

# Spring Barley

Growing for the market



[www.limagrain.co.uk/springbarley](http://www.limagrain.co.uk/springbarley)



# Growing FOR THE MARKET

Matching varieties to the needs of growers and consumers



Spring barley is an appealing crop to grow for a number of reasons. It can provide benefits, which are:

- **Financial:** spring barley has the potential to produce a high gross margin with lower variable costs than many winter sown crops
- **Environmental:** when following an over-wintered stubble there are advantages for wildlife and additional income available from agri-environmental schemes
- **Agronomic:** the opportunity to deal with difficult autumn germinating grass weeds before sowing

Spring barley is also a crop for which there is a good demand. DEFRA figures show that in the 2011/12 season up to the end of June, UK brewers, distillers and maltsters used 5.2% more barley for malting and for brewing/distilling; the highest consumption since 2003/4. When compared to the same period last year, malting usage was up 4.8% while brewing/distilling was up 17%.



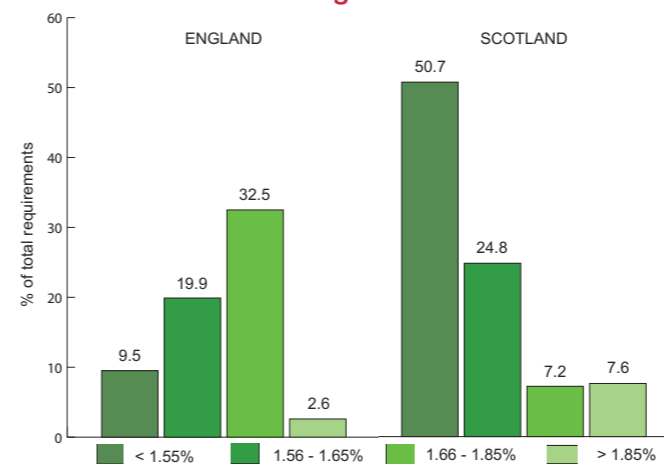
The UK produces around 5.7 Mt of barley (winter and spring) a year. The main domestic markets are for human and industrial uses such as malting, brewing and distilling, which account for 30% of all barley available on the UK market. Animal feed accounts for 55%. The balance is available to fulfil a demand for export, particularly to the Far East, and provide an end of season stock.

### DOMESTIC MARKET REQUIREMENTS

There are no specific requirements for feed spring barley varieties but characters such as grain yield, straw yield and a good specific weight will be important considerations. Other criteria such as resistance to lodging and good disease resistance – making for ease of management – will also influence variety choice.

Spring barley destined for malting will need to meet the maltster's quality requirements. Grain yield will feature strongly along with grain quality especially % nitrogen, hot water extract and the level of screenings. The Maltsters Association of Great Britain (MAGB) publishes a 'wish list' of their likely requirements prior to harvest. The figures for 2012 are presented in the chart below, by nitrogen contents ranging from 1.55% – 1.85%:

2012 MAGB wish-list for spring barley from England & Scotland



The requirements vary for spring barley sourced from England and Scotland, reflecting different end uses.



For English barley, which is mainly destined for brewing, just over 50% will need to be between 1.56% and 1.85% nitrogen.

MAGB members expect to source about two thirds of their needs from spring varieties and one third from winter barley. Scottish barley, destined for malt distilling, needs to meet a lower grain nitrogen level, with 75% coming from a grain nitrogen of 1.65% or lower. 90% of the quantity needed for Scotland will come from spring crops and only 10% from winter varieties.

### EXPORT MARKETS

Malt for export brewing requires a higher nitrogen content in the barley than that for the domestic market, usually in the range 1.70% to 1.85%. This is predominantly for lager beer production which needs the extra to ensure greater enzyme activity in the malting process than is necessary for UK purposes. In 2011 some 18% of malt produced in the UK went for export.

The HGCA Recommended List has 13 varieties suitable for malting and 10 for feed, with a similar number of candidates in each category. So, choosing which spring barley varieties to sow for marketing in 2013 will be very important. This guide focuses on the suitability of Limagrain varieties to meet the requirements of the various domestic and export markets.





		Malting Varieties					Feed Varieties	
Yield	UK Treated	98	100	104	106	103	106	96
	East Region with Fungicide (7.2 t/ha)	100	102	101	107	104	(106)	96
	West Region with Fungicide (7.4 t/ha)	100	100	105	106	104	(108)	98
	North Region with Fungicide (7.1 t/ha)	97	99	105	106	103	106	96
	Untreated	88	89	91	92	94	95	87
Market Options	IBD Malting Approval for Brewing	-	F	P	P	P	-	-
	IBD Malting Approval for Distilling	F	F	P	P	P	-	-
	IBD Malting Approval for Grain Distilling	F	-	-	-	-	-	-
	Overseas Malting	-	(Y)	-	-	-	-	-
<b>Yield &amp; Market Comment</b>		The only spring barley fully IBD approved for malt and grain distilling	Market leading variety, fully IBD approved for brewing & distilling. A universal variety for which there is good demand	Very high yields in the West and North. Provisional IBD approval for brewing and distilling	Very high treated yields in all regions and high untreated yield. Provisional IBD approval for brewing and distilling	Consistent performance in all regions with very high untreated yield. Provisional IBD approval for brewing & distilling	Highest yielding feed variety (treated & untreated) which has performed very well in the West	Proven feed variety suitable for all areas
Grain Quality	Specific Weight (kg/hl)	68.3	68.4	67.4	67.7	67.9	66.1	70.0
	Sieving % through 2.25mm	1.6	1.4	1.9	1.3	1.9	(2.4)	1.4
	Sieving % through 2.5mm	3.7	2.7	3.9	3.4	3.7	(4.8)	3.0
	Nitrogen Content (%)	1.55	1.50	1.44	1.44	1.50	-	-
	Hot Water Extract (l <sup>o</sup> /kg)	312.1	315.8	315.0	313.9	316.1	-	-
	Glycosidic Nitrile (GN) Producer	No	No	No	No	No		
<b>Quality Comment</b>		An ideal distilling variety with good specific weight, low screenings and high enzyme activity	High specific weight, low screenings, low grain N and very high hot water extract	Good physical grain quality with low grain nitrogen and high hot water extract	Low screenings, good specific weight and low grain nitrogen	Very good grain quality plus the highest hot water extract available	Good specific weight and low screenings	Good grain quality with a bold grain and low sieving losses
Agronomic Features	Tillering Potential*	Medium-Low	Low	High	Medium-High	High	Low	Low
	Resistance to Lodging	7	6	(7)	(5)	(7)	(6)	6
	Straw Height (cm)	76	77	73	72	74	74	81
	Ripening (+/- Optics, -ve = earlier)	+1	+1	+1	+2	+2	+1	+1
	Resistance to Brackling	8	7	8	8	7	6	7
Disease Resistance	Mildew	9	8	8	9	8	9	9
	Yellow Rust	7	7	7	7	7	6	7
	Brown Rust	6	6	5	4	6	5	6
	<i>Rhynchosporium</i>	7	4	6	7	6	7	7
	<i>Ramularia</i>	7	6	7	6	6	7	7
<b>Agronomy &amp; Disease Comment</b>		Stiff straw with very good resistance to brackling. Excellent resistance to mildew and good resistance to <i>Rhynchosporium</i> and <i>Ramularia</i>	Good resistance to lodging and brackling. Very good mildew resistance.	Short, stiff straw with good brackling resistance. Good all-round disease resistance, particularly to mildew and <i>Ramularia</i>	Short, with good brackling resistance. Very good all-round disease resistance, particularly to mildew and <i>Rhynchosporium</i>	Short, stiff straw with good resistance to all the main diseases: mildew, brown rust, <i>Rhynchosporium</i> & <i>Ramularia</i>	Medium height with a sound disease resistance package	Long, relatively stiff straw with good resistance to brackling. Very good resistance to all diseases: mildew, <i>Ramularia</i> & <i>Rhynchosporium</i>
Pedigree	Pedigree	Minstrel x Westminster	Minstrel x Westminster	Concerto x Quench	Concerto x Quench	Concerto x Quench	Quench x Vivaldi	NSL 97-5547 x Barke

( ) = limited data. Y = suited to that market, F = full IBD approval, T = under test for brewing

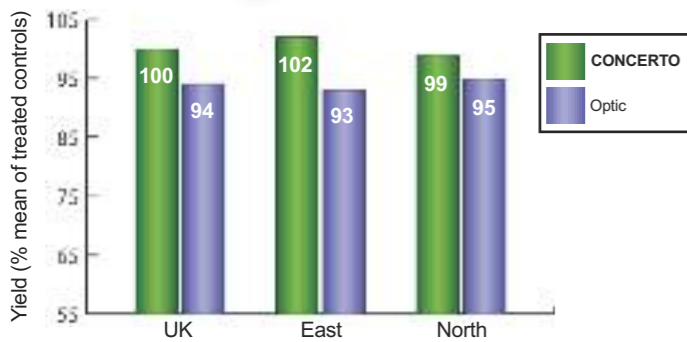


# CONCERTO

SPRING MALTING BARLEY

Concerto is a widely grown spring malting barley which has shown a high yield potential in the HGCA east and north regions, the main brewing and distilling areas of the UK.

“ Added to the HGCA RL in 2009, Concerto has quickly found favour with growers and end-users. It produces high yields of malting quality grain suitable for outlets throughout the UK and also for export. ” Breeder's Comment



Relatively tall and stiff with good resistance to brackling. Good disease resistance, particularly to mildew.

	CONCERTO	Optic
Resistance to Lodging	6	7
Straw Height (cm)	77	74
Resistance to Brackling	7	5
<b>Resistance to:</b>		
Mildew	8	5
Brown Rust	6	7
<i>Rhynchosporium</i>	4	3
<i>Ramularia</i>	6	5

Good physical grain quality with a very high hot water extract and low grain nitrogen.

	CONCERTO	Optic
Specific Weight (kg/hl)	68.4	70.1
Screenings (% thro 2.25mm)	1.4	1.6
Screenings (% thro 2.5mm)	2.7	4.5
Grain Nitrogen (%)	1.5	1.52
Hot Water Extract (°/kg)	315.8	312.4

A non-GN producer which has shown high malt extract and spirit yield in commercial bulks.

Fully approved by the IBD (Institute of Brewing and Distilling) for brewing and distilling and also CBMO (the French equivalent), giving export potential.

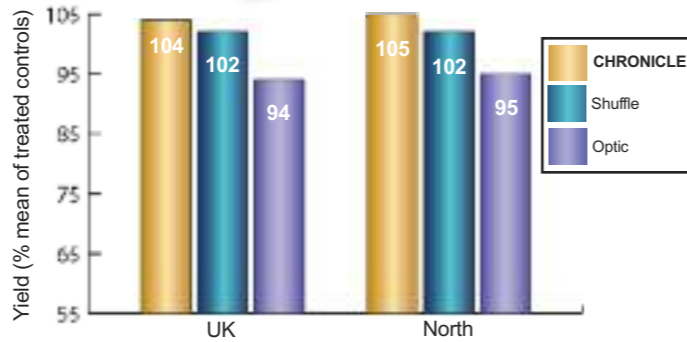


# Chronicle

SPRING MALTING BARLEY

Chronicle has produced high yields in UK trials and performed very well in the HGCA northern region.

“ Our own evaluation of Chronicle suggests it is earlier to mature than many malting varieties with a low/medium SNR making it well suited for distilling in the north of the UK ” Breeder's Comment



Well suited to the north of the UK, Chronicle has short, stiff straw and very good resistance to mildew, *Rhynchosporium* and *Ramularia*.

	CHRONICLE	Shuffle	Optic
Resistance to Lodging	(7)	8	7
Straw Height (cm)	73	76	74
Resistance to Brackling	8	8	5
<b>Resistance to:</b>			
Mildew	8	9	5
Brown Rust	5	4	7
<i>Rhynchosporium</i>	6	6	3
<i>Ramularia</i>	7	6	5

( ) = limited data

An ideal distilling variety with good physical grain quality combined with a very high hot water extract and low grain nitrogen.

	CHRONICLE	Shuffle	Optic
Specific Weight (kg/hl)	67.4	66.8	70.1
Screenings (% thro 2.25mm)	1.9	1.4	1.6
Screenings (% thro 2.5mm)	3.9	2.9	4.5
Grain Nitrogen (%)	1.44	1.53	1.52
Hot Water Extract (°/kg)	315.0	312.9	312.4

Provisionally approved for both brewing and distilling by the IBD (Institute of Brewing and Distilling).

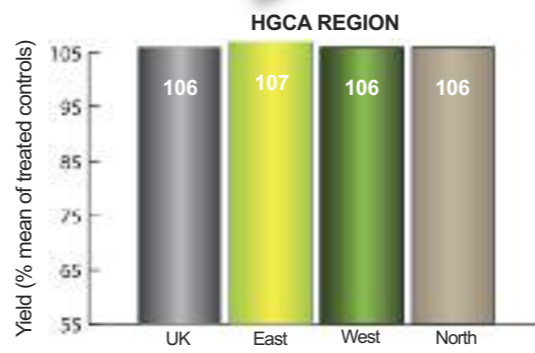


# ODYSSEY

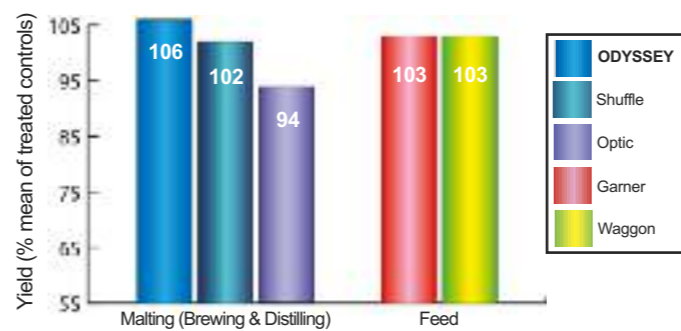
spring malting barley

Odyssey is provisionally approved by the IBD for brewing and distilling. Odyssey has produced very high yields in all regions.

“ Odyssey is a variety capable of meeting the requirements of both the feed and malting barley grower throughout the UK as well as being suitable for export, a universal variety. ” Breeder's Comment



A flexible variety which can be grown for either malting or feed, with a very high yield potential for both end-uses.



	ODYSSEY	Shuffle	Optic	Garner
Specific Weight (kg/hl)	67.7	66.8	70.1	66.6
Screenings (% thro 2.25mm)	1.3	1.4	1.6	(1.5)
Screenings (% thro 2.5mm)	3.4	2.9	4.5	4.1
Grain Nitrogen (%)	1.44	1.53	1.52	-
Hot Water Extract (°/kg)	313.9	312.9	312.4	-

( ) = limited data

Odyssey has a sound agronomic package with very good resistance to brackling (8) and high ratings for resistance to mildew (9), *Rhynchosporium* (7) and *Ramularia* (6).

Odyssey has very good grain characteristics with a very high specific weight and, for malting use, low grain nitrogen and a high hot water extract.

It is also provisionally approved for both brewing and distilling by the IBD.

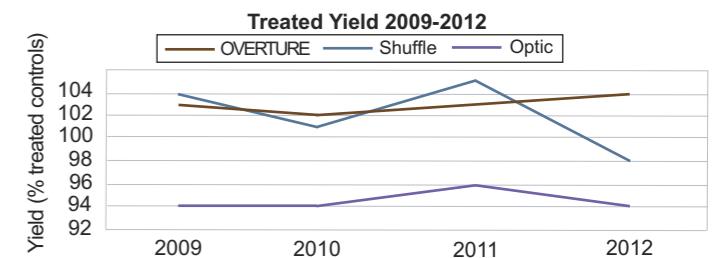
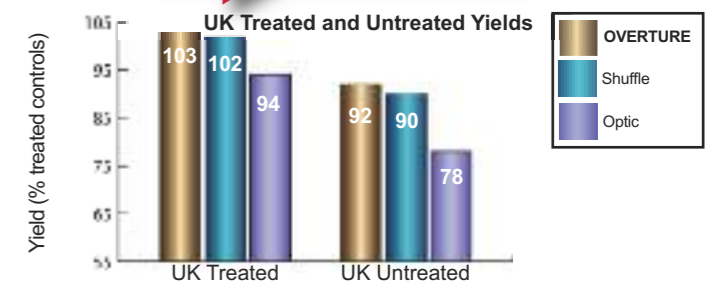


# Overture

SPRING MALTING BARLEY

Overture has very high yield potential, both with and without fungicide. Overture has a very consistent performance in four years of trials.

“ Overture is emerging as a reliable performing variety, which is straightforward to grow and capable of producing grain to meet the maltsters' requirements. ” Breeder's Comment



	OVERTURE	Shuffle	Optic
Resistance to Lodging	(7)	8	7
Straw Height (cm)	74	76	74
Resistance to Brackling	7	8	5
<b>Resistance to:</b>			
Mildew	8	9	5
Brown Rust	6	4	7
<i>Rhynchosporium</i>	6	6	3
<i>Ramularia</i>	6	6	5

( ) = limited data

A low risk variety which is easy to manage. Odyssey has medium length straw with good lodging resistance. Overall disease resistance is very good with no rating below a '6' and an '8' for mildew resistance.

	OVERTURE	Shuffle	Optic
Hot Water Extract (°/kg)	316.1	312.9	312.4

Good specific weight (67.9kg/hl), low screenings, low grain nitrogen (1.50%) and the highest hot water extract of all malting varieties on the 2013 HGCA Recommended List.

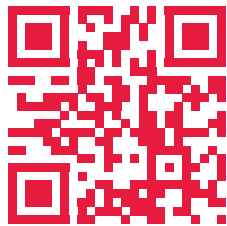
Provisionally approved for both brewing and distilling by the IBD.



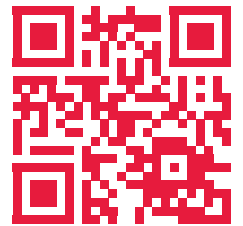
Limagrain UK is part of Group Limagrain, a fast growing international agricultural co-operative group, specialising in both agricultural and horticultural seeds, and in cereal products. As the largest plant breeder and seeds company in Europe and the fourth largest in the world, it employs over 7,000 people (more than 1,400 in research) and turns over more than £1.2 billion annually.

As a company owned by farmers, it has particular governance strongly linked to farming. As in agriculture, long-term vision has been the key to Limagrain's rapid growth over the recent past. Limagrain's drive to innovate and create varieties that meet the expectations of farmers and growers, agri-food industrialists and consumers has led to Limagrain's strong position in farming worldwide.

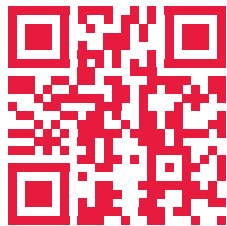
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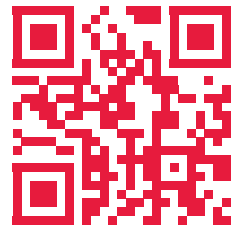
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All data is from the HGCA Recommended Lists database except where marked \* which is from Limagrain trials. See [www.hgca.com](http://www.hgca.com) for full dataset.  
On the 1-9 scales, high figures indicate that a variety shows the character to a high degree.