

# AHDB Recommended List

## Winter wheat varieties grown in RL trials in 2020 but not added to the AHDB Recommended List



	Control varieties					Other varieties							Average LSD (5%)
	Skyfall	KWS Siskin	KWS Barrel	Elation	Glean	RGT Galactus	RGT Quicksilver	KWS Plectrum	RGT Lantern	Banquo	Asfound	RGT Silversurfer	
<b>Fungicide-treated grain yield (% treated control)</b>													
United Kingdom (10.8 t/ha)	97	100	100	101	103	100	102	102	103	102	102	101	2.2
East region (10.7 t/ha)	97	99	100	101	103	101	102	101	102	102	101	102	2.5
West region (10.9 t/ha)	97	100	100	101	103	99	103	104	104	103	103	99	2.9
North region (11.0 t/ha)	96	98	103	101	102	[98]	[100]	[98]	101	[101]	[101]	[99]	3.4
<b>Untreated grain yield (% treated control)</b>													
United Kingdom (10.8 t/ha)	74	80	71	75	81	81	84	74	78	82	87	84	5.7
<b>Grain quality</b>													
Endosperm texture	Hard	Hard	Soft	Soft	Hard	Soft	Soft	Soft	Hard	Hard	Hard	Hard	
Protein content (%)	12.5	12.0	11.4	11.8	11.5	11.6	11.3	11.2	11.3	11.8	11.8	11.5	0.2
Protein content (%) - Milling spec	13.2	12.7	12.0	12.4	12.0	[11.9]	[11.7]	[11.6]	11.8	[12.5]	[12.4]	[11.6]	0.4
Hagberg Falling Number	279	289	234	210	217	218	225	177	271	236	247	256	27.2
Specific weight (kg/hl)	78.4	76.9	77.2	77.2	76.3	75.0	73.9	75.3	75.8	76.3	75.8	76.1	0.7
Chopin Alveograph W	-	162	101	95	-	[91]	[66]	-	-	-	-	-	21.5
Chopin Alveograph P/L	-	0.5	0.4	0.3	-	[0.3]	[0.2]	-	-	-	-	-	0.1
<b>Agronomic features</b>													
Resistance to lodging without PGR (1-9)	8	6	7	7	7	[7]	[6]	[7]	7	[8]	[8]	[6]	0.8
Resistance to lodging with PGR (1-9)	8	7	8	8	7	7	8	8	8	7	8	7	0.6
Height without PGR (cm)	83	84	84	82	87	88	87	79	84	86	89	88	1.9
Ripening (days +/- Skyfall, -ve = earlier)	0	0	+1	+1	0	+2	+2	0	+2	+1	0	+1	0.7
Resistance to sprouting (1-9)	5	5	6	[6]	[5]	[5]	[6]	[5]	[6]	[6]	[4]	[6]	1.0
<b>Disease resistance</b>													
Mildew (1-9)	6	7	6	7	6	6	5	5	5	7	7	5	1.3
Yellow rust (1-9) - see note below	3	9	7	8	5	6	8	5	6	7	8	8	0.9
Brown rust (1-9) - see note below	8	5	5	5	6	9	7	5	6	5	7	7	1.0
Septoria tritici (1-9)	5.8	6.5	4.2	4.1	6.1	6.6	6.9	5.1	5.6	5.6	6.8	7.3	1.1
Eyespot (1-9)	6@	5	4	4	4	[5]	[4]	[4]	[5]	[4]	[5]	[4]	1.7
Fusarium ear blight (1-9)	7	5	6	6	6	6	6	6	6	6	6	6	0.5
Orange wheat blossom midge	R	-	R	R	R	R	R	R	R	R	-	R	

This table should be read in conjunction with the AHDB Recommended List of winter wheat varieties for 2021/22.

On the 1-9 scales, high figures indicate that a variety shows the character to a high degree (e.g. high resistance).

Comparisons of varieties across regions are not valid.

[ ] = Limited data

PGR = Plant growth regulator

@ = Believed to carry the Pch1 Rendezvous resistance gene to eyespot, but this has not been verified in Recommended List tests

R = Believed to be resistant to orange wheat blossom midge (OWBM), 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 wheat rust ratings for 2021/22

The RL 2021/22 sees major changes to the disease-rating-calculation approach for winter wheat yellow and brown rust. This section describes the main developments, including how they affect the headline ratings.

### Winter wheat rust ratings

Typically, cereal disease ratings are based on the average level of disease in trials, observed over a three-year period. In the last few years, rust ratings have failed to reflect in-season field observations for some varieties at some locations. This is partly due to the increasingly diverse and dynamic nature of the UK's rust populations and the rating-calculation method, but not the quality of disease data.

In response, two changes have been made to the way the yellow rust ratings are calculated. One of these changes has also been applied to the brown rust ratings.

### Weighted ratings: Yellow rust and brown rust

Until now, ratings were based on three-year average disease ratings, with each year of data contributing an equal amount to the rating. Where pathogen populations are relatively stable, this method provides reliable and stable ratings. As wheat yellow and brown rusts populations are increasingly dynamic and diverse, a different approach to the rating calculation is necessary.

The RL 2021/22 winter wheat rust ratings are now 'weighted', so that the most recent year of data has the largest (and the oldest year of data the smallest) influence on the rating. This approach makes the rating more sensitive to changes in rust population structure in the most recent year, while still using the valuable three-year data set.

### Reset ratings slope: Yellow rust

Established susceptible and resistant varieties are used to determine 'fixed points'. A line between these fixed points is used to estimate the disease ratings for all varieties.

Over time, the position of the susceptible fixed point has moved as a result of yellow rust population changes. This has had an undesired effect – susceptible varieties were achieving a higher rating at the end of the last decade than the start of it. For example, a variety with 10% disease would have received a rating of 4 in 2012, but 5 in 2019.

The RL 2021/22 sees the scale reset to the 2012 slope, with a lower susceptible fixed point. This means, compared with the RL 2020/21, the same amount of disease will result in a lower rating. This has reduced the yellow rust rating for many varieties, however, this does not mean that these varieties have become more susceptible since last year. Even on varieties now rated 3, sufficient yellow rust control can be achieved with a combination of chemical and cultural controls.

RL yellow rust ratings reflect adult plant resistance. For young plant resistance and susceptibility, see [ahdb.org.uk/ukcpvs](https://ahdb.org.uk/ukcpvs)