

# KWS PARKIN

Growers' Guide

SEEDING  
THE FUTURE  
SINCE 1856

KWS







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# Introduction

You could be forgiven for overlooking KWS Parkin as just another high yielding hard feed wheat; but take a close look at the varieties characteristics and you will find that KWS Parkin offers a truly unique plant type, delivering a wealth of benefits to the agronomic tool box.

With the ever-increasing pressure on-farm to get everything done in time, fewer resources and cost top of mind, the need to add flexibility at as many points as possible into the farm business is as important as ever.

By choosing the right variety, your decision at drilling will deliver the possibilities for flexible crop management through out the season. If you are looking for an exceptionally short and truly early plant type with good yield, a rounded disease

package in a hard feed variety, then take a closer look as to why KWS Parkin will be the most valuable management tool for your farming situation.

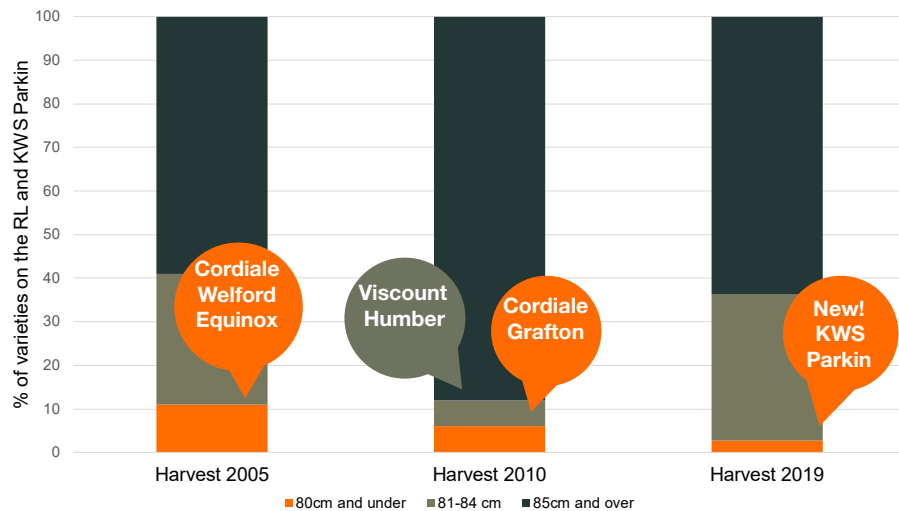
This guide is intended to give growers and professional advisers the latest information to get the most out of their crop of KWS Parkin this growing season. Rather than being a stringent protocol, this guide aims to provide sufficient technical information, covering aspects such as varietal characteristics, regional performance and crop management strategies so that grain quality, yield potential and agronomic performance can be specifically tailored to your farming situation.

If you have any questions, or would like further information on our varieties, please do not hesitate to contact the KWS UK team (see back page for details).



## What makes KWS Parkin different?

Cast your mind back 15 years or so, if we think of the RL at this time and what varieties were finding favour on farm, then products such as Equinox, Cordiale, and Grafton may jump to mind. What did all these popular types have in common? – they were all short and stiff types that enabled PGR applications to be simplified and introduced flexibility into spray windows, allowing them to be safely widened to when workloads or weather conditions permitted. Fast forward to today and looking at the RL reveals a very different story – KWS Parkin is shorter than any variety on the RL list:

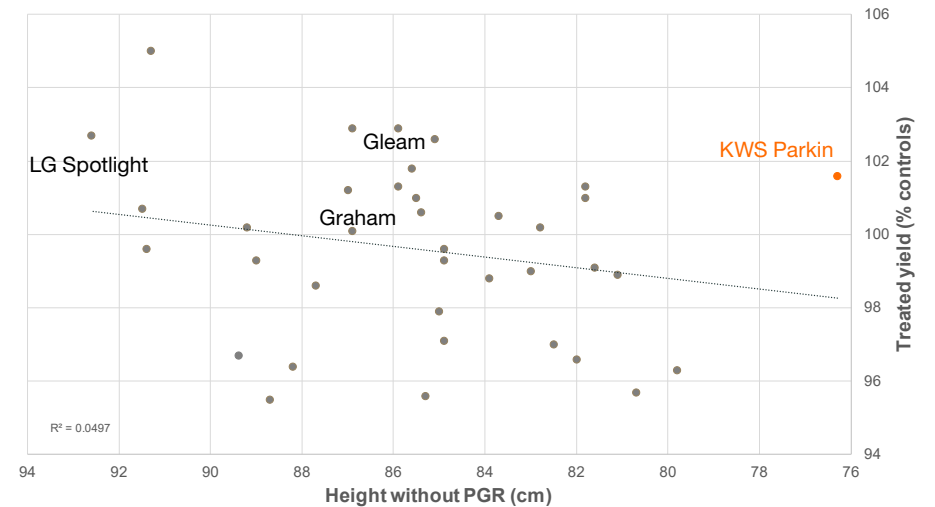


Such is the uniqueness of KWS Parkin's plant type, that it will be a massive 14cm shorter than the tallest recommended variety!

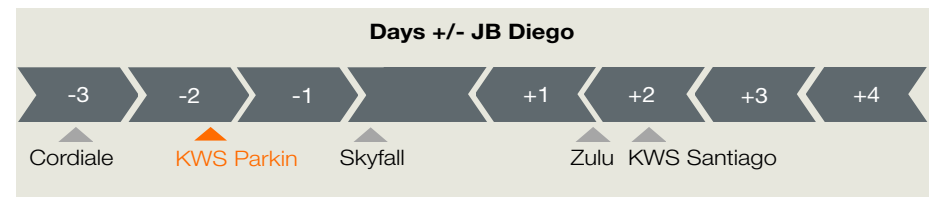
Variety	Lodging (- PGR)	Lodging (+ PGR)	Height (cm)
<b>KWS Parkin</b>	8	8	78.6
<b>SY Insitor</b>	6	8	93.3
<b>LG Skyscraper</b>	7	7	89.4
<b>Gleam</b>	7	7	82.9
<b>Graham</b>	7	8	86.8

Data Source: 2020/21 AHDB RL Winter Wheat

## Difference in Height and Yield



But KWS Parkin does not just offer flexibility in spray timings, it also will allow growers to manage workloads at harvest being earlier to mature than any other variety on the RL.



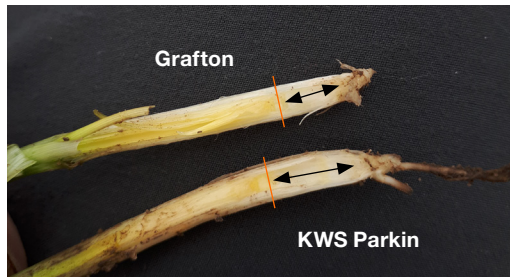


## The value of earliness

One of the major advantages of having different varieties on farm is the ability for them to complement each other in regard to application of inputs throughout the season.

Many varieties are quite similar in regards to speed of movement and maturity but sometimes we find varieties different enough to really help on farm, KWS Parkin is one such variety.

We can utilise these benefits by scheduling the sowing of varieties, this may be able to ensure that those sown first reach significant growth stages before other crops and may well get to harvest first. There are many variables involved such as soil type and weather but in terms of getting the best from a reducing chemical armoured then timely application is everything. In an increasingly protective crop protection situation growers need to have the confidence that they are applying sprays to the leaf layers.

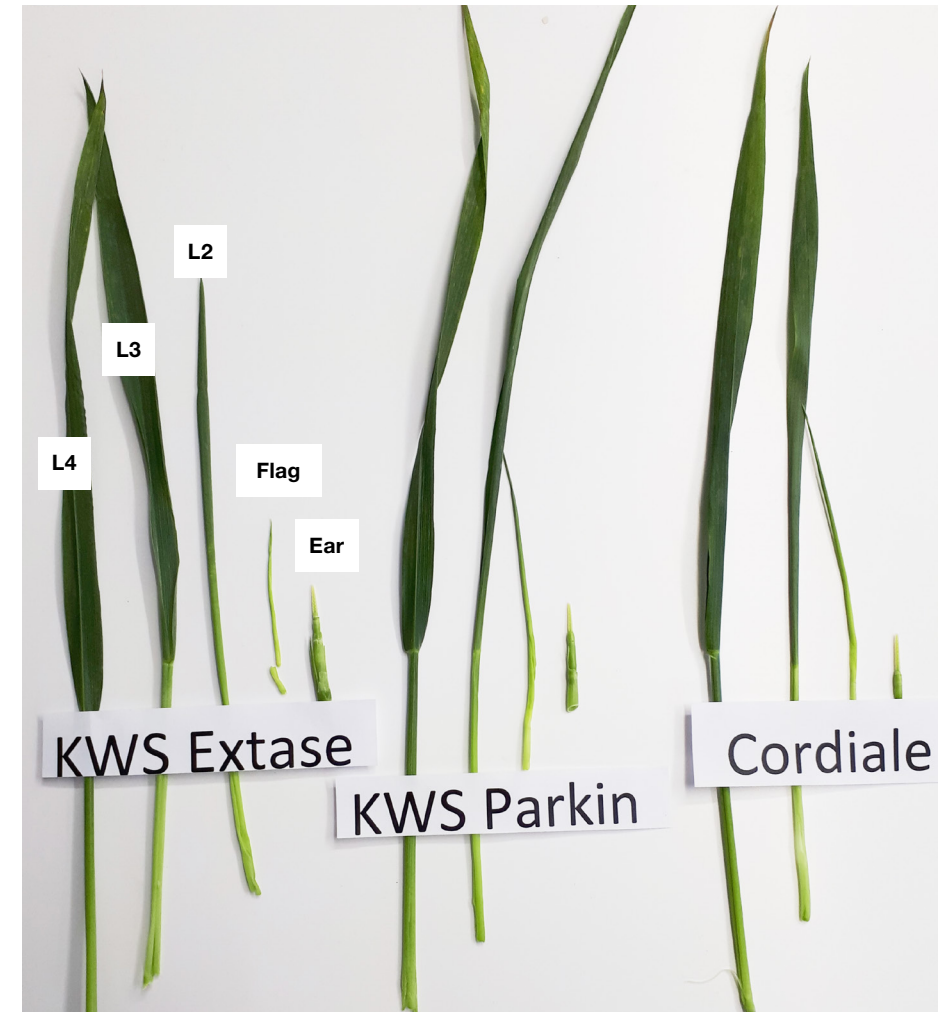


Grafton was a variety that sits prostrate through the winter but is one of the first varieties to begin stem extension in the spring. The photo to the left shows both Grafton and KWS Parkin was taken on 15th March 2019 as stem extension begins.

This photo is taken 29th March 2019 in the Grafton, KWS Parkin seed rate/nitrogen trials. It again demonstrated the larger bulk and speed of movement of KWS Parkin compared to Grafton. Trials sown 1st October at 350 seeds/m<sup>2</sup>



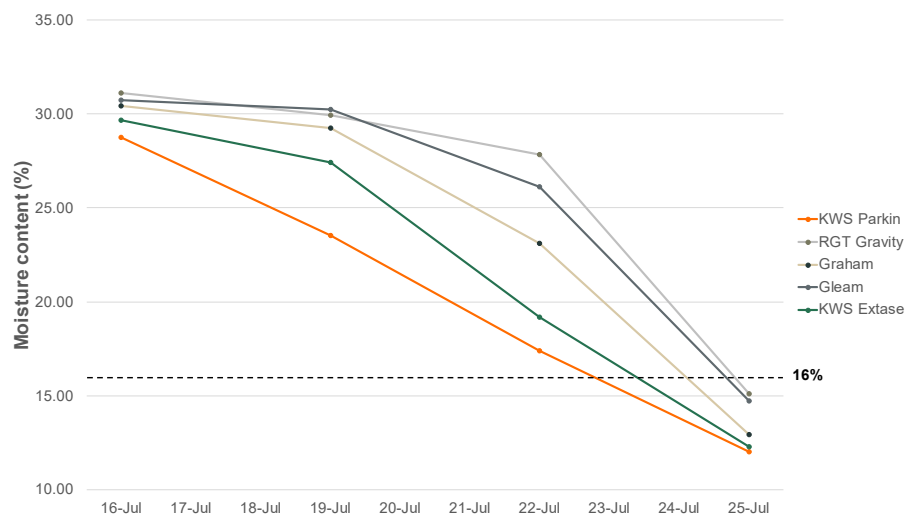
The photo below shows leaf emergence stages. These tillers were picked and dissected from September sown plots on the 26th April 2019. You can see that KWS Parkin is just behind Cordiale in ear and flag leaf development.





But KWS Parkin does not just offer flexibility in spray timings, it also will allow growers to manage workloads at harvest being earlier to mature than any other variety on the RL.

**KWS 2019 Dry Down Data**



In addition, KWS Parkin has good grain characteristics which coupled with its short height and resistance to lodging offers growers one of the most secure packages for harvest.

	Maturity (days +/- Skyfall)	Height (cm)	Lodging (-PGR)	Specific weight (kg/hl)	HFN*
<b>KWS Parkin</b>	-1	78.6	8	76.3	261
<b>SY Insitor</b>	+1	93.3	8	78.3	262
<b>LG Skyscraper</b>	0	89.4	7	77.0	220
<b>Gleam</b>	0	82.9	7	76.3	222
<b>Graham</b>	0	86.8	8	76.8	277

Data Source: 2020/21 AHDB RL Winter Wheat. \*HFN presented in the absence of sprouting data

## Varietal Characteristics

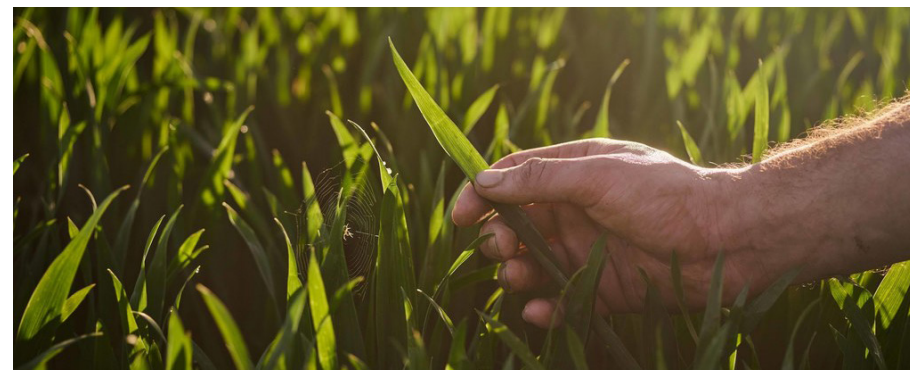
**KWS Parkin**  
Breeder: Reflection x Costello

The objective of the KWS Parkin cross was to combine the headline yield performance and earliness of Reflection with the yield stability and excellent grain quality of Costello. In addition, the use of Costello introduced good yellow rust resistance (9).

The potential of KWS Parkin was recognised at the F5 generation in 2014. At this time the KWS breeding team were looking for types suited to mainstream and later drilling, competitive plant types for blackgrass control and early harvesting characteristics.

### KWS Parkin in a Nutshell

- Very early maturing variety – earlier than any other variety on the RL
- Unique, short height – shorter than any other variety on the RL
- Hard feed nabim Group 4
- Good physical grain quality
- Consistently high yielding, performing exceptionally well in the slot before 25th September
- Reliable over a range of soil types, especially suited to high fertility sites
- Good performance across the regions, especially suited to the Yorkshire wheat heartland





## Yield Potential

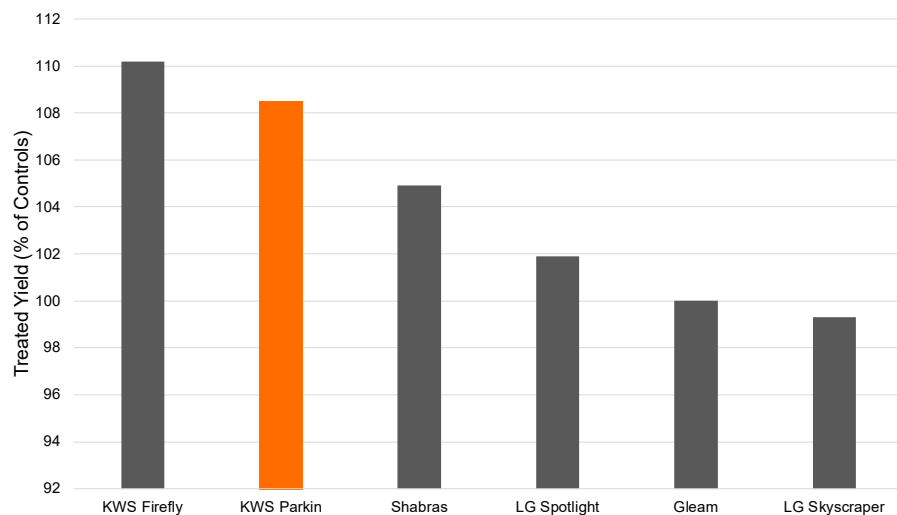
Whilst not the highest yielding, KWS Parkin delivers good potential within the Group 4 hard feed sector, producing yields akin to established varieties such as Graham. The variety delivers consistent yield performance across the years throughout the UK in a first wheat situation.

	KWS Parkin	SY Insector	Gleam	Graham
UK treated yield - RL	102	105	104	102
UK treated yield - Harvest 2018	102	104	104	100
UK treated yield Harvest 2017	100	104	102	101
UK treated yield - Harvest 2016			103	102

Data Source: 2020/21 AHDB RL Winter Wheat and NL data

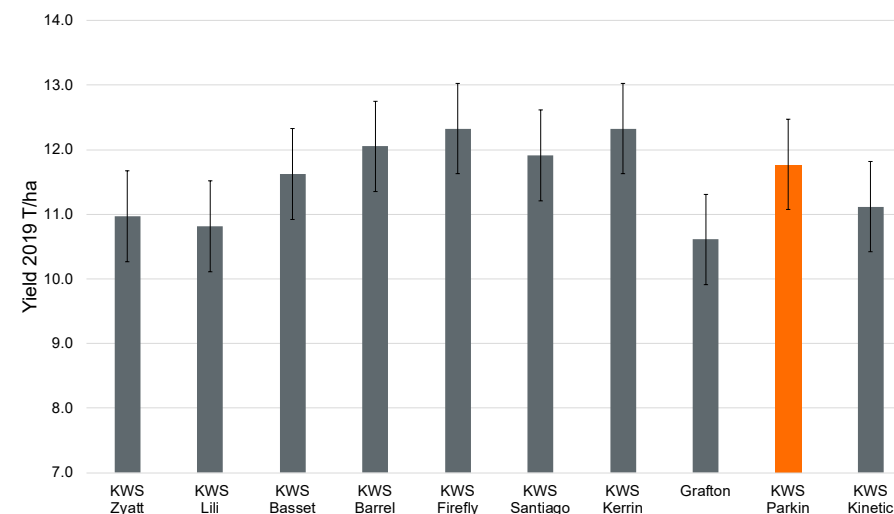
To get the best out of KWS Parkin, growers should consider drilling this variety before the 25th September. In AHDB trials, it was in this relatively early slot that the true yield potential of KW Parkin was realised and the variety significantly out-performed well known barn fillers LG Skyscraper and Gleam.

### Yield Performance in the Early Drilling Slot (before 25th Sept)



KWS trials also show the yield potential of KWS Parkin. Many varieties may top these trials for yield but due to their stem strength or lower disease scores they are realistically unsuitable for the mid-September sowing window. The best early sowing varieties have good stem strength and robust grain.

### Yield Performance 2019 T/ha

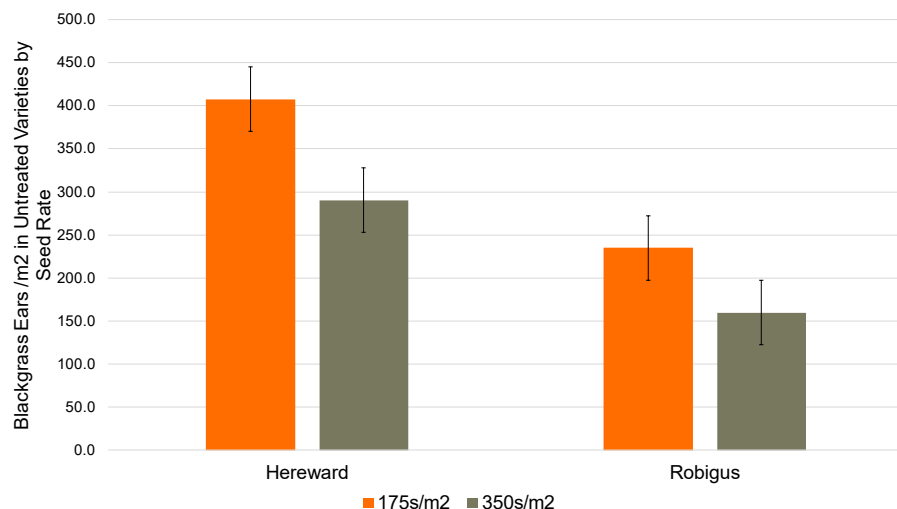




## Blackgrass competition

KWS believe competitiveness is made up of a number of factors not just over all height. These include tillering ability and speed of movement especially in the spring. Seed rate sown has been shown to be one of the best ways to improve competitiveness of the of a crop. KWS Parkin, with its very stiff straw does offer growers the potential to push seed rates hard for maximum competition. Hereward was a shy tillering type, many modern varieties will be similar to Robigus.

**Trial 19039 - Winter Wheat Crop Competition Trial - First Drilling (3/10/18)**

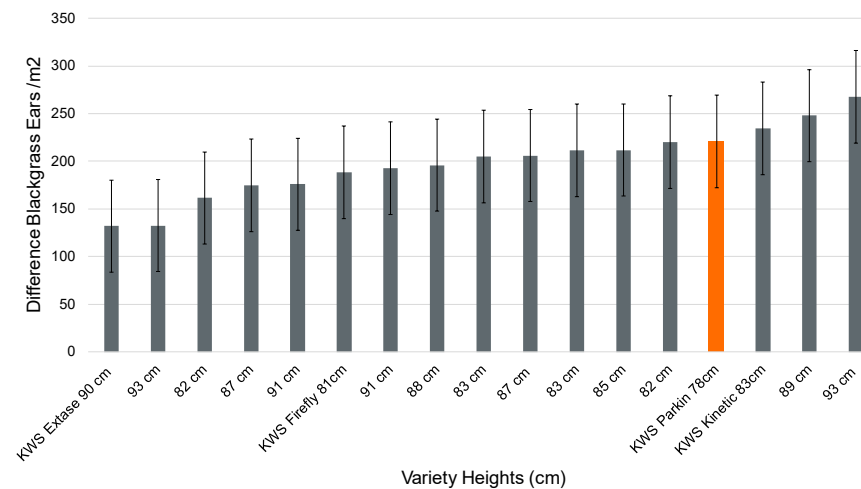


The trial below shows a range of varieties and their listed heights without PGR.

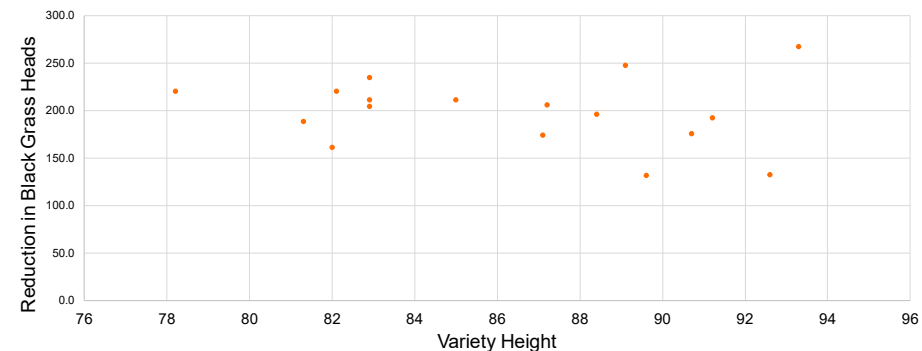
While there is the suggestion that taller varieties dominate the left-hand end there is the tallest variety furthest right. It is the varieties at the extreme ends of the chart that have a statistically significant difference to each other. Graph 1.2 shows the poor correlation between height and reduction



**Trial 19039 - Winter Wheat Crop Competition Trial - First Drilling (3/10/18) - Stow Longa % Difference in Blackgrass Ears Between Fully Treated and Untreated**



**% Difference In Black Grass Ears Between Fully Treated and Untreated**



KWS believe the best blackgrass control is achieved by well established crops that compete while building maximum yield potential. Any advantages given by variety are helpful but small compared to the measures actionable by growers.

## Pest and Disease Resistance

A high level of disease resistance is a key target of the KWS winter wheat breeding programme and KWS Parkin delivers a good all-round disease package as demonstrated by the latest AHDB dataset. As with any variety, correct fungicide application timing is key to get the best out performance on your farm.

	Untrt Yield (% Untrt Controls)	Mildew	Yellow Rust	Brown Rust	<i>Septoria tritici</i>	Eyespot	<i>Fusarium</i>	OWBM
<b>KWS Parkin</b>	<b>80</b>	<b>6</b>	<b>9</b>	<b>5</b>	<b>5.5</b>	<b>4</b>	<b>6</b>	-
<b>Graham</b>	88	7	8	6	6.8	4	6	-
<b>Gleam</b>	84	6	6	6	6.3	4	6	R



### Mildew:

At a score of 6, KWS Parkin has good resistance to mildew. Mildew is frequently detected in early sown, thick crops and so canopy management will play a part in the control of this disease. Generally, in all but the highest of pressure situations, this disease is a low priority in structuring the fungicide programme for the season.

### Yellow Rust:

KWS Parkin has excellent resistance to yellow rust, even in the high-pressure conditions observed in the 2019 growing season. In breeding nurseries over the past few seasons, resistances have remained unchanged. Nevertheless, as new races are continually developing growers' are advised to monitor their crops routinely.

### Brown Rust:

Brown rust is traditionally a late season disease, which has often been seen to be more prevalent across Southern England. However, in recent years when conditions are mild throughout the winter months growers are advised to monitor their crops routinely. At a score of 5 it is suggested that brown rust levels are examined in KWS Parkin, especially when the crop have been sown earlier.

### *Septoria tritici*:

Being one of the most widespread and devastating foliar disease in wheat, control of *Septoria tritici* has risen to the top of mind now that chemical control methods are reduced during the 2020 growing season. At a score of 5.5, KWS Parkin should be grown with a targeted fungicide programme to control this disease and preserve the yield potential of this variety.

### *Fusarium*:

KWS Parkin has good resistance to *Fusarium* ear blight, similar to that of other high yielding feed types which require late season monitoring and fungicide applications as required.

### Eyespot:

With a score of [4], KWS Parkin does show susceptibility eyespot. In second or continuous cereal positions, and in high pressure first wheat situations, we recommend the use of an effective eyespot fungicide at T0 or T1 timings.



## Grain Quality

As a hard Group 4 wheat, KWS Parkin meets all the requirements for the domestic and export feed sectors, delivering the correct levels of protein Hagberg and specific weight required by these markets.

	KWS Parkin	LG Skyscraper	Gleam	Graham
<b>NABIM Group</b>	4 hard	4 soft	4 hard	4 hard
<b>Protein (%)</b>	11.3	11.4	11.3	11.4
<b>HFN</b>	259	218	219	276
<b>Specific weight (kg/hl)</b>	76.3	76.9	76.3	76.8

Data source: 2020/21 AHDB Recommended List - Winter Wheat

What's more, as a hard feed, grain storage is simplified as it can be added to the feed heap.





# Crop Management Strategies

## Sowing Information

KWS Parkin can be grown on a range of soil types, although preliminary data from AHDB trials suggests that the best yield performances may come from heavier soils. KWS Parkin has been selected on the medium soils around Cambridge so we would still back its performance but suggest that for true light land there may be varieties with a higher over yield, but they may not have earliness or shortness characteristics.

Rotational position is an important consideration. The RL data indicates first wheat as being the highest yielding slot for the variety. The second wheat position is 3% lower, while this is not really significant it does indicate a drop in performance. The official data is limited as several sites have failed in the last two years resulting in half the number of data points. KWS believe Parkin is highly suitable for both first and second wheat. The first cereal position allows sowing to commence earlier where are the benefit of early maturity will very valuable for osr establishment to commence as soon as possible following a wheat crop.

Varieties such a Cordiale and Gallant remained highly useful on farm for spreading combining. We believe KWS Parkin will also fit this slot for farmers who don't use winter barley.

## Time Of Sowing And Seed Rates

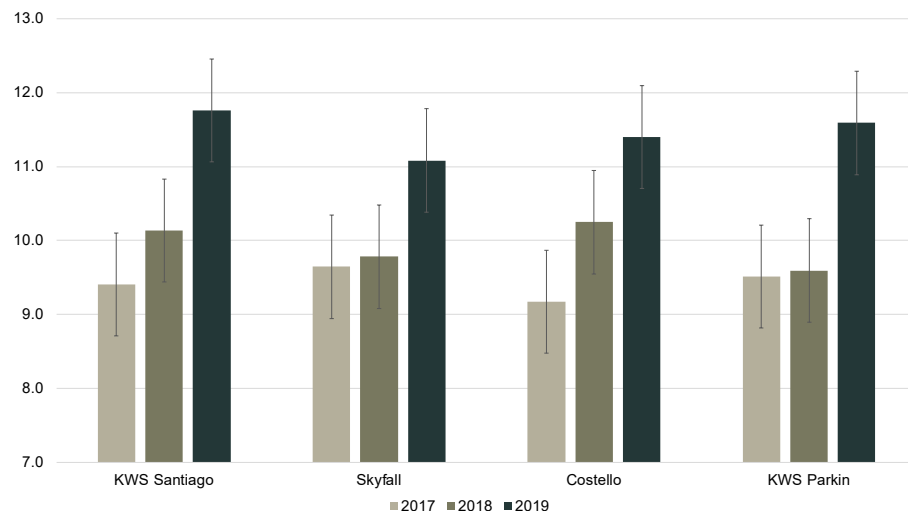
Sowing date is quite flexible, performing well in early sown trials in the third week of September all the way through to the end of January. The highest yielding window is the earliest one, where KWS Parkin produces the second highest yields in trial, but based on limited data. This performance is due to strong tillering, medium development speed and strong early maturing straw.

KWS Parkin has been aligned by many as the successor to stalwart stiff wheat Grafton. This variety could be low on tiller number in some situations so many growers increased seed rates. KWS has not seen any indications that KWS Parkin will require similar adjustments. Seed rate advice would therefore be to follow standard farm practice for site and season

## Crop Nutrition

If sequenced sowing is adopted then KWS Parkin will be one of the first wheats to receive an early spring application. Spring development is medium on the RL but we have seen it earlier than Grafton. Seeing this early season development regionally is important to understand how it can fit into eh spring workload sequence. As a group four the aim of nutrition is to maximise yield.

KWS Second Wheat Trials 2017-2019





## Fertiliser Requirements and Application Timing

Fertiliser recommendations should always be based around RB209 and not exceed nitrate vulnerable zones (NVZ) crop N maxs.

Recommendations should be received from a FACTS qualified advisor. The aims of the fertiliser strategy should be to a balance for the crops needs with regard to crop structure, soil nitrogen availability and total crop requirements to achieve the aims. Total amounts applied would vary between site, season and soil reserves.

When meeting the crop's nutrient requirements the intention should always be to ensure a steady but consistent supply through the growing period. Whatever product you choose to apply, KWS suggest a three-way split of nitrogen to meet crop needs.

Early spring management should target a plant population of 260 plants/m<sup>2</sup>. Each plant may be carrying between 3 and 4 tillers, giving a total of just under 1000 tillers in early spring. More than this number creates a structure which is hard to support and this level is adequate to achieve the targets set.

From GS31 back tillers start to die off. The AHDB wheat growth guide indicates 30% of final nitrogen will be taken up at this point. This is the time when temptation is greatest to apply a large dose. While there are good arguments for this in some years and areas due to the weather patterns, it will increase the retention of unnecessary tillers and lead to increased lodging risk. There is no substitute for spring tiller counting to justify decisions.

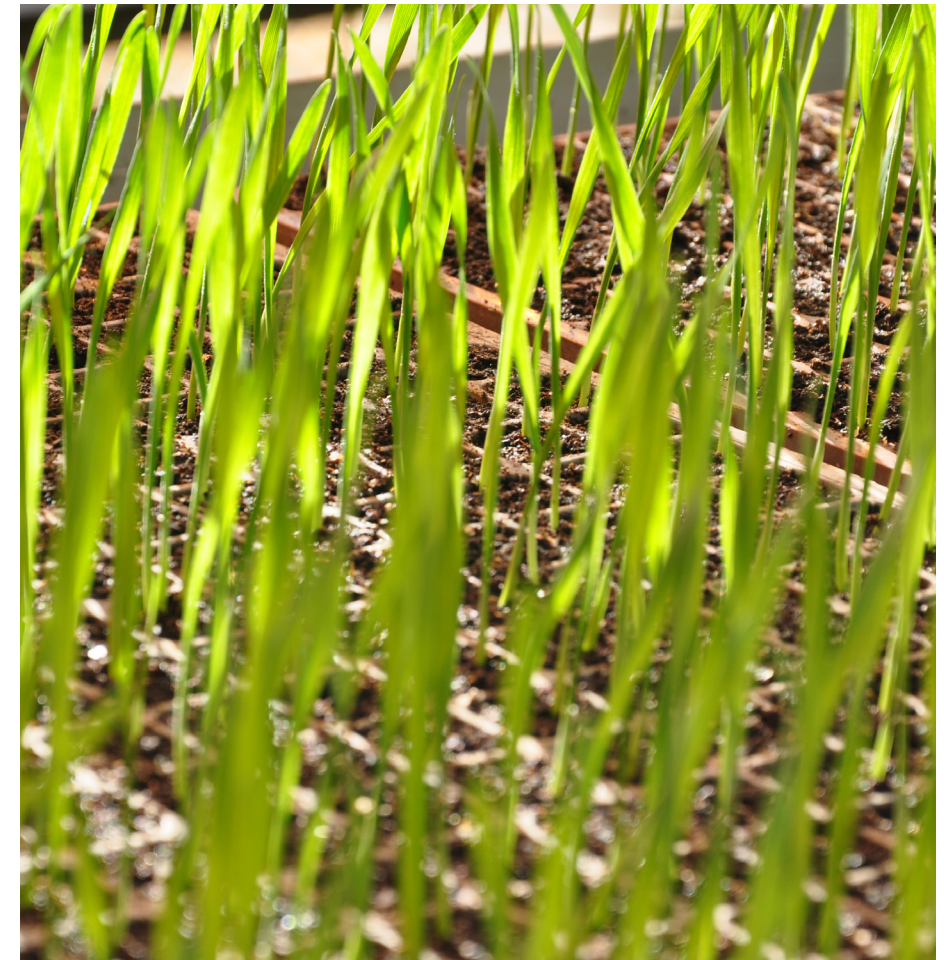
50% of total nitrogen is taken up in the period between first node and flag leaf. A further 20% is taken up between flag leaf and flowering GS61. Roughly 70% of the final nitrogen demand of the crop should be in the plant inside this construction phase. Only a small amount of nitrogen is taken up by plants after flowering (30kg/ha). Most grain protein will come from redistribution from stems, leaves and roots.

Crops that are too thick may not have enough reserves in each tiller to achieve 13% proteins. Crops that are too thin, sub 400 ears/m<sup>2</sup> may reach high proteins but yield has been missed. Final ear numbers should aim to reach around 500 ears/m<sup>2</sup>. Ear counts completed around flowering time are easily carried out before ears start to neck over making counting more difficult.

## PGR Strategy

As a short stiff variety the requirement for PGR will be minimal. There will be sites and seasons which create higher risk. Grafton was also short and stiff and in trials was shown to suffer adversely from excessive pgr applications. KWS does not believe KWS Parkin is effected in the same way as its growth habit is stronger and more vigorous. KWS Parkin has come through a recommendation process which does have high PGR usage and still yields at a competitive level.

KWS does believe that savings in PGR's can be made with the variety. Early sown crops may benefit least while later sown crops will be helped by promoting tillers and improving root anchorage.





## Wheat Orange Blossom Midge (WOBM)

Wheat Orange Blossom Midge (WOBM) continues to be a key consideration in the summer months, particularly in the East and South of England. KWS Parkin does not have resistance to this pest and so the correct use and timing of approved insecticides is recommended, where thresholds are reached. Early maturing KWS Parkin will be one of the first varieties on farm to reach ear emergence and consequently it is a candidate for early monitoring.

## Harvesting and Storage

As with any variety attention to detail at harvest is vital to ensure that the crop meets full market expectations. KWS Parkin offers growers one of the most secure packages at harvest thanks to its early maturity, good grain characteristics, short height and resistance to lodging. See page 10. What's more, as a hard feed, grain storage is simplified as it can be added to the feed heap.



## Further Information

If you need any further information or advice on growing KWS Parkin, then please email us at: [info@kws-uk.com](mailto:info@kws-uk.com) or telephone **01763 207300**.

For more about KWS UK Ltd and our other varieties, please visit our website at:

[www.kws-uk.com](http://www.kws-uk.com)

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