



agrovista
seeds



Cereals and oilseed rape key varieties

2022



*growing through
innovation*



Welcome

to Agrovista's seed varieties brochure 2022

Every season offers its unique challenges and opportunities, and this year will be no exception with commodity prices and input costs at record highs.

Cropping decisions this year will be more important than ever before and varieties will become invaluable management tools to address the many challenges and uncertainty that the arable sector faces in the UK.

Reliability and flexibility are very much at the heart of the offers we at Agrovista have selected to meet these demands. This brochure outlines the benefits that our autumn 2022 selection of varieties offers, their suitability for your farm and where they might fit within your rotation.

This autumn we are launching Alvius designed to be drilled from October through until April giving a safe, reliable, and flexible solution for wheat following a late harvested crop such as maize, potatoes and beet or where drilling is being delayed for blackgrass control.

Also of note this autumn is our variety Sartorial which continues to excel on farm and performs exceptionally as a late drilled first and second wheat when paired with the seed treatment Voltek which is offered at a reduced cost to aid establishment.

Alvius and Sartorial sit within Agrovista's hand-picked portfolio of 10 wheats focusing on yield, disease resistance, end markets, drilling date flexibility, varietal diversification, and regenerative farming practices.

Within Barley we will be focusing on two-row feeds, hybrid barleys and Sensation a BYDV tolerant variety with a uniquely early harvest date helping spread the harvest workload and allowing an early entry into following crops such as OSR.

Our OSR portfolio of varieties includes all the key technology traits - Clearfield, resistances to clubroot, sclerotinia, TuYV and pod shatter, RLM7 stem canker and strong vigour.

If you would like to discuss any of the areas highlighted in this brochure, please speak to your local Agrovista agronomist who will be pleased to offer advice tailored to your farm.



TED WILLIAMS
Arable Product Manager



Maximum yield starts with **good establishment and early nutrition**

A combination of two complimentary seed treatments available through Agrovista Seeds - TIROS and Voltek Bio, are helping farmers to improve crop establishment and nutrient use efficiency naturally, at a time when nitrogen spend is crucial to crop profitability.

The seed treatment combination of Tiros + Voltek Bio offer **a percentage yield increase on average of 5-7%** across 30+ trials and a **90% chance of a return on investment.**



Tiros is a revolutionary nitrogen-fixing seed treatment for cereals. It contains two strains of endophytic bacteria that colonise the vascular system in plant tissues – roots, shoots, stems, and leaves. Tiros contains a bacterium rather than an endophytic fungus in order that there are no adverse effects from fungicide inputs.

Two strains of bacteria help to reduce the variability that is often a feature of biological products, particularly ones based on a single strain. The fact that these endophytic bacteria live within the plant tissues is important as it means they are subjected to lower levels of environmental stresses such as UV and oxygen, the latter of which can reduce the efficacy of the nitrogenous enzyme fundamental to N-fixing.

In contrast, Voltek Bio is a biostimulant seed treatment complex known as a metabolite, containing a unique blend of keto acid, amino acids, and additional nutrients. This metabolite complex boosts nitrogen and carbon uptake, to aid germination and support growth and development of the young seedling as it emerges. In doing so, it maximises the nutrients made available by Tiros, whilst helping to stimulate the plant to grow away from potential stresses and pressures.



Voltek bio is designed to :

- Increase root and shoot biomass
- Enhance germination
- Improve establishment
- Increase overwintering tolerance
- Increase stress tolerance

The seed treatment combination of Tiros + Voltek Bio offer a percentage yield increase on average of 5-7% across 30+ trials and a 90% chance of a return on investment.

Where growers have adopted regenerative practices to improve the arable ecosystem and soil microbiome, the Tiros and Voltek Bio seed treatment combination offers a new opportunity to improve nutrient use efficiency naturally and in parallel with the plant's biology



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This seed treatment duo really is the ultimate in early nutritional support. Not only does it improve available nutrition, but it also improves the crop's ability to absorb it too. All direct to seed, from day one.

Craig Morgan
Head of Research and Development

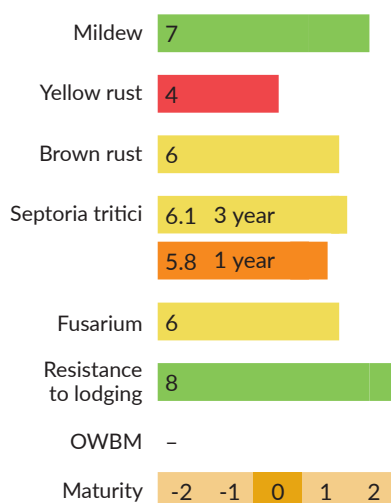


Wheat varieties

KWS ZYATT

Group 1

- This short and stiff Group 1 variety is top yielding in its class with optimum performance in all regions, first and second cereal positions
- In AgX trials 2019 – 2021 KWS Zyatt has outyielded Skyfall by 5% and matched LG Skyscraper (n=9)
- It has excellent standing and one of the best septoria tritici resistance ratings for its group
- Widely accepted by UK millers and has ukp quality for export markets too

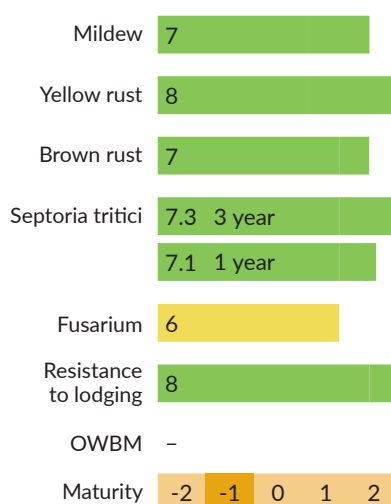


REGION	YIELD
UK	98
EAST	98
WEST	99
NORTH	98
Untreated yield	76
First cereal	98
Second cereal	99
Light soils	97
Heavy soils	99
Spec. weight	77.5

KWS EXTASE

Group 2

- The highest yielding Group 2 variety with good resistance to septoria tritici, mildew and rusts
- KWS Extase has the highest untreated yield on the Recommended List
- Limited data suggests it has excellent sprouting resistance and with exceptional grain quality and early maturity KWS Extase has become a very popular variety

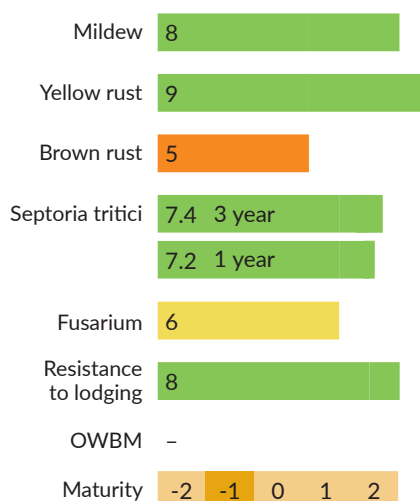


REGION	YIELD
UK	101
EAST	100
WEST	102
NORTH	99
Untreated yield	93
First cereal	101
Second cereal	101
Light soils	102
Heavy soils	100
Spec. weight	78.5

KWS PALLADIUM

Group 2

- Newly recommended KWS Palladium compliments KWS Extase with earlier drilling suitability, better disease resistance where KWS Extase is weak and matching septoria tritici resistance, though from a different genetic base
- Equal yield and early maturity, KWS Palladium offers the highest milling Hagberg for UK grists of any Group 1 or 2 variety
- KWS claim good resistance to sprouting



REGION	YIELD
UK	100
EAST	99
WEST	101
NORTH	(99)
Untreated yield	90
First cereal	100
Second cereal	100
Light soils	(98)
Heavy soils	98
Spec. weight	76.9

LG ILLUMINATE

Group 3

- The widest market suitability of any of the LG Group 3 varieties, with high hagberg and good specific weight
- Particularly suited to northern regions in yield, drilling date, distilling potential and excellent sprouting resistance
- LG Illuminate is the highest yielding Group 3 suitable for all three soft-milling markets
- LG Illuminate has a robust combination of disease resistance values, second highest untreated yield for Group 3 and particularly high yield when drilled early

Mildew	5
Yellow rust	7
Brown rust	7
Septoria tritici	6.1 3 year 5.4 1 year
Fusarium	5
Resistance to lodging	7
OWBM	R
Maturity	-1 0 1 2 3

REGION	YIELD
UK	100
EAST	100
WEST	100
NORTH	101
Untreated yield	84
First cereal	100
Second cereal	100
Light soils	101
Heavy soils	100
Spec. weight	76.2

BELEPI

Group 4 Soft

- Management tool to follow root crops with six month drilling October to end March
- Prostrate growth habit, profuse tillering and speed of spring stem elongation provides excellent blackgrass smothering capabilities
- Very early to harvest making an ideal entry for OSR and cover crops
- Can achieve biscuit quality where accepted and moderate distilling
- Uniquely the only spring-drilling variety with soft endosperm

Mildew	(7)
Yellow rust	(5)
Brown rust	(6)
Septoria tritici	(6.5) 3 year (6.5) 1 year
Fusarium	(7)
Resistance to lodging	(7)
OWBM	R
Maturity	-2 -1 0 1 2

REGION	YIELD
UK	Similar to late sown Santiago
Untreated yield	(78)
First cereal	(98)
Second cereal	(97)
Light soils	(99)
Heavy soils	(98)
Spec. weight	76

KWS DAWSUM

Group 4 Hard

- Newly recommended KWS Dawsum offers high Group 4 Hard endosperm yield with excellent specific weight and the second highest untreated yield of any RL variety
- Costello parentage ensures excellent mildew and yellow rust resistance with bold grain
- Limited data suggests very high yield when sown early
- Highest yield in the wetter UK regions

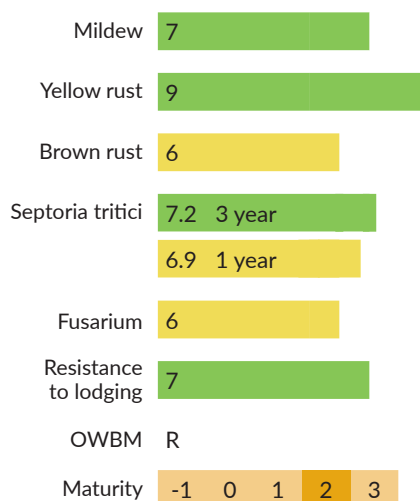
Mildew	8
Yellow rust	9
Brown rust	7
Septoria tritici	6.3 3 year 6.1 1 year
Fusarium	6
Resistance to lodging	7
OWBM	-
Maturity	-1 0 1 2 3

REGION	YIELD
UK	104
EAST	103
WEST	106
NORTH	(106)
Untreated yield	92
First cereal	105
Second cereal	104
Light soils	(105)
Heavy soils	104
Spec. weight	79.4

LG TYPHOON

Group 4 Hard

- Newly recommended LG Typhoon offers 'excellent consistency' across all trial years to date
- Resistance to both seedling and adult yellow rust gives early advantage, while diverse genetics gives robust septoria tritici resistance
- LG Typhoon develops slowly when drilled early with robust disease resistance to support
- Breeder perspective is that LG Typhoon has excellent tillering capacity with a prostrate leaf habit

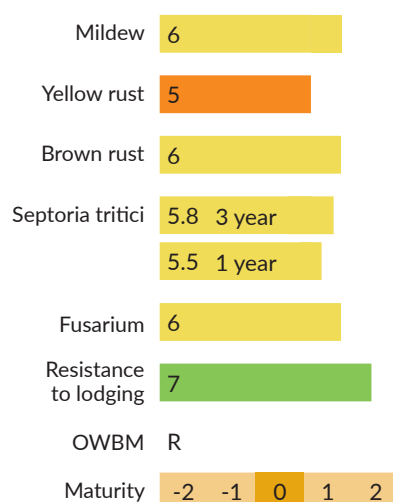


REGION	YIELD
UK	102
EAST	102
WEST	102
NORTH	(102)
Untreated yield	89
First cereal	101
Second cereal	104
Light soils	(102)
Heavy soils	101
Spec. weight	76.3

GLEAM

Group 4 Hard

- A high yielding feed wheat with good performance in all situations across UK
- Though Gleam's disease scores in trials have weakened over latter season's, yield remains remarkably consistent across all drilling situations
- Slow development offers early drilling opportunity in low yellow rust-pressure regions with matching early maturity



REGION	YIELD
UK	103
EAST	103
WEST	103
NORTH	103
Untreated yield	80
First cereal	103
Second cereal	103
Light soils	103
Heavy soils	103
Spec. weight	76.3



Sartorial

winter wheat

Agrovista
exclusive

Now in its third year of commercial production, Sartorial has become a firm favourite with Agrovista customers.

Despite three very different seasons since its launch to the market in 2019 Sartorial has consolidated its position as a consistent performer, supported by its quick autumn establishment, robust disease resistance and excellent specific weight.

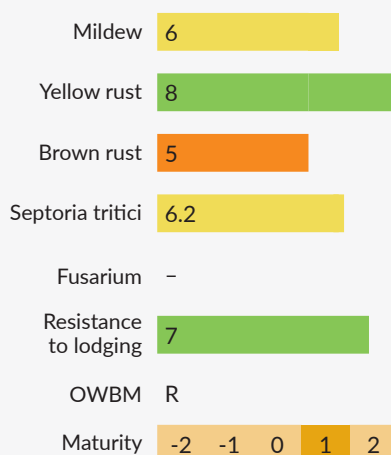


Sartorial, direct-drilled 10th Oct 2021 following Linseed. Newbury. Courtesy JCH Farming.

SARTORIAL

Group 4 Hard

- Excellent establishment capability backed by Agrovista in-house trials
- Vigorous growth habit akin to Siskin with higher yield and spec weight
- Equal YR and 6+ Septoria tritici resistance
- OWBM resistant
- Santiago parentage plus higher spec weight boosts light land performance while rapid, competitive early season development offers later drilling benefits with challenging seedbeds
- Agrovista Exclusive



REGION	YIELD
UK	(103)
EAST	(103)
WEST	(103)
NORTH	(104)
Untreated yield	(86)
First cereal	(103)
Second cereal	(103)
Light soils	(103)
Heavy soils	(103)
Spec. weight	77.3



Sartorial has featured in Agrovista regional trials for three years and UK National List trials prior where its rate of emergence was identified. The ability to overcome difficult seedbeds such as can be found in minimum tillage situations clarified its potential as a mainstream Group 4 variety.

Sartorial's rapid autumn establishment is exhibited in both plants established in the autumn and green leaf area in February/March.

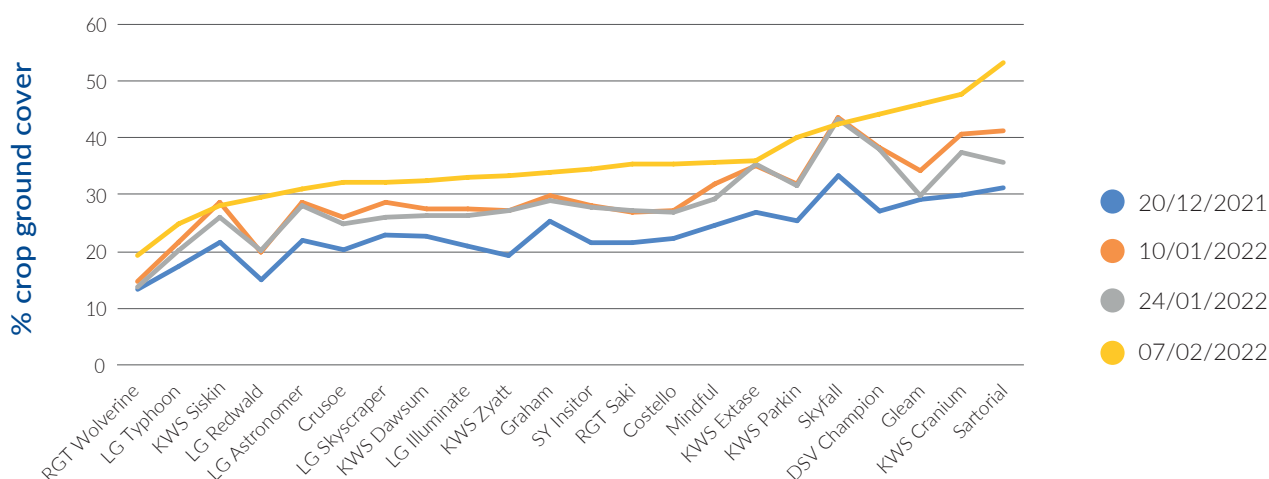
Treated mean yield

	2019-2021	2019	2020	2021
	n=9	n=3	n=2	n=4
SARTORIAL	103	103	107	101
GLEAM	102	101	101	103
LG SKYSCRAPER	100	98	101	100
KWS ZYATT	100	101	98	99
CRUSOE	96	98	96	95
SKYFALL	95	97	92	96

Source: AgX regional trials 2019-2021

WHEAT VARIETIES

Canopy measurements autumn 2021-22 AHDB Candidate and RL varieties



Source: AgX regional trials 2021-22



AgX Trials Framlingham, Suffolk. High tillage situation. RGT Gravity on left, Sartorial on right.

“

I find Sartorial an ideal choice to follow maize. Direct-drilled at 200kgs/ha (425 seeds/m²) mid-October into clay loam gives growers reassuring rapid emergence

Rob Purvis

Agrovista Agronomist, South East

Field Observations 17/1/22

(0 = poor 5 = excellent)

Variety	Plant vigour	Root vigour	Plant health	Other observations
GRAHAM	3	4.25	3.5 <i>More disease, yellowing and dead tissue</i>	<i>Worse slug damage</i>
GLEAM	3.5	4.25	3.5 <i>More disease, yellowing and dead tissue</i>	<i>More stoney/flinty soil?</i>
EXTASE	5	4.25	5	<i>Best soil?</i>
DAWSUM	5	4	4.5	<i>Worse slug damage</i>
SARTORIAL	4.5 <i>Thinner leaf than Dawsum and Extase</i>	5 <i>Longest roots</i>	4.5	<i>More stoney/flinty soil?</i>

Agrovista agronomist Quentin Ham compared Sartorial emergence early January 2022 at Wantage in Oxfordshire against four key AHDB Recommended List varieties looking at such characteristics as plant and root vigour and general plant health within the vegetative winter stage.

While KWS Extase showed marginally better plant vigour, Sartorial clearly had longer roots despite being on a stonier part of the field, see table above.

Catriona Bancroft, Agrovista Agronomist Scottish Borders, has made a similar observation on one of her customer's farms 800 ft above sea level, where the soil is light and loose and struggles to retain nutrients.

"The agronomy aim is to have the wheat well-tillered and strong coming out the winter. Both varieties, KWS Extase and Sartorial, have achieved this in Spring 2022 with the Extase definitely "leggy".



The exciting difference between the two is in the rooting, Sartorial plants are much more resistant to come out the ground when pulled and when laid alongside Extase have a much bigger root ball. This characteristic of Sartorial should make it more able to forage for nutrients if we have a dry spell in spring and stay anchored if wet, particularly in this sandy loam soil."



Sartorial disease resistance

2021 was a significant disease pressure year with yellow and brown rust attacking key AHDB RL varieties and a highly virulent strain of Septoria tritici negatively impacting resistance ratings on Cougar-related varieties.

Sartorial has quite unusual genetics relative to many currently in the market with Santiago, Cordiale and Soissons within its lineage. Santiago was one variety where yellow rust resistance improved in its latter years.

While some levels of yellow rust were observed in Sartorial in high pressure situations, the variety nevertheless resisted the disease well in 2021. We have adjusted the resistance score to an '8' for the 2022/23 season to reflect this.



Photo taken 21 June

At Kelso in the Scottish borders, Sartorial once again proved its value with notable disease resistance, illustrated by its minimal yield difference between treated and untreated. Coupled with very high specific weight on par with KWS Dawsum and notably better than KWS Extase untreated.

Kelso, scottish borders, winter wheat variety trial

Drilling date: 18/9/20

Ranked by treated yield

Yield						Specific weight		
Variety	Seed treatment	Group	17/08/21				19/08/21	
			Untreated	Treated	Increase		Untreated	Treated
GLEAM	Vibrance Duo	Hard 4	9.84	10.08	+ 0.24		76.6	75.1
KWS DAWSUM	Redigo Pro	Hard 4	9.96	10.07	+ 0.11		78.4	77.9
SARTORIAL	Redigo Pro	Hard 4	9.72	9.88	+ 0.16		78.2	77.2
RGT SAKI	Redigo Pro	Soft 4	9.27	9.85	+ 0.58		75.2	74.9
KWS PARKIN	Redigo Pro	Hard 4	8.52	9.71	+ 1.19		76.6	75.5
LG SPOTLIGHT	Redigo Pro	Soft 4	8.97	9.70	+ 0.73		77.0	76.6
KWS ZYATT	Redigo Pro	Group 1	8.72	9.68	+ 0.96		76.6	76.8
KWS EXTASE	Redigo Pro	Group 2	8.93	9.64	+ 0.71		76.6	77.1
LG ILLUMINATE	Redigo Pro	Group 3	8.22	9.19	+ 0.97		75.6	75.3
CRUSOE	Redigo Pro	Group 1	7.67	9.18	+ 1.51		75.8	76.1
LG ASTRONOMER	Redigo Pro GPA	Group 3	7.58	9.08	+ 1.50		75.8	75.8

Source: Extract from AgX winter wheat trial Kelso harvest 2021

Alvius

alternative wheat

**Agrovista
exclusive**

With the UK area of sugar beet, potatoes and maize circa 400,000 hectares there is strong demand for varieties of wheat that can accommodate the difficult establishment conditions that these late-lifted break crops present.

Alvius is a new type of wheat, exclusive to Agrovista, bred specifically to meet the challenges of late-season drilling.



ALVIUS

Group 4 Hard

- New to the Agrovista portfolio for 2022 season, Alvius brings an alternative functionality to crop establishment in 21st Century farming
- Ideally suited to follow roots where seedbeds may be compromised, Alvius offers a six-month drilling window
- Hard endosperm Alvius offers milling potential with high protein and specific weight across all drilling positions
- Alvius has not been through the UK NL trials process so cannot be directly compared to others in this table

Mildew	(9)
Yellow rust	(6)
Brown rust	(6)
Septoria tritici	(6)
Fusarium	6
Resistance to lodging	(7)
OWBM	-
Maturity	-2 -1 0 1 2

REGION	YIELD
Yield assessments to date based on sowing month rather than soil type. Yields and specific weight in Agrovista trials have nevertheless ranged from Extase to exceeding Dawsum/Champion	
Spec. weight	(79)

Alvius yield drilled November - April harvest 2021

Location	SUFFOLK	CAMBS	S. LINCS	S. LINCS	SUFFOLK	HEREFORD
Soil type	Heavy	Silt/Loam	Light	Light	Heavy	Heavy
Drilling date	23rd Nov	26th Nov	1st Dec	16th Mar	2nd Mar	21st Apr
ALVIUS	9.61	10.83	7.29	5.4	8.125	8.42
BELEPI	8.45	9.28	-	5.27	7.569	8.2
MULIKA	-	7.95	-	-	8.073	7.87
KWS EXTASE	9.39	9.85	-	-	-	-
SKYSCRAPER	8.56	-	-	-	-	-
GLEAM	9.33	-	-	-	-	-
KWS FIREFLY	8.87	-	-	-	-	-

Agrovista UK Ltd trials 2021

“Conditions following sugar beet lifting can often prove difficult for successful wheat establishment” says Stuart Cree, Technical Seed Specialist at Agrovista. “Day length tends to be getting shorter, moisture levels can increase rapidly and soil structure is often compromised” he continued. “Wheat varieties need to be able to maximise leaf cover as quickly as possible as the vegetative growth stage is often shorter, drilling after sugar beet than following wheat drilled in September or early October”.

Alvius has been specially bred in Germany to accommodate late-season drilling . It has high specific weight and good milling quality, though this is yet to be tested by UK millers. Trials by Agrovista in the UK across a range of sowing dates from October to March have produced

yields comparable to KWS Extase when drilled in October, and notably higher November-drilled onwards. Unlike a true winter wheat Alvius can also be drilled in the spring through to April.

Breeders have for a number of years, been looking for a replacement to Belepi wheat, which is recognised for its six-month drilling window.

Belepi is now entering its eleventh year and not surprisingly it is showing its age on yield against newer varieties, though it remains unique for its soft endosperm texture spring-drilled and its ability to compete against black grass.

Agrovista trials have placed Alvius directly against Belepi and have noted a constant yield advantage across all drilling positions.



“

Alvius has been specially bred in Germany to accommodate late-season drilling . It has high specific weight and good milling quality.

Drilled 26 November after sugar beet, Cambs.

Variety	Seed rate	Plants/m ²	Canopy cover %	Canopy cover %	Canopy cover %	Canopy cover %
		04/02/21	04/02/21	17/02/21	05/03/21	18/03/21
ALVIUS	450	219	7.42	8.09	16.23	27.65
KWS CRANIUM	450	183	4.24	5.91	12.24	19.18
MULIKA	450	206	7.52	9.16	15.72	24.62
SKYFALL	450	197	5.16	7.13	16.16	23.44
SISKIN	450	186	5.15	7.1	14.87	22.79
KWS EXTASE	450	189	6.06	7.72	17.21	26.38
CHAMPION	450	202	6.24	7.93	16.73	28.61
KWS KERRIN	450	192	6.14	7.88	14.97	24.82
RGT SAKI	450	194	3.99	5.17	11.44	19.37
SY INSITOR	450	188	4.96	5.58	11.47	19.38

Agrovista UK Trial 2021. Courtesy of AG Wright & Sons

Establishment and the ability to maximise green area quickly are important factors.

Visual assessments by variety at our fenland trial last season, where the plots were drilled 26th November in extremely challenging conditions after late-lifted sugar beet, illustrate Alvius' capabilities. Comparing with current and new AHDB Recommended List varieties Alvius produces green leaf faster than the majority and maintains increasing canopy size through early spring while others have slowed.

Alvius wheat does not require vernalisation and yet it has good winter hardiness allowing drilling from mid-October through to April.

Yield performance planted in October into ideal wheat-drilling conditions is on par with other winter wheat. Performance is particularly enhanced drilled November onwards, or where drilling conditions in October are compromised.

Harvest assessment 23 August 2021

Variety	Treated	
	Yield tonne/ha	Specific weight kg/hl
KWS CHAMPION*	11	59.5
ALVIUS	10.83	69
SY INSITOR*	10.57	62.9
KWS KERRIN	10.23	61.5
KWS EXTASE	9.85	63.1
KWS CRANIUM	9.74	57.7
RGT SAKI	9.72	58.6
LG FARRIER	9.66	63.1
SKYFALL	9.54	62.1
SISKIN	9.52	61.6

* seed was vibrance duo treated

Agrovista UK Ltd 2021. Drilled 26 November 2020 at 450 seeds/m² following sugar beet.

Alvius' speed of leaf production in the spring was notable with only Champion catching up with it by mid-March. By harvest both varieties were on par for yield, though the specific weight of Alvius proved notably higher.

Alvius is a German A wheat with high protein capability and high specific weight. Samples tested from our Suffolk site 2021 harvest compared to KWS Extase autumn sown and KWS Cochise

spring-sown highlighted the ability of Alvius to retain protein and Hagberg with good specific weight to match.

Alvius does not show any particular propensity to smother grass weeds, nor has the variety been assessed in controlled conditions.

The fenland trial detailed above had a flush of blackgrass across the site which it was not treated for. Observations made on the 21 June placed Alvius similar to other alternative wheats in the trial and notably better than the slower developing true winter varieties as the following picture shows where KWS Cranium is in the foreground and a sister-line variety to Alvius is beyond.



Agrovista UK Ltd. Visual assessment 12 June 2021 Haddenham KWS Cranium 600+ ears Blackgrass. Alvius 195

Quality analysis Alvius wheat Newmarket harvest 2021

OCTOBER SOWING					
Variety	Hagberg	Protein	kg/hl	Screenings through 2.0mm sieve	Yield t/ha
KWS EXTASE	310	12.61	67.17	0.7	9.788
ALVIUS	380	13.55	67.53	1.2	9.672

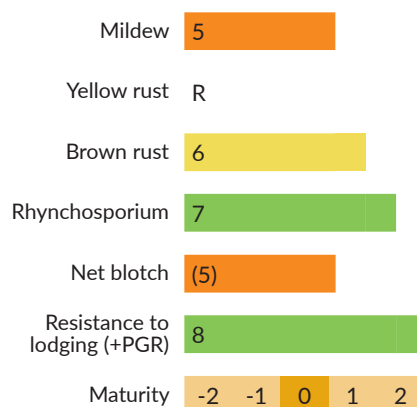
NOVEMBER SOWING					
Variety	Hagberg	Protein	kg/hl	Screenings through 2.0mm sieve	Yield t/ha
KWS EXTASE	336	12.64	69.61	0.9	9.388
ALVIUS	400	12.95	70.18	1	9.61

FEBRUARY SOWING					
Variety	Hagberg	Protein	kg/hl	Screenings through 2.0mm sieve	Yield t/ha
KWS COCHISE	242	12.82	67.8	0.8	8.076
ALVIUS	385	12.79	68.9	0.7	8.125

Barley varieties

KWS TARDIS - 2 ROW

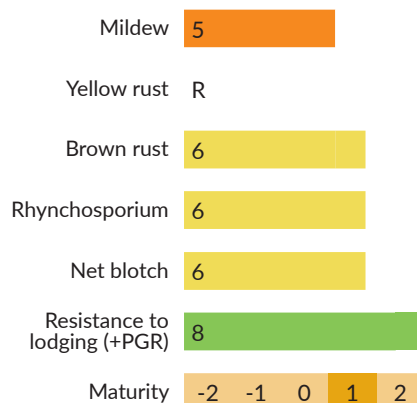
- Highest yielding two-row feed across UK on RL 2022/23
- Likewise highest yielding two-row in East matching or exceeding many 6-row hybrid lines
- Good standing with or without PGR and one of the lowest brackling percentage recorded
- Joint best Rhynchosporium resistance
- Highest yielding variety available on heavy ground



REGION	YIELD
UK	105
EAST	106
WEST	104
NORTH	104
Untreated yield	85
Light soils	103
Heavy soils	109

KWS HAWKING - 2 ROW

- A natural progression from KWS Orwell and complementary to the latest variety KWS Tardis
- Yields particularly well on heavy soils
- Medium tall with excellent standing ability with PGR and minimal brackling scores
- Particularly good net blotch resistance

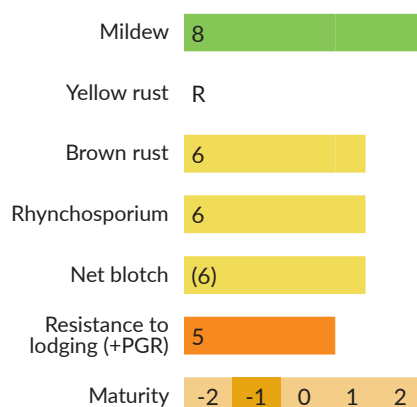


REGION	YIELD
UK	101
EAST	102
WEST	101
NORTH	99
Untreated yield	81
Light soils	99
Heavy soils	104

SY THUNDERBOLT - 6 ROW

Hybrid

- Highest yielding feed variety UK and west
- Matches highest two-row feed yield in east
- Highest yielding hybrid on RL for heavy soils
- A relatively tall-strawed hybrid requiring good PGR management
- Joint best mildew resistance
- Early maturity

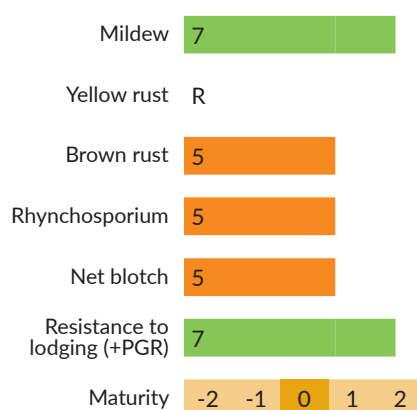


REGION	YIELD
UK	107
EAST	106
WEST	108
NORTH	106
Untreated yield	87
Light soils	103
Heavy soils	107

SY KINGSBARN - 6 ROW

Hybrid

- SY Kingsbarn is joint highest yielding feed variety east and north, marginally behind Thunderbolt in west
- Matches highest two-row feed yield in east
- Tall strawed yet good lodging resistance, low brackling and responds well to PGR
- Consistent treated yields across five years and best performance on lighter soils
- Bold grain with minimal screenings



REGION	YIELD
UK	106
EAST	106
WEST	107
NORTH	106
Untreated yield	84
Light soils	105
Heavy soils	104

Sensation

BYDV-tolerant winter barley

In the absence of neonicotinoid seed treatments growers are reliant on above-ground foliar sprays to keep early-season viruliferous aphids at bay from transmitting yield and quality-robbing barley yellow dwarf virus (BYDV) in cereal crops.

Growers can delay drilling date to mitigate the risk of BYDV in wheat but such options are less economically viable for winter barley production.



Sensation North Norfolk March 22.
Sensation is tolerant to BYDV so will show presence but yield will be less affected than non-BYDV tolerant lines



“We’ve adjusted to direct drilling and are cutting back on the use of insecticides. Being BYDV tolerant, Sensation gave us the opportunity to grow winter barley without worrying about having to spray for aphids.”

Robert Henley, Boroughbridge

BYDV can reduce yield in barley by up to 60%, reducing the number of grains per ear. Plants grow slowly and yellow leaf discolouration develops. Late in the season plants are clearly stunted and are delayed in heading and ripening. Grain is shrivelled. Experiments have shown that there are no significant differences in yield suppression between early plant (seedling) stage and later (early tillering) stage infection and environmental factors can considerably influence the severity of the infection. This highlights the importance of plants having genetic tolerance.

New 6-row winter barley variety Sensation offers growers a unique combination of tolerances to BYDV and two strains of barley yellow mosaic virus (BaYMV) – Type one and uniquely, also Type two now prevalent in other areas of Europe.

One of the key characteristics of Sensation is its early maturity, rated as the earliest winter barley variety to come into ear in France.

Extensive trials in France and Belgium harvests 2019 - 2021 gave early insight to the potential performance of Sensation in the UK and on this data Agrovista placed commercial crops autumn 2021. Initial grower feedback has been universally positive with the variety’s heightened autumn vigour being the key talking point. Robert Henley at Boroughbridge planted 50 acres as part of his conversion to Regeneration farming:

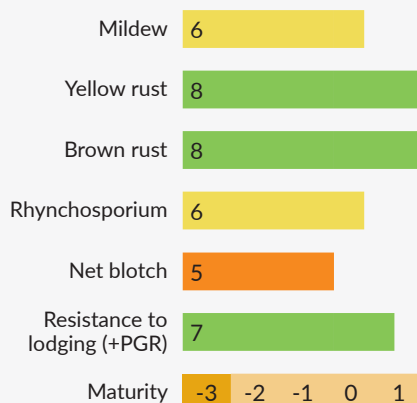
“We’ve adjusted to direct drilling and are cutting back on the use of insecticides. Being BYDV tolerant, Sensation gave us the opportunity to grow winter barley without worrying about having to spray for aphids. Drilled on the 28 September the crop has never looked back and I’m thinking perhaps I ought to run my sheep across it to reduce the biomass”

This characteristic of excellent autumn vigour has been experienced elsewhere in the UK.

SENSATION - 6 ROW

Conventional

- Sensation has entered the UK market from Germany where performance in trials has been most promising for a BYDV resistant variety
- Early autumn vigour and particularly early maturity makes this a difficult variety to trial within a fixed management protocol
- Consequently Sensation was removed from National List trials and continues assessment on farm by merit alone



REGION	YIELD
UK	(104)
Untreated yield	(93)
Light soils	-
Heavy soils	-

Agrovista agronomist Quentin Ham manages Sensation winter barley drilled on the 23 September at a sowing rate of 200kgs/ha at Hill Farm, Farley Hill, Reading.

“The crop has strongly tillered and now is very, very thick.” Quentin went on to highlight that close monitoring of foliar disease has been important following such a mild winter.



Growers in Cumbria, attracted to the variety by its potential early harvest are the talk of the area as the variety has exhibited hybrid-like establishment wherever it has been drilled. Agrovista agronomist Steven Gate placed the variety with three customers;

“Mr William Miller, who farms near Aspatria in Cumbria planted 11 ha of Sensation on one of his more difficult fields and the crop has grown so well, he has had four weeks sheep grazing on it during January and since the sheep have been taken out the crop has recovered fantastically.”

A second grower David Berry, of Great Strickland, Penrith planted 42ha of Sensation;

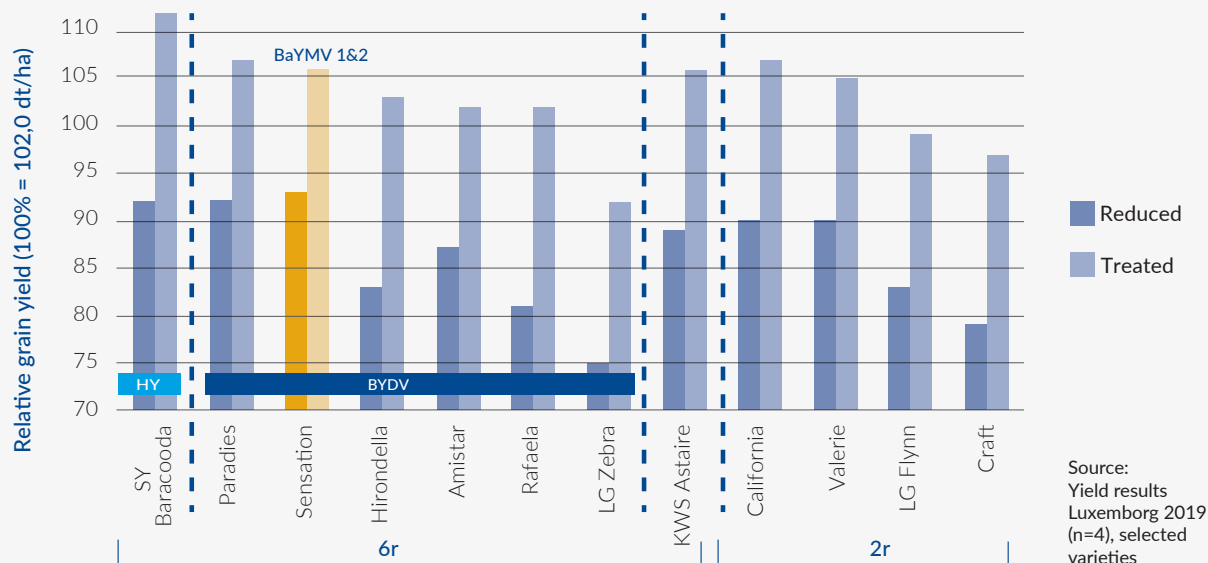
“David was initially attracted to the variety by the BYDV tolerance, meaning he could reduce his sprayer passes in the autumn, but then was very surprised by the vigorous establishment as he now has a full crop where normally barley struggles” stated Steven.

“

Growers in Cumbria, attracted to the variety by its potential early harvest are the talk of the area as the variety has exhibited hybrid-like establishment wherever it has been drilled.



How does it compare to other BYDV varieties in market?

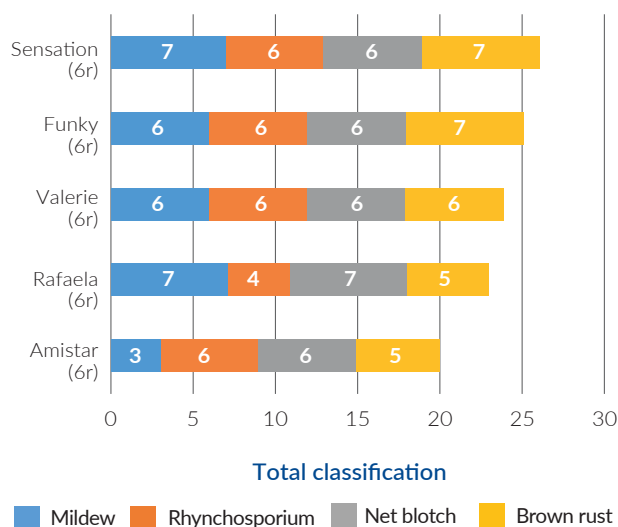


In standard yield trials in France 2019 (in the absence of BYDV) Sensation out-yielded competitor variety Amistar by 9% untreated and 2.5% treated, while in the same year in Belgium it also out-yielded the French Limagrain variety Rafaela by 15% untreated and 7% treated. Trials in Luxembourg 2019 (detailed above) gave similar positive comparisons.

In the absence of BYDV or where infection levels are mild Sensation has been shown to yield mid-range to other current feed varieties with specific weight equivalent to the hybrid 6-row Bazooka. Interpretation of UK breeder trials and EU Common catalogue results would rate Sensation at 68.6kgs/hl.

UK official trials have been able to assess disease resistance across two years, though some visual assessments for rhynchosporium were affected by the 2020 Covid outbreak. In general UK ratings match those achieved in official French trials 2020 (below) where Sensation exhibits a robust set of disease scores.

Being tolerant to BYDV and BaYMV means that the plants may still show signs of virus, but unlike conventional varieties yield and quality should not be affected. Use of Sensation winter barley should be a constituent part of your Integrated Pest Management policy and not aim to replace it entirely. Where aphid populations are high use of an insecticide may be recommended to safeguard other crops at risk in the vicinity.



Source: www.fiches.arvalis-infos.fr.
Info from 16 April 2020, official classification



French trials showing the early maturity of Sensation. All Sensation will be supplied with Voltek seed treatment as standard



OSR varieties

25% OFF

**Tabor berseem clover
companion plant seed**
when ordered with
**PT303, Dart or DK
Extremus oilseed rape**

Tabor berseem clover benefits:

- Easy to establish, simply mix with oilseed rape seed
- Very frost susceptible
- Single cut type ensures no regrowth
- The most tried and tested companion plant seed on the market

*Agrovista UK Ltd is committed to improving soil health structure.
Tabor berseem clover is an excellent companion to oilseed rape, helping to
open up the soil structure to the benefit of the oilseed rape crop.*



PT303

Hybrid oilseed rape

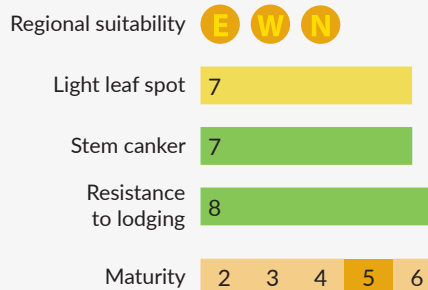
- PT303 is the first sclerotinia-tolerant hybrid available to UK growers
- 108% gross output east and west, 104% gross output north (AHDB recommended list 2022)
- Highest yielding variety with the TuYV trait
- Very high oil content combined with strong disease score makes PT303 ideal for UK conditions
- Sclerotinia can account for yield losses of up to 50% in high pressure situations. Losses of 1–1.5 tonnes per hectare are not uncommon even where late infections occur



PT303 bred by Corteva Agriscience

Hybrid

- PT303 is unique in being the first OSR variety to claim tolerance to sclerotinia. This beneficial trait creates a wider window for sclerotinia fungicide applications and potential cost savings
- Highest gross output variety on the recommended list across all regions
- High oil content, TUYV resistance, good disease scores and excellent standing power combine to make PT303 a very attractive proposition



AGRONOMIC DATA	
RL	2022/23
E & W	108%
NORTH	104%
Oil content	46%
Plant height	164
TuYV resistance	Yes
Pod shatter resistance	–

“

No oilseed rape varieties have previously offered any level of resistance to sclerotinia but with PT303 we now have a variety that has tolerance – a major milestone in our industry

Andy Stainthorpe

Corteva UK and Ireland Seeds Manager



Dart

**25%
OFF**

Tabor berseem
clover
when ordered
with Dart

Hybrid winter oilseed rape bred by DSV

- Trials indicate that Dart is proving very resilient to CSFB damage at both adult and larval stages
- Dart is a derivative of the variety Incentive 45 and shares that variety's rapid establishment and early spring vigour. Dart also demonstrates strong tolerances to verticillium stem stripe helping to maximise yield and oil content
- Dart is the first of the DSV varieties to carry the new Harvest Max protection trait helping to give maximum protection against harvest challenges
- Triple-stacked traits with TuYV, Harvest Max and RLM7 stem canker resistance
- Combination of short stem, long pods held in a compact canopy with pod-flex technology aiding drying and ripening for easier more efficient harvest - Harvest Max



#ForOurGrowers

“

DSV Dart looks to be the shining star in DSV trials which have had high levels of CSFB larvae attack. The trial contains the top UK hybrids and many of the varieties are really struggling from the high pressure. DSV Dart has the best GAL's out of all 23 varieties in the trial and has shown very limited damage from CSFB attack

Sarah Hawthorne
DSV UK Sales and
Marketing Manager

DART bred by DSV

Hybrid

- Offers a fantastic all round package including TuYV, RLM7 phoma and pod shatter resistance through pod-flex technology (Harvest Max)
- Very good verticillium stem stripe tolerance
- Is a derivative of Incentive 45 matching its exceptional early vigour
- Medium height with low biomass ensures Dart is early to mature and easy to harvest
- Disease scores of 7 for light leaf spot and 7 for stem canker coupled with a high oil content complete a full complement of beneficial traits

Regional suitability **E W**

Light leaf spot **7**

Stem canker **7**

Resistance to lodging **8**

Maturity **2 3 4 5 6**

AGRONOMIC DATA

RL 2022/23

E & W 106%

Oil content 45.5%

Plant height 150

TuYV resistance Yes

Pod shatter resistance (Yes)

Risk-sharing offer 2022

DX Extremus

Hybrid oilseed rape

Our risk sharing offer extends to all oilseed growers with an opportunity for those wishing to grow a hybrid line. DK Extremus was introduced last season and benefits from excellent early vigour and rapid establishment. DK Extremus is the perfect hybrid for early drilling as it will not overgrow going into the winter months resulting in a much more manageable crop in the spring.

Agrovista
exclusive

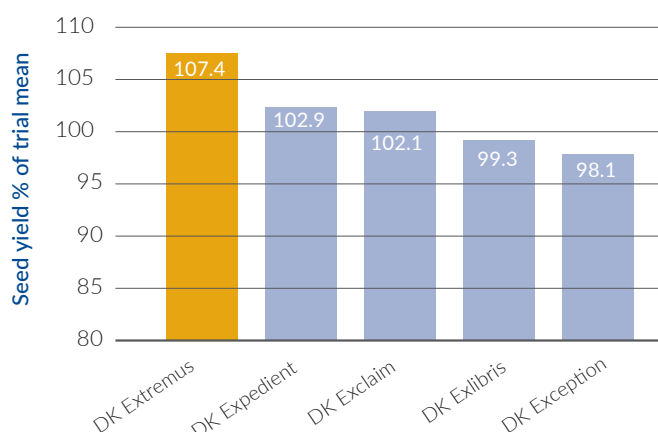
25%
OFF

Tabor berseem
clover
when ordered with
DK Extremus



Available with the
DeKalb establishment
risk share scheme
subject to
grower enrolment

Bayer UK breeding 2018 trials

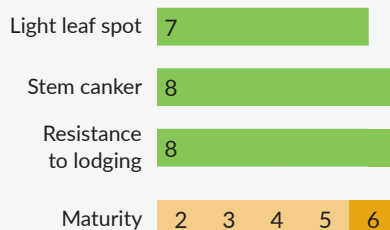


DK Extremus bred by Bayer DeKalb

Hybrid

- DK Extremus displays all the characteristics that make DeKalb hybrids so popular in the marketplace
- Well suited to early August drilling with excellent vigour leading to rapid establishment
- Early to flower and mature with excellent disease scores and strong verticillium wilt resistance makes DK Extremus a very robust variety suitable for the majority of growers. RLM7 and pod shatter resistance complete an excellent all round package

Regional suitability **E W N**



AGRONOMIC DATA

National list	UK
E & W	101%
North	98%
Oil content	45.4%
Plant height	152
TuYV resistance	-
Pod shatter resistance	Yes

Risk-sharing offer 2022

Codex

Conventional oilseed rape

- With the Codex risk share offer the grower only pays royalty on the area established by 31 October. BIPO are responsible for collecting royalty payments for this variety
- Vigorous autumn and spring growth, a key attribute for growers in flea beetle 'hotbed' regions

- Highest rating possible for stem canker via RLM7 gene resistance
- Robust light leaf spot resistance
- Tolerance to verticillium stem stripe



Codex establishment compared to Campus at Thriplow, Cambs in 2020



Campus 06/08/2019
6kg/ha +companion crop
GAI 0.44 27/02/20

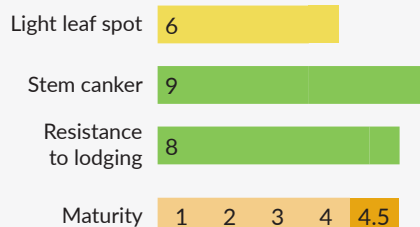


Codex 06/08/2019
5kg/ha +companion crop
GAI 0.93 27/02/20

CODEX bred by KWS

- Codex has very vigorous autumn growth capability coupled with good spring vigour
- Codex carries the RLM7 phoma-resistance gene offering maximum resilience against this pathogen, has shown durable resistance to light leaf spot and good tolerance to verticillium stem stripe
- Such a combination offers strong establishment potential while excellent standing ability ensures seed yield is safeguarded through to harvest

Regional suitability **E W**



Conventional

AGRONOMIC DATA

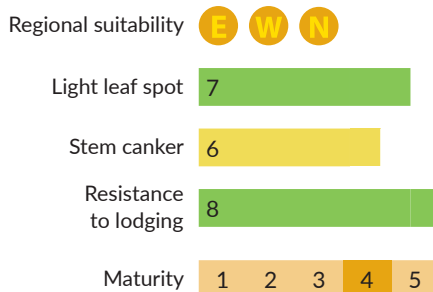
National List	UK
E & W	101%
Oil content	44.9%
Plant height	162
TuYV resistance	-
Pod shatter resistance	-

Conventional

ANNIKA bred by Limagrain

Conventional

- Annika is the highest yielding conventional variety on the RL with TuYV resistance
- Good disease scores of seven for light leaf spot and six for stem canker makes Annika an easy to manage option well suited to both the the northern and east, west regions of the UK
- Varieties with the TuYV trait in recommended list trials consistently outyield those without it



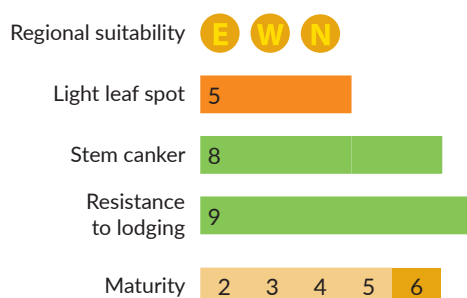
AGRONOMIC DATA	
RL	2022/23
E & W	103%
North	102%
Oil content	45.2%
Plant height	149
TuYV resistance	Yes
Pod shatter resistance	-

Clearfield

BEATRIX CL bred by DSV

Agrovista exclusive
Hybrid

- Exceptional gross output for a Clearfield variety. Quad-trait stacked line offering TuYV, pod shatter, RLM7 stem canker resistance and Clearfield technology
- Early to mature with a medium height canopy giving very good lodging resistance
- Outstanding winter hardiness

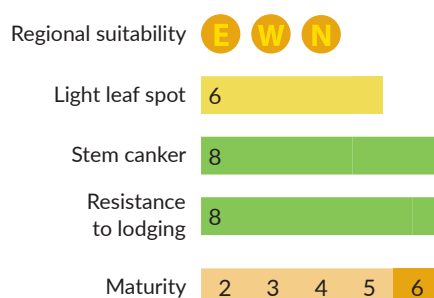


AGRONOMIC DATA	
RL Candidate	2022/23
NIAB TAG trials	103%
Oil content	45.2%
Plant height	145
TuYV resistance	Yes
Pod shatter resistance	Yes

MATRIX CL bred by DSV

Hybrid

- Highest yielding Clearfield variety on the recommended list Quad-trait stacked with TuYV, pod shatter, RLM7 and Clearfield technology
- Early maturity and good lodging resistance
- Matrix CL is without doubt the premium recommended list Clearfield variety available in the UK marketplace



AGRONOMIC DATA	
RL	2022/23
E & W	100%
NORTH	96%
Oil content	45.8%
Plant height	159
TuYV resistance	Yes
Pod shatter resistance	Yes

Clubroot tolerant

CROSSFIT bred by DSV

Hybrid

- First clubroot tolerant variety to offer TuYV and pod shatter resistance along with RLM7 phoma resistance
- Best suited to England and Wales with early flowering and excellent stem canker resistance, significantly better than competitor clubroot varieties
- Medium stem length and very good resistance to lodging

Regional suitability **E W**Light leaf spot **5**Stem canker **9**Resistance to lodging **8**Maturity **2 3 4 5 6**

AGRONOMIC DATA

RL	2022/23
E & W	99%
Oil content	46.4%
Plant height	148
TuYV resistance	Yes
Pod shatter resistance	Yes

CROME bred by LSPB

Hybrid

- Crome has consistently matched the gross output of standard hybrid varieties particularly in the north, but with the added trait of clubroot disease resistance
- Early flowering but with slightly later maturity than Crossfit.
- Good light leaf spot resistance underlines Crome's suitability for oilseed rape production in northern regions
- Medium height with good lodging resistance

Regional suitability **N**Light leaf spot **6**Stem canker **4**Resistance to lodging **8**Maturity **2 3 4 5 6**

AGRONOMIC DATA

RL	2022/23
North	101%
Oil content	46.1%
Plant height	148
TuYV resistance	-
Pod shatter resistance	-





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