	-	-	*	*	-	-	-	P2	*	P1	-	-	P2	*	

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

UK = Recommended for the UK

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 RL tests

C = Yield control

\* = 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

LSD = Least significant difference

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

Ack = Ackermann Saatzzucht GmbH ([sz-ackermann.de](http://sz-ackermann.de))

Agr = Agrii ([agrii.co.uk](http://agrii.co.uk))

Bre = Saatzzucht Josef Breun, Germany ([breun.de](http://breun.de))

ElsAck = Elsoms Ackermann Barley ([elsoms.com](http://elsoms.com))

KWS = KWS UK ([kws-uk.com](http://kws-uk.com))

KWSMR = KWS Momont Recherche ([kws-uk.com](http://kws-uk.com))

Lim = Limagrains UK ([lgseeds.co.uk](http://lgseeds.co.uk))

LimEur = Limagrains Europe SA ([lgseeds.co.uk](http://lgseeds.co.uk))

NS = Nordic Seed, Denmark ([nordicseed.com](http://nordicseed.com))

Sej = Sejet, Denmark ([sejet.com](http://sejet.com))

Sen = Senova ([senova.uk.com](http://senova.uk.com))

SU = Saaten Union UK ([saaten-union.co.uk](http://saaten-union.co.uk))

Syn = Syngenta UK Ltd ([syngenta.co.uk](http://syngenta.co.uk))

SyP = Syngenta Participations AG ([syngenta.co.uk](http://syngenta.co.uk))