

HGCA Recommended List[®] Winter Wheat 2009/10

MARKET OPTIONS AND GRAIN QUALITY

	RECOMMENDED		P1	*	C	*	*	*	P1	P1	C	P2	P1	*	*	C	P1	*	C	*	P2	P2	P1	P1	P1	*	C	*	Average LSD (5%)									
	Gallant	X19	Solstice	Mascot	Malacca	Hereward	Panorama	Ketchum	Einstein	Cordiale	Battalion	Marksmen	Qplus \$	Soissons	Zebedee	Robigus	Scout	Deben	Claire	Consort	Oakley	JB-Diego	Duxford	Viscount	Grafton ~	Cassius	Glasgow	Istabraq	Humber	Ambrosia	Alchemy	Gladiator	Timber &	Gatsby \$	Average LSD (5%)			
End-use group	nabim Group 1						nabim Group 2						nabim Group 3						nabim Group 4																			
Scope of recommendation	UK	East	UK	UK	UK	UK	UK	UK	UK	UK	UK	E&W	Sp	E&W	E&W	UK	UK	UK	North	UK	UK	UK	UK	Sp	North	UK	UK	UK	UK	UK	UK	UK	UK	Sp	Sp			
UK treated yield (% control, 10.3 t/ha)	103	102	98	96	93	90	104	103	101	101	100	99	98	86	102	101	101	100	98	97	107	106	105	105	104	104	104	104	102	102	102	102	101	100	100	3.4		
Main market options (The specific attributes of varieties are different so, whenever possible, varieties should not be mixed in store)																																						
UK bread-making	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
UK biscuit, cake-making	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	Y	Y	Y	Y	-	-	-	Y	-	Y	Y	Y	-	-	Y	-	-	-	-	-		
UK distilling	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-	-	Y	Y	-	-	-	Y	-	Y	Y	Y	-	-	Y	-	-	-	-	-		
ukp bread wheat for export	[Y]	Y	Y	Y	B	Y	[Y]	[Y]	B	Y	[B]	[B]	[Y]	Y	-	-	-	-	-	-	-	-	-	[Y]	-	[Y]	Y	Y	-	-	Y	B	-	-	-	-		
uks soft wheat for export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	[Y]	-	Y	Y	-	-	-	[Y]	-	[Y]	Y	Y	-	-	Y	B	-	-	-	-		
Year first listed	09	02	02	06	99	91	09	09	03	04	07	08	09	95	07	03	09	01	99	95	07	08	08	09	09	09	09	05	04	07	05	06	04	07	06			
Grain quality																																						
Endosperm texture	Hard	Hard	Hard	Hard	Hard	Hard	Hard	Hard	Hard	Hard	Hard	Hard	Hard	Soft	Soft	Soft	Soft	Soft	Soft	Soft	Hard	Hard	Hard	Soft	Hard	Soft	Soft	Soft	Hard	Soft	Soft	Hard	Hard	Soft				
Protein content (%)	12.0	11.6	12.1	12.5	12.4	13.1	11.8	11.6	12.1	12.4	12.4	12.7	12.4	12.9	11.5	11.7	12.0	11.2	11.8	11.6	10.8	11.3	11.2	11.3	11.8	11.4	11.2	11.0	11.9	11.7	11.6	11.9	12.4	11.7	0.2			
Hagberg falling number	281	267	263	263	304	228	245	233	256	293	225	231	231	236	258	197	218	197	229	218	160	275	256	185	278	168	173	196	289	185	240	258	242	233	30			
Specific weight (kg/hl)	77.3	75.6	77.6	77.0	75.0	78.7	76.9	76.9	76.9	79.0	75.4	76.5	76.9	78.8	74.2	76.1	77.7	75.2	76.2	76.2	75.2	77.0	75.7	75.8	78.1	74.4	76.3	77.8	76.5	76.4	76.9	76.8	77.0	76.3	0.5			
1000 grain weight (g)	[51.6]	51.8	[47.5]	48.0	42.4	48.4	[46.9]	[51.6]	48.3	44.7	[47.2]	[46.5]	[49.1]	46.4	47.0	41.9	[44.9]	47.6	43.7	48.4	45.8	[50.2]	[47.1]	[47.4]	[49.4]	[50.2]	42.6	46.1	47.1	48.3	47.0	42.9	43.8	41.1	3.0			
Zeleny volume	[46.2]	[51.6]	53.2	52.1	47.1	[60.2]	[39.2]	[41.6]	43.4	51.4	[47.5]	[57.1]	[49.6]	[54.9]	22.8	24.0	[26.2]	-	23.7	23.8	[36.5]	[38.3]	[48.5]	[19.2]	[33.2]	[20.6]	-	[15.8]	[25.7]	[11.5]	14.4	[27.8]	[32.5]	[20.9]	8.0			
Chopin alveograph W	259	[186]	193	[231]	217	[231]	215	224	174	244	180	292	230	[305]	88	109	[89]	[118]	96	[105]	[124]	[215]	174	[78]	[160]	[91]	89	[71]	[106]	[74]	62	[108]	188	[80]	29			
Chopin alveograph P/L	0.8	[0.7]	0.7	[0.7]	0.7	[0.6]	0.8	0.8	0.5	0.7	0.8	1.1	0.9	[0.6]	0.3	0.3	[0.3]	[0.6]	0.3	[0.3]	[0.6]	[1.8]	1.0	[0.3]	[0.8]	[0.5]	0.2	[0.3]	[1.0]	[0.4]	0.5	[0.9]	0.8	[0.4]	0.2			

P1, P2 = first and second year of recommendation
 Y = suited to that market
 Average LSD (least significant difference) 5%. Varieties that are more than one LSD apart are significantly different at the 5% confidence level
 UK = recommended for the UK
 North = recommended for the North region
 \$ = Gatsby and Qplus are specific recommendations for growers wanting a variety with resistance to orange wheat blossom midge
 & = Timber is a specific recommendation for growers wanting good disease resistance. Isolates of yellow rust and mildew which can infect Timber have been found in the UK but so far disease levels have been low
 ~ = Grafton is a specific recommendation for growers wanting an early maturing variety to spread harvest
 Varieties no longer Listed: Brompton, Nijinsky, Riband and Welford
 ® = "HGCA RECOMMENDED LIST" is a registered trademark of ADHB-HGCA

* = variety no longer in trials
 C = yield control
 [] = limited data
 [Y] = may be suited to that market
 B = suitable for blending into export cargoes
 [B] = may be suitable for blending into export cargoes

HGCA Recommended List® Winter Wheat 2009/10

YIELD, AGRONOMY AND DISEASE RESISTANCE

	RECOMMENDED		P1	*	C	*	*	*	P1	P1	C	P2	P1	*	*	C	P1	*	C	*	P2	P2	P1	P1	P1	*	C	*	Average LSD (5%)						
	nabim Group 1				nabim Group 2				nabim Group 3				nabim Group 4																						
End-use group	UK	East	UK	UK	UK	UK	UK	UK	UK	UK	E&W	Sp	E&W	UK	UK	UK	UK	UK	North	UK	UK	UK	UK	Sp	North	UK	UK	UK	UK	UK	Sp	Sp			
Fungicide treated grain yield (% treated control)																																			
United Kingdom (10.3 t/ha)	103	102	98	96	93	90	104	103	101	101	100	99	86	102	101	101	100	98	97	107	106	105	105	104	104	104	102	102	102	102	101	100	100	3.4	
Dry (East) region (10.2 t/ha)	103	103	98	96	93	91	105	103	101	101	101	100	99	87	102	101	101	100	98	97	107	107	105	105	105	105	105	102	103	102	101	101	101	100	3.8
Wet (West) region (10.4 t/ha)	105	99	99	94	91	88	102	103	100	100	100	98	99	84	100	101	101	98	97	93	106	106	104	102	104	100	103	102	102	101	103	101	99	4.2	
North region (10.4 t/ha)	[102]	100	97	96	96	-	[102]	[101]	102	99	97	93	[94]	-	102	102	[100]	101	97	100	108	101	103	[107]	[103]	[106]	102	103	98	100	103	103	94	102	4.9
Untreated grain yield (% treated control in comparable trials)																																			
United Kingdom	79	78	77	76	72	74	85	84	82	77	86	85	84	71	76	77	87	79	76	66	84	85	79	87	87	86	80	80	79	79	86	81	88	85	4.8
Agonomic features																																			
Resistance to lodging without PGR	7	4	8	6	7	8	8	6	6	8	7	7	8	6	6	7	8	5	7	8	7	8	9	7	9	7	6	6	9	7	7	6	7	7	1.5
Resistance to lodging with PGR	8	6	9	8	7	9	9	7	7	9	8	8	9	7	6	8	9	6	7	8	7	8	9	8	9	8	7	7	9	8	8	7	8	8	1.1
Height without PGR (cm)	86	97	96	93	87	88	91	95	88	82	88	87	91	91	87	90	90	95	90	87	87	91	93	84	79	87	86	96	83	88	94	84	87	92	1.4
Ripening (days +/- Claire, -ve = early)	-2	0	+1	-1	-1	0	+2	0	0	-2	+1	-2	+2	-3	0	+2	+2	+2	0	+2	+1	0	+2	+2	-2	+1	0	+2	0	0	+2	0	0	+3	1.0
Resistance to sprouting	[6]	7	7	6	[6]	6	[6]	[6]	6	6	5	[6]	[6]	[7]	6	5	[6]	[5]	5	6	5	[7]	[7]	[4]	[6]	[5]	5	5	[6]	[6]	6	6	5	[5]	1.4
Disease resistance																																			
Mildew	5	6	5	7	6	5	7	8	6	6	8	7	6	6	6	6	6	6	4	6	5	5	5	6	6	5	5	5	6	7	7	7	7	1.0	
Yellow rust	6	9	9	5	8	5	9	8	7	8	8	8	9	8	9	2	9	9	9	7	6	8	8	8	8	9	4	9	9	6	9	9	8	9	[0.9]
Brown rust	4	6	3	4	6	5	5	5	5	3	8	8	6	4	3	7	9	4	5	3	6	3	4	9	3	8	4	4	6	7	3	7	9	8	[1.4]
Septoria nodorum	[5]	5	5	6	7	6	[6]	[5]	6	5	7	7	[7]	5	5	6	[8]	6	7	4	7	6	5	[8]	[6]	[8]	4	7	5	5	7	6	8	9	2.9
Septoria tritici	5	5	5	5	5	5	6	6	5	5	6	6	6	6	6	6	6	6	6	4	5	6	5	6	6	6	5	5	5	5	7	5	7	7	0.6
Eyespot	5	5	5	6	5	4	4	5	6	5	7	@	6	@	5	3	4	5	9	7	7	6	5	6	6	5	7	7	5	6	5	7	6	6	1.8
Fusarium ear blight	[6]	6	6	5	5	6	[7]	[7]	6	6	5	[5]	5	[6]	6	[6]	6	7	6	5	[6]	[6]	[5]	[6]	[4]	[6]	6	7	5	3	6	5	5	[6]	0.7
Orange wheat blossom midge	-	-	-	-	-	-	-	-	-	-	-	-	R	-	R	-	-	-	-	-	R	-	-	R	-	-	-	-	-	-	-	-	-	-	R

P1, P2 = first and second year of recommendation * = variety no longer in trials C = yield control
 Average LSD (least significant difference) 5%. Varieties that are more than one LSD apart are significantly different at the 5% confidence level
 On the 1-9 scales high figures indicate that a variety shows the character to a high degree (e.g. high resistance)
 R = believed to be resistant to orange wheat blossom midge (OWBM) but this has not been verified in RL tests
 \$ = Gatsby and Qplus are specific recommendations for growers wanting a variety with resistance to orange wheat blossom midge
 @ = Battalion, Grafton and Marksman are believed to carry the Rendezvous resistance gene to eyespot but this has not been verified in RL tests
 Comparisons of varieties across regions are not valid
 & = Timber is a specific recommendation for growers wanting good disease resistance. Isolates of yellow rust and mildew which can infect Timber have been found in the UK but so far disease levels have been low
 - = Grafton is a specific recommendation for growers wanting an early maturing variety to spread harvest

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SUPPLEMENTARY DATA

	RECOMMENDED		P1	*	C	*	*	*	P1	P1	C	P2		P1	*	*	C	P1	*	C	*	P2		P2	P1	P1	P1	*	C	*	Average LSD (5%)					
	Gallant	X19	Solstice	Mascot	Malacca	Hereward	Panorama	Ketchum	Einstein	Cordiale	Battalion	Marksmen	Oplus	Soissons	Zebedee	Robigus	Scout	Deben	Claire	Consort	Oakley	JB-Diego	Duxford	Viscount	Grafton	Cassius	Glasgow	Istabraq	Humber	Ambrosia	Alchemy	Gladiator	Timber	Gatsby	Average LSD (5%)	
End-use group	nabim Group 1						nabim Group 2						nabim Group 3						nabim Group 4																	
Scope of recommendation	UK	East	UK	UK	UK	UK	UK	UK	UK	UK	UK	E&W	Sp	E&W	E&W	UK	UK	UK	UK	North	UK	UK	UK	UK	Sp	North	UK	UK	UK	UK	UK	UK	Sp	Sp		
Breeder/ UK contact																																				
Breeder	Syn	Nick	Nick	RAGT	KWS	RAGT	Nick	Syn	Nick	KWS	RAGT	RAGT	Nick	Depr	Nick	KWS	Sen	Nick	Nick	RAGT	KWS	Breun	Syn	KWS	KWS	Nick	SU	Nick	KWS	RAGT	Nick	RAGT	SU	Nick		
UK contact	Syn	Nick	Nick	RAGT	KWS	RAGT	Nick	Syn	Nick	KWS	RAGT	RAGT	Nick	Els	Nick	KWS	Sen	Nick	Nick	RAGT	KWS	Sen	Syn	KWS	KWS	Nick	SU	Nick	KWS	RAGT	Nick	RAGT	SU	Nick		
Annual yield (% control)																																				
2004 treated (10.6 t/ha)	-	101	98	94	93	[90]	-	-	101	100	102	-	-	[84]	98	101	-	98	96	95	105	-	-	-	-	-	103	99	103	102	104	101	100	103	3.4	
2005 treated (10.4 t/ha)	-	102	99	96	91	[87]	-	-	101	99	102	99	-	[88]	102	102	-	102	96	97	107	103	106	-	-	-	104	103	103	103	102	102	102	100	2.5	
2006 treated (10.5 t/ha)	104	102	100	96	92	[92]	106	107	103	101	102	101	101	[96]	104	99	104	102	98	96	103	106	106	106	104	104	105	104	105	105	101	105	104	97	2.5	
2007 treated (9.5 t/ha)	104	98	98	96	96	[87]	102	100	100	100	[94]	95	98	[71]	101	102	100	96	100	[107]	111	106	102	106	104	106	99	103	98	95	101	97	95	101	3.7	
2008 treated (10.4 t/ha)	103	103	98	96	-	[90]	103	102	100	103	100	97	95	-	102	102	99	-	99	-	107	107	104	103	105	103	106	101	100	-	101	101	98	-	3.6	
Rotational position																																				
First cereal treated (10.6 t/ha)	103	101	98	95	92	89	103	102	100	100	98	97	98	86	102	102	101	99	98	97	107	105	103	105	103	103	103	102	101	101	102	101	100	99	3.6	
Second and more treated (9.6 t/ha)	104	102	100	97	93	91	105	106	104	102	106	102	98	[87]	102	98	102	101	97	99	105	108	108	103	107	105	105	104	103	103	101	103	100	101	4.0	
Sowing date (most trials were sown during October)																																				
Before 6 Oct treated (10.5 t/ha)	103	101	98	95	93	89	104	104	101	99	99	97	100	85	101	102	103	100	98	96	107	105	104	106	103	104	103	102	101	101	102	102	99	99	2.5	
Late autumn treated (9.6 t/ha)	-	102	99	94	90	-	-	-	[101]	[99]	[102]	[97]	-	[94]	101	[104]	-	[97]	95	[95]	[107]	[107]	[102]	-	-	-	-	106	[103]	[104]	[105]	102	[102]	[104]	[101]	5.8
Soil type (about 50% of trials are on medium soils)																																				
Light soils treated (9.5 t/ha)	[102]	100	99	95	93	89	[102]	[103]	102	100	100	98	[95]	88	101	101	[101]	101	97	97	108	106	103	[103]	[103]	[103]	103	102	102	103	102	103	100	101	4.4	
Heavy soils treated (10.7 t/ha)	104	102	99	96	92	[92]	105	103	101	101	102	99	100	[81]	101	101	102	99	98	96	106	107	104	105	106	103	104	102	103	102	102	101	100	100	3.8	
Agonomic features																																				
Lodging % without PGR	4.3	22.1	1.4	5.2	4.5	1.2	1.6	9.5	6.0	2.2	3.3	3.3	1.1	7.8	7.0	2.9	1.6	17.7	4.8	2.5	4.3	2.3	1.0	2.7	0.8	3.3	8.1	6.2	0.9	3.4	2.8	8.8	4.7	3.0		
Lodging % with PGR	4.0	12.5	1.1	2.3	4.9	1.3	1.2	8.7	5.6	1.6	1.8	2.1	1.0	5.7	10.8	4.1	1.3	11.3	4.9	2.4	4.6	2.9	0.9	4.0	0.4	2.6	5.5	4.9	0.5	2.6	2.3	4.8	2.3	2.0		
Latest safe sowing date #	-	End Feb	End Jan	End Jan	End Jan	-	-	End Jan	End Jan	End Jan	[End Jan]	-	Mid Feb	End Jan	End Feb	-	Mid Feb	End Feb	End Jan	End Jan	Mid Feb	[End Jan]	[End Feb]	-	-	-	End Feb	End Feb	End Jan	End Feb	Mid Feb	End Feb	End Feb	Mid Feb		
Speed of development to growth stage 31 (days +/- average)																																				
Early Sep sown	-	-3	+4	-3	+3	-2	-	-	-4	-3	+2	-1	-	-9	+2	-1	-	+1	+5	+2	+4	+2	-2	-	-	-	-2	-4	0	-4	+3	+1	-5	+4	9.1	
Early Oct sown	-	+1	+1	-5	+1	-5	-	-	-5	-8	-2	-7	-	-10	-2	0	-	+1	+5	+1	+4	+3	+2	-	-	-	-4	+2	+3	-2	+4	-1	-1	0	8.1	
Early Nov sown	-	+3	-1	-2	-1	-1	-	-	-3	-2	0	-	-8	+1	0	-	+2	+2	0	+2	+2	-1	+3	-	-	-	-1	0	-2	0	+3	-1	-1	+1	4.1	

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

- = See RL Plus for late-autumn data on Hereward

[] = limited data

Key to breeder/UK contact codes:

Breun = Saatzucht Josef Breun, Germany
 Depr = Maison Florimond Desprez, France
 Els = Elsoms Seeds (www.elsoms.com)

KWS = KWS UK (www.kws-uk.com)
 Syn = Syngenta Seeds (www.newfarmcrops.co.uk)
 Nick = Nickerson (www.nickersonseeds.co.uk)

RAGT = RAGT Seeds (www.ragt.co.uk)
 Sen = Senova (www.senova.uk.com)
 SU = Saaten Union UK (www.saaten-union.co.uk)

= Latest safe sowing date is the advised latest sowing time to give a sufficient cold period for flowering. A dash indicates that there is insufficient data to give a comment and NOT that the variety does not have a vernalisation requirement.

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