agrovista
seeds

Cereals and oilseed rape key varieties

2023

growing through ***innovation***

Welcome

to Agrovista's seed varieties brochure 2023

With every consecutive season farm rotation and varietal choice become ever more important tools to combat the challenges of modern farming.

The typical cropping and rotational conversations around the kitchen table have become more challenging with greater uncertainty around weather patterns and politics. These factors whether they be local, national, or international are having profound impacts on our businesses and make cropping choice more crucial than ever to get right.

Reliability and flexibility are key to navigating the challenges of autumn 2023 and beyond. We at Agrovista have continued to make these principles core to our variety selection this season.

This brochure outlines the benefits that our autumn 2023 selection of varieties offers, their suitability for your farm, where they will fit within your rotation and ultimately provides all the key information to maximise your gross margin.

This autumn we are launching our new winter wheat variety Mindful.

Mindful has shown to be a reliable, high yielding variety across several sites and drilling dates over the last few years and its high specific weight from its Costello parentage assures quality even in challenging years.

Whilst Mindful is flexible enough to be drilled in any winter wheat situation it consistently tops our early drilling trials. Early drilling performance of Mindful compliments our portfolio of wheats with Sartorial, our most popular variety, continuing to excel as a later drilling first and second wheat and Alvius providing a flexible solution as a winter/spring drilling variety.

Mindful, Sartorial and Alvius sit within Agrovista's handpicked portfolio of wheats focused on yield, pest and disease resistance, end markets, drilling date flexibility, varietal diversification, and regenerative farming practices.

Our Barley offering will be focused on two row feeds, hybrid barley and our new variety Aleksandra which provides, amongst other benefits, a uniquely high specific weight and untreated yield.

Within our OSR portfolio our offering includes all the key technology traits - Clearfield, Clubroot and Sclerotinia tolerance, TuYV, 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 able to offer advice tailored to your farm.

TED WILLIAMS
Arable Product Manager

Wheat varieties

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 but this must be protected to maximise yield
- With exceptional grain quality and early maturity KWS Extase has become a very popular variety
- Manage fertiliser by growth stage not calendar date to avoid scorching

Mildew	7
Yellow rust	8
Brown rust	6
Septoria tritici	7.8
Fusarium	6
Resistance to lodging	8
Eyespot	(4)
OWBM	–
Maturity	-2 -1 0 1 2

REGION	YIELD
UK	102
EAST	102
WEST	102
NORTH	100
Untreated yield	97
First cereal	101
Second cereal	102
Light soils	102
Heavy soils	101
Spec. weight	79.4

KWS PALLADIUM

Group 2

- KWS Palladium compliments KWS Extase with earlier drilling suitability, better mildew and matching septoria tritici resistance, though from a different genetic base
- Equivalent yield and early maturity, KWS Palladium offers the highest milling Hagberg for UK grists of any Group 1 or 2 variety
- KWS Palladium has notably good yellow rust resistance assuring a high untreated yield and is the shortest Group 2 with or without PGR

Mildew	8
Yellow rust	9
Brown rust	5
Septoria tritici	7.4
Fusarium	6
Resistance to lodging	8
Eyespot	(6)
OWBM	–
Maturity	-2 -1 0 1 2

REGION	YIELD
UK	100
EAST	100
WEST	101
NORTH	99
Untreated yield	94
First cereal	100
Second cereal	100
Light soils	99
Heavy soils	99
Spec. weight	77.6

KWS DAWSUM

Group 4 Hard

- 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
- Very high yield when sown early. Slow growth rate suggests better varieties available (e.g. Sartorial) for later sowing positions
- Limited data suggests equal best sprouting resistence across RL varieties

Mildew	8
Yellow rust	9
Brown rust	7
Septoria tritici	6.4
Fusarium	7
Resistance to lodging	7
Eyespot	(6)
OWBM	–
Maturity	-2 -1 0 1 2

REGION	YIELD
UK	104
EAST	103
WEST	105
NORTH	105
Untreated yield	95
First cereal	104
Second cereal	105
Light soils	105
Heavy soils	104
Spec. weight	80

mindful

Winter wheat

Agrovista exclusive

Mindful, Bedale Yorks. Harvest 2022

Mindful is a hard endosperm group 4 feed wheat which has topped in house trials across the last two very different years.

Mindful has a sound combination of disease resistance ratings, suggestive of multi-gene protection derived from the parents of Evolution and Costello. The latter is renowned for its high specific weight and Mindful carries this trait too, while Costello's total resistance to yellow rust, from the single Timaru gene is only part of Mindful's genome, promising similar stability over time.

MINDFUL

Group 4 Hard

- Outyields Dawsum in the East and Champion in the North (NL)
- Very good mildew resistance
- Good early drilling yields - 105 over two years, third highest overall (including Dawsum/Champion) in 2022
- Compliments Sartorial with earlier drilling window and differing genetics to reduce disease pressure on farm
- Average performance in official trials where both Dawsum and Mindful were present, clarifies that specific weight is equal
- Initial trials show good promise as second wheat and excellent performance on heavy land

Mildew	8
Yellow rust	6
Brown rust	5
Septoria tritici	6.3
Fusarium	6
Resistance to lodging	(7)
Eyespot	(5)
OWBM	–
Maturity	-2 -1 0 1 2

REGION	YIELD
UK	104
EAST	104
WEST	104
NORTH	(103)
Untreated yield	91
First cereal	104
Second cereal	(104)
Light soils	(101)
Heavy soils	105
Spec. weight	79.3

Bracket values give guidance on comparative agronomic values based on commercial observations and Agrovista trial performance.

Consistent yield performance

Mindful offers consistent yield performance across differing regions back cropping and drilling dates. Grown for seed in 2022, Mindful in the Eastern region performed notably well achieving 12 tonnes per hectare in Suffolk following fallow ground left after a very difficult sugar beet lift the season before.

This compared favourably with KWS Dawsum following early-lifted sugar beet at 11.1 tonnes per hectare. AHDB National List (NL) and RL Candidacy trials have mirrored this outcome on heavy soils where it marginally out-performs at 105% of control verses KWS Dawsum at 104% of controls.

Further north in Bedale, North Yorkshire, seed grower Mark Sampson also grew Mindful alongside KWS Dawsum and RGT Bairstow. Drilled next door to each other following potatoes, KWS Dawsum achieved 11.84 tonnes per hectare with a specific weight of 82.95 kg/hl. Mindful yielded on par at 12 tonnes per hectare with specific weight at 81 kg/ha. RGT Bairstow achieved 10.62t/ha.

"It stood extremely well, better than Dawsum on equivalent adjacent land, and was easy to combine"

Mindful has also shown promise as a second wheat, or in a continuous wheat position. Trials carried out by Agrii Smart Farms in 2022, drilled October noted the consistent high yield across two situations.

We pledge to donate 10% of our Mindful seed sales profit to our partner charities;

FCN THE FARMING COMMUNITY NETWORK RSABI

The Farming Community Network (FCN) is a voluntary organisation and charity that supports farmers and their families through difficult times. FCN provide free, confidential, pastoral and practical support to anyone who seeks help, regardless of whether the issue is personal or business-related.

Helpline - 03000 111 999
www.fcn.org.uk

RSABI provides practical, emotional and financial support to all people involved in the Scottish agricultural industry. The service is available to those previously and currently involved in farming, crofting and occupations related to agriculture in Scotland.

Helpline - 0808 1234 555
www.rsabi.org.uk

Agrii R&D variety trials 2022 harvest

	BEDFORD (2ND WHEAT)					REVESBY 21312 (CONT WHEAT)				
Previous crop	Wheat					Wheat				
Soil type	Clay loam					Clay loam				
Drilling date	3 October 2021					19 October 2021				
Seed rate	400					375				
	Untreated	Untreated	Treated	Treated	Treated	Untreated	Untreated	Treated	Treated	Treated
	Yield t/ha @ 15% m.c.	Yield (% of treated Controls)	Yield t/ha @ 15% m.c.	Yield (% of Controls)	Specific weight kg/hl	Yield t/ha @ 15% m.c.	Yield (% of treated Controls)	Yield t/ha @ 15% m.c.	Yield (% of Controls)	Specific weight kg/hl
			11					10.1		
LG ASTRONOMER	9.2	85	10.6	99	81.7	9.9	98	9.7	96	75.6
LG SKYSCRAPER	9.7	90	11.0	102	80.0	10.6	105	10.4	103	73.7
GLEAM	9.5	88	11.3	106	81.3	7.6	76	10.3	102	75.2
MINDFUL	**8.9**	**82**	**11.4**	**106**	**81.7**	**10.3**	**102**	**10.4**	**103**	**74.3**

Mindful combined like a dream – we always thought Gleam was the best combining wheat ever, but we added 20t/hour to our combine output

Giles Western, The Grove, Brundish, Suffolk

Mindful trials

Both early sown in the first ten days of September and late sown in November, Mindful has shown remarkable high yield consistency.

AgX winter wheat. All sites 2021-2022 including specific weight

	2 year	AgX	AgX	AgX	AgX	AgX	AgX	AgX	Specific weight
Site name		Framlingham Suffolk	Peopleton Warks	Haddenham Cambs	Draughton Northants	Draughton Northants	Haddenham Cambs	Kelso North'land	All Sites
Year		2022	2022	2022	2022	2021	2021	2021	
Trial mean		14.98	14.35	14.70	12.57	12.87			
LSD 5%		0.383	0.847	1.139	2.329	0.476	1.030	0.515	
CV%		1.92	4.16	6.22	11.94	0.35	7.63	3.21	
Sowing date		26 Sept	27 Sept	16 Nov	8 Oct	14 Oct	26 Nov	18 Sept	
Previous crop		OSR	OSR	S-beet	F-beans	Sp Beans	S Beet		
Soil type		Medium	Medium	D-silt	Heavy	D-clay	D-silt		
MINDFUL	**13.59**	**14.89**	**14.30**	**15.44**	**12.37**	**13.66**	**10.87**		**73.785**
LG SKYSCRAPER	13.47	14.85	13.73	15.61	13.26	12.89		10.46	
GLEAM	13.16	15.19	14.79		12.06	13.67		10.08	
CHAMPION	13.11	15.22	14.97	14.71	12.48	13.28	11.00	10.10	69.65
KWS DAWSUM	12.79	15.03	14.48	14.13	12.75	13.11	9.94	10.07	73.4
KWS EXTASE	12.68	14.60	13.77	14.35	12.29	14.25	9.85	9.64	73.15

2 year results Haddenham Nov-drilled

Variety	Yield - 2 year	2021	2022	2022	2021	Mean spec weight
MINDFUL	**13.155**	**10.87**	**15.44**	**82.97**	**64.6**	**73.785**
CHAMPION	12.855	11	14.71	79.8	59.5	69.65
SARTORIAL	12.26	9.47	15.05	82.03	58.4	70.215
DAWSUM	12.035	9.94	14.13	84.1	62.7	73.4
ALVIUS	11.985	10.83	13.14	84.53	69	76.765

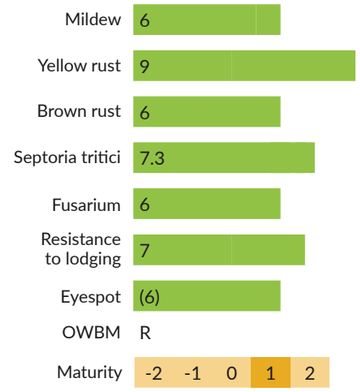
Mindful's second parent Evolution was a Danish variety introduced to the HGCA Recommended List (RL) in 2014 with a step-change in disease resistance and high untreated yield. One of its notable characteristics was the wide drilling window and its suitability for sowing across all regions, soil type and drilling positions. Mindful exhibits this very useful trait too, bolstered further by its high specific weight which safeguards quality, yield, and value against difficult seasons be they deluge or drought.

> *We had no worries with Mindful at any point. All of it remained 100% upright.*
>
> **Mark Sampson, L Sampson & Son Limited, Well, North Yorkshire**

LG TYPHOON

Group 4 Hard

- LG Typhoon offers resistance to both seedling and adult yellow rust, while diverse genetics gives robust high septoria tritici resistance
- LG Typhoon develops notably slowly when drilled early, has a moderate response to PGR and has no disease resistence weaknesses
- LG Typhoon is a useful variety to grow in combination with two or three hard feeds

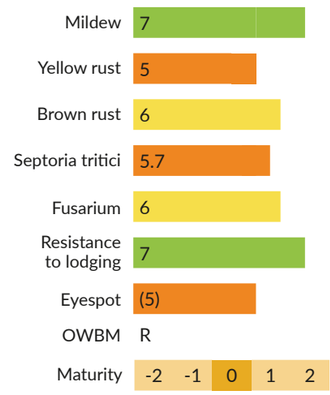


REGION	YIELD
UK	101
EAST	101
WEST	100
NORTH	101
Untreated yield	92
First cereal	100
Second cereal	103
Light soils	102
Heavy soils	100
Spec. weight	77.1

GLEAM

Group 4 Hard

- A high yielding feed wheat with consistent performance in all situations across UK, with reasonable septoria tritici resistance
- Gleam's disease scores have weakened over latter seasons yet it remains a popular choice for many
- Slow early season development
- Performs reasonably well late-sown and a good second wheat too



REGION	YIELD
UK	103
EAST	103
WEST	104
NORTH	103
Untreated yield	84
First cereal	103
Second cereal	103
Light soils	103
Heavy soils	103
Spec. weight	77.3

Sartorial

winter wheat

Agrovista ***exclusive***

Exclusive to Agrovista, Sartorial Group 4 hard feed wheat continues to offer growers reliability and consistent performance. Noted for its rapid establishment wherever drilled, agronomists are repeatedly reassured by its emergence capability coupled with autumn and early spring cleanliness.

Disease resistance continues to hold with Sartorial another attribute of varieties that have unique genetic diversity. Sartorial is a cross of parents KWS Santiago, KWS Bonham and Cashel. Assessments on yellow rust levels by example at our Peopleton site in Worcestershire May 18th 2022, found no yellow rust on Sartorial, along with KWS Siskin, Costello and LG Typhoon, but notable levels on Gleam, SY Insitor, Skyfall and KWS Zyatt.

Quentin Ham, Agrovista agronomist, Oxfordshire

SARTORIAL

Group 4 Hard

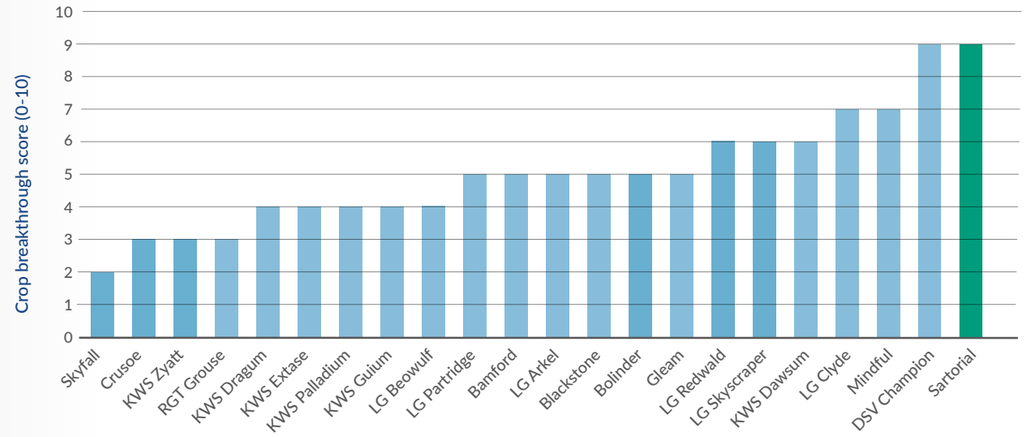
- Excellent establishment capability backed by Agrovista in-house trials
- Vigorous growth habit akin to Siskin with higher yield and spec weight
- Robust YR and 6+ Septoria tritici resistance
- Santiago parentage plus higher spec weight boosts light land performance while rapid, competitive early season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

Mildew	6
Yellow rust	8
Brown rust	5
Septoria tritici	6.2
Fusarium	6
Resistance to lodging	7
Eyespot	5
OWBM	R
Maturity	-2 -1 0 1 2

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

Bracket values give guidance on comparative agronomic values based on commercial observations and Agrovista trial performance.

Crop breakthrough Framlingham on 18th October 2022



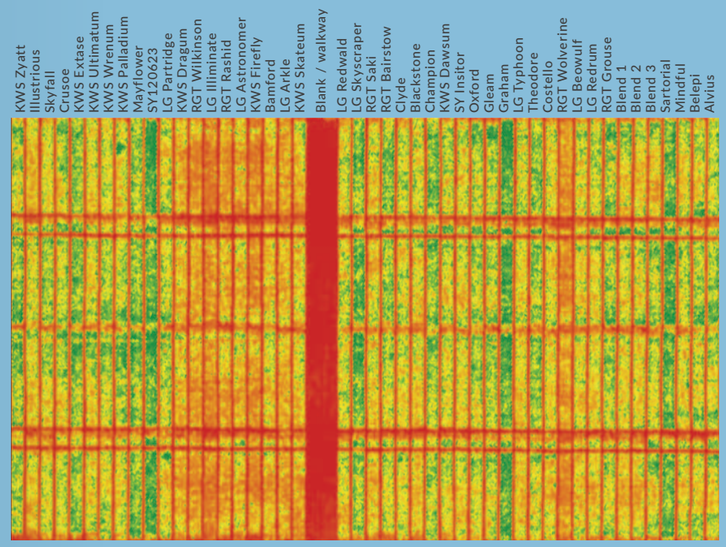
Rapid establishment is a characteristic that we continue to test with Sartorial, especially as there is a continual addition of newer varieties into the wheat market. Agrovista has five principal variety trialling locations with standard drilling dates in late September / early October – Yorkshire, Worcestershire, Suffolk, Northamptonshire, and Scottish Borders.

We've shown each year since launching Sartorial its emergence capability and can once again look at this attribute in this instance assessed by our trialling team on the 18th October at Framlingham in Suffolk.

Despite newer lines entering the market, Sartorial remains one of the best in establishment and green leaf area development.

While speed of establishment is significant pre-winter, it is also beneficial to maintain that speed moving out of winter into spring and Sartorial has that capability.

Growers of hard group 4 varieties tend to grow more than one variety to spread disease risk and harvesting. With a genetic parentage completely different to our new launch variety Mindful, a slightly earlier maturity date and orange wheat blossom midge resistance, growers can comfortably grow the two varieties on the same farm holding without intensifying disease pressure.



As well as running Agrovista trials individual agronomists around the UK will often work with other trialling companies to manage the agronomy aspect of their venture. Bayer Crop Sciences have a variety trial in Oxfordshire where a recent NDVI scan was used to assess both rate of plant development and general crop health.

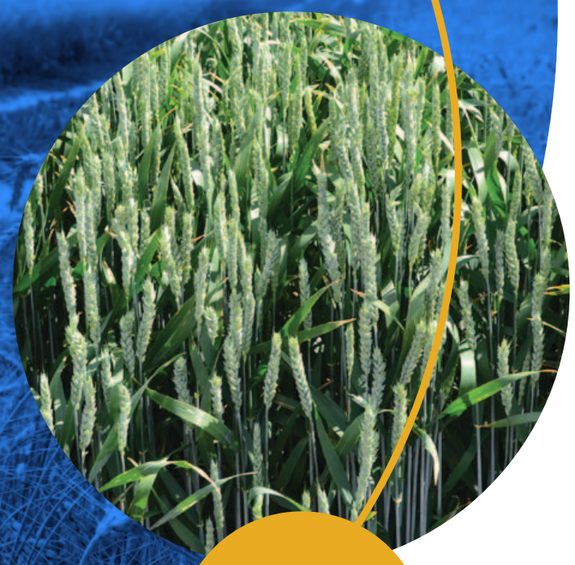
NDVI does this by quantifying the density of live green canopy using reflected light in the visible and near infrared bands. Simply, the greener the image the greater the bulk of leaf and the healthier the plant.

April 2023 turned out to be quite cold earlier in the month and many wheat varieties stopped growing. Notably Sartorial and Graham were least affected and continued to build canopy. Such reflectivity is also a measure of crop health.

Alvius wheat

Agrovista introduced Alvius autumn 2022 as a later drilling wheat type at a time when many farmers were aiming to drill winter wheat up to two weeks earlier than normal and many sizeable farmers had chosen to pull potatoes out of the rotation altogether.

What benefit could Alvius bring to the market in such a changing economic and agronomic environment?



Agrovista exclusive

ALVIUS

Hard (potential milling)

- Alvius offers an alternative functionality to crop establishment in 21st Century farming
- Ideally suited to follow roots where seedbeds may be compromised, Alvius has a six-month drilling window, with an approximate 1t/ha yield advantage to Belepi
- Limited trials from UK-grown seed indicate possible Group 1 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	(5.6)
Fusarium	6
Resistance to lodging	(7)
Eyespot	5
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)

Bracket values give guidance on comparative agronomic values based on commercial observations and Agrovista trial performance.

"Had the seed arrived on time* I would have drilled this on better drained soils in November" said John Taylor, Clopton Suffolk, seed grower of Alvius autumn 2021. As it was the seed missed the drilling slot by one week and that land was consequently drilled with KWS Firefly ultimately yielding 9.67 tonnes per hectare following sugar beet. The autumn of 2021 turned into a very wet winter and the seed crop was eventually drilled on 3rd February 2022, after later lifted sugar beet into less-than-ideal conditions.

The go-to variety to follow later-lifted sugar beet normally selected by John would have been Belepi - a unique soft endosperm alternative wheat also managed by Agrovista and known for its rapid development in the Spring and an effective ability to out-compete blackgrass.

However, Alvius in trials has shown a sizeable yield advantage and where soft endosperm is not a preference, offers growers an improvement in performance and a six-month drilling slot mid-October through to the end April.

"I drilled 30ha of Alvius for seed and 6.0ha of Belepi for commercial use into a cloddy seedbed 2nd February 2022" commented John. "There was no apparent difference in emergence between them, though being a true spring wheat Alvius continued to grow through an initial cold snap, while Belepi was held back a touch" he continued.

John applied 180kg/ha of Nitrogen and 50kg/ha of Sulphur. The seed rate was 150kg/ha which in hindsight considering the dry conditions was too low. Variable costs for all inputs were £378/ha and a further £324/ha for establishment after sugar beet, drilling spraying and combining.

Following a very dry year where minimal rain fell from drilling through to harvest the Alvius across two fields achieved a yield of 5.72t/ha off 30ha while the Belepi totalled 4.88t/ha across 6.0ha. The Alvius, being grown for seed had three applications of fertiliser – Sulphur N (26N, 35 S03) on 16th March; then two applications of granular urea on the 26th April and 15th May. There was no late nitrogen application to enhance quality.

Samples were sent for seed and milling analysis with the following outcome.

Variety	Protein	Specific weight (kg/hl)	Hagberg (minutes)
Alvius	14%	77.4	351

Screenings through 2.25mm	Screenings through 2mm
1.5%	0%

Rheology analysis of the flour placed Alvius in the proximity of Group 1, but with necessary caveats that this was one sample from one grower, one location, one year.

The miller testing the seed commented "Normally, we would be able to point out a few concerns. It closely matches what I would consider the ideal test set of data for a variety" It is acknowledged that further testing of bulk tonnage from various growers and regions will be necessary before we can confidently advise on end market. The miller went on to say "This sample was good. If we could buy wheat of this quality, all the time, we would have a much bigger smile on our face than we do".

The seed crop returned a gross margin after costs of £820/ha inclusive of seed premium which would have reflected a moderate milling premium had the crop been grown for that market.

* Basic seed was delayed at Customs. Had it been processed at our own UK seed plant it would have achieved the November drilling window!

We rarely achieve such a high specific weight from a spring-drilled crop. To be able to add value and achieve a high protein too without late nitrogen could be a significant benefit in the current times

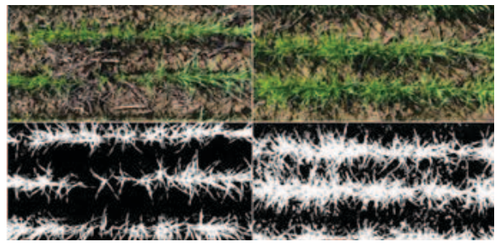
John Taylor
Clopton Suffolk

Flexible Sowing Date

Alvius has been bred to efficiently establish following late-lifted break crops such as sugar beet, making maximum use of moisture levels and shorter days and lower light levels as autumn sets in.

The following photograph looking at Green Area Index highlights the ability of Alvius (on the right of the image below) to enhance leaf number relative to winter wheat drilled at the same time.

The delayed arrival of the stock seed from Germany for John Taylor's seed crop highlights that many factors beyond the grower's control can negatively influence drilling date. Alvius can be drilled safely mid- October through to the end of April without any concerns regarding vernalisation or winter hardiness – Alvius has good resistance to cold conditions.



John Davey of E H Davey drilled Belepi as a second wheat late February 2022 and Alvius immediately next to it by comparison. Belepi was first through the ground, but being a winter wheat and winter dormant, the sharp frosts and cold rain experienced in March held the Belepi back, while the Alvius carried on establishing. The photograph above taken on the 18th April shows that Alvius is comfortable managing cold spring conditions, green canopy is marginally thicker and colour intensity marginally darker relative to the Belepi indicating its scavenging capability.

March 2023 was an exceptionally wet month and our spring trials in one location remain undrilled (at time of going to Press). Growers remain comfortable that with Alvius they can carry on drilling through April.

Two-year average performance at our AgX trial site in Cambridgeshire where varieties are drilled in November following contractor-lifted sugar beet - often not in the most ideal conditions, is a good indicator of how Alvius will perform elsewhere when conditions are tough.

2-Year November drilled Haddenham AgX following sugar beet

Variety	Yield			Spec weight		
	2021	2022	Mean	2021	2022	Mean
CHAMPION	11	14.71	12.855	59.5	79.8	69.65
EXTASE	9.85	14.35	12.1	63.1	83.2	73.15
ALVIUS	**10.83**	**13.14**	**11.985**	**69**	**84.53**	**76.765**
SKYFALL	9.54	12.93	11.235	62.1	83.7	72.9
BELEPI	9.28	12.7	10.99	63.7	81.17	72.435

WHEAT VARIETIES

Sample Quality

In last year's Agrovista Cereal seed brochure 2022 we brought to your attention the grain quality of Alvius compared to KWS Extase when autumn sown and KWS Cochise when spring sown. Last year's Mediterranean weather clearly benefitted early-to-harvest varieties, notably KWS Extase with few varieties achieving the same yield and quality.

Nevertheless, Alvius retained superior specific weight relative to KWS Extase across both seasons at the Haddenham AgX site (Table 1) and marginally out-performed the proven late-drilling wheat Skyfall at our heavy land site in Newmarket, Suffolk drilled through winter and into spring (Table 2).

Quality analysis Alvius wheat Newmarket harvest 2022

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

Alvius was launched to Agrovista customers winter 2022, spring 2023. It is hoped where growers can store that we will be able to undertake milling quality trials later in the season to establish the varieties capability and maximise value. If it retains a flour rheology like that of our seed crop, then Group 1 premium may be available which will enhance further the varieties potential as a management tool to spread the drilling window following late-lifted break crops.

October-drilled Alvius has an appearance like other vigorous winter wheats such as KWS Extase. (North Lincs 18th April 2023).

RGT Grouse

winter wheat

Pressure is building for UK agriculture to farm more sustainably, improving soil health, and limiting emissions through possible changes in land preparation and crop management. Agrovista is at the forefront of helping growers to meet this challenge with its range of Innovative nutritional and soil health products.

The environment is now a key constituent of agricultural policy and recent updates to the Sustainable Farming Incentive include, among others, a payment of £45/ha if growers stop using insecticides across their holding. Improvements in insect predator numbers can be managed through environmental adaptions while damage caused by plant viruses, where insects act as the transporting vehicle, can be minimised by introducing plant varieties that carry a tolerance or resistance.

RGT Grouse is a ground-breaking winter wheat variety bred to be resistant to barley yellow dwarf virus (BYDV), removing the reliance on autumn-applied aphicide applications, to control this potentially devastating disease, something Agrovista believes every grower will welcome.

Marketed under the brand name GENSERUS, RGT Grouse is one of the first BYDV-resistant wheat varieties available in the UK. RGT Grouse offers protection against the virus from the day the crop is planted to the day it is harvested, for the approximate cost of buying and applying just one pyrethroid spray, when a three-spray pyrethroid programme would often otherwise be required and with zero impact on any beneficial predators.

RGT GROUSE (NL data)

Group 4 Hard

- RGT Grouse is the next technical variety from RAGT with resistance to BYDV
- With better disease resistance than its predecesor, excellent standing and slow-medium growth rate, RGT Grouse has outyielded Gleam in the presence of BYDV by 10 - 23% across two years of Breeder trials
- Consider for outlying fields, or your earliest drilled ground
- Being also resistant to OWBM Grouse offers an opportunity to erradicate insecticides on farm entirely and take advantage of new SFI payments

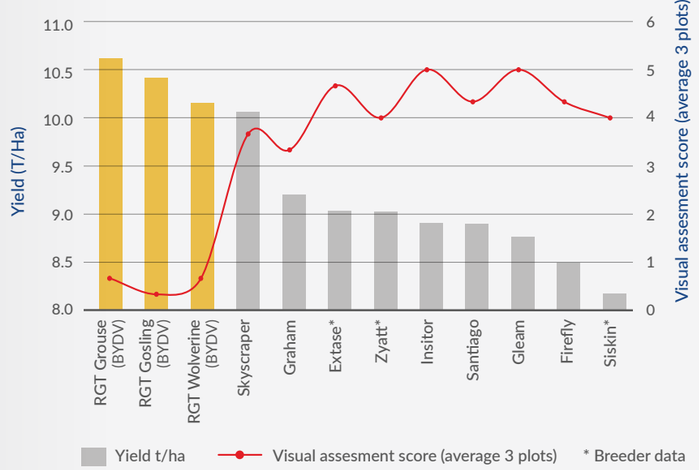
Mildew	7
Yellow rust	5
Brown rust	5
Septoria tritici	5.5
Fusarium	6*
Resistance to lodging	7
Eyespot	(5)*
OWBM	R
Maturity	-2 -1 0 1 2

REGION	YIELD
UK NL - No BYDV	97.7 (100 = 11t/ha)
Untreated yield	97.6 (100 = 8.56t/ha)
First cereal	n/a
Second cereal	n/a
Light soils	n/a
Heavy soils	n/a
Spec. weight	76.7

* Breeder data

BYDV Infected trial RAGT 2021

Early sown BYDV Trial was infected with aphids containing the PAV virus at 2 week intervals, 4 times in the Autumn and 4 times in the Spring.



0	No Symptoms visible
0.33	Maybe symptoms but hard to differentiate from other yellowing
1	Single infection site, few red leaves
2	Multiple infection sites, multiple red leaves
3	Multiple infection sites, multiple red leaves, Area appears to be stunted but not as clear as a 3
4	Multiple infection sites, single area with stunted growth, multiple red leaves
5	Multiple infection sites, multiple areas with stunted growth, multiple red leaves
6	Multiple infection sites, up to 50% of plot stunted, multiple red leaves
7	Multiple infection sites, Over 50% of plot stunted, multiple red leaves

The trait greatly simplifies crop management and delivers targeted control, removing the need to monitor aphid populations and leaving time for other key farm activities during the busy autumn period. RGT Grouse therefore brings both economic, managerial and environmental benefits across the enterprise.

Trialled 2021 alongside non-resistant varieties in the presence of BYDV, RGT Grouse realised the highest yield expressing no principal symptoms of the virus.

Those without the genetic trait showed multiple infection sites, multiple areas with stunted growth and many red leaves. As well as stunting plants BYDV reduces viable tiller numbers from which yield reduction is inevitable.

In trials over the last three years, RAGT have seen increases in yield in the presence of BYDV (R2n-inoculated trials) of up to 23.8% above control varieties, though this does fluctuate year to year.

RGT Grouse has a prostrate slow growth habit (NB Picture 1) making it an ideal choice for early drilling – the period when BYDV risk is at its greatest, coupled with high tillering capacity and retention with later maturity to maximise yield.

RGT Grouse agronomics are similar to Gleam including the extra resistance to orange wheat blossom midge, further enhancing its environmental credentials. Though marginally taller it has improved standing with and without plant growth regulator and no disease resistance weaknesses.

With UK weather becoming ever more uncertain growers are under increased pressure to drill early.

Pictures 1 and 2 - 2023 Seed crop of RGT Grouse drilled following potatoes, Cambridgeshire. Photos taken 28th March 2023. Commercial crops would not normally follow potatoes but be drilled early September.

“Where grass weed levels permit, RGT Grouse offers a significant opportunity to minimise insecticide use without risking crop yield.

Nissaba

Group 1 quality wheat

Agrovista Seeds monitors new varieties as they come to market talking to breeders and trialling them for performance and manageability.

Nissaba is the first Group 1 wheat that offers October drilling, with yield and disease resistance better than current Group 1 members.

Nissaba has a wide drilling window from early October through to the end of April. When sown in October breeder trials have given a yield averaged across three years equal to KWS Zyatt and marginally better than Skyfall.

OCTOBER DRILLED BREEDER TRIALS TREATED				
Year	Mean t/ha	2018	2019	2020
Drilling date		28/10	07/10	31/10
Variety/Yield		t/ha	t/ha	t/ha
NISSABA	8.8	8.3	10.35	7.74
SKYFALL	8.7	8.13	10.73	7.4
ZYATT	8.8	8.34	10.32	7.79

NISSABA (Spring RL data)

Group 1

- An alternative wheat recommended by AHDB with Group 1 milling capability and and OWBM resistance
- Breeder trials have given yields equal to KWS Zyatt and Skyfall when October drilled
- Disease trials for yellow rust have indicated that Nissaba may not be susceptible to the same strains as Zyatt/Skyfall offering new opportunity to combat this disease on farm

Mildew	(5)
Yellow rust	5
Brown rust	(9)
Septoria tritici	(6)
Fusarium	–
Resistance to lodging	–
Eyespot	–
OWBM	R
Maturity	-2 -1 0 1 2

REGION	YIELD
UK	(98)
EAST	(98)
WEST	(99)
NORTH	(98)

In breeder trials Nissaba has yielded equal to KWS Zyatt and RGT Skyfall when October-sown

Spec. weight	76.4

Bracket values give guidance on comparative agronomic values based on commercial observations and Agrovista trial performance.

One of the key issues affecting both market leaders KWS Zyatt and Skyfall is yellow rust resistance. With RL resistance ratings as low as '3' and susceptibility at seedling and adult stage, each risks severe infection unless comprehensively treated with a fungicide.

Nissaba does succumb to the disease too, but this tends to be much later in the season and in trials has not developed the characteristic yellow pustules through winter when the pathogen is visibly active on its rivals. The breeder John Blackman makes the following comment:

"For the last three years Nissaba autumn sown has not had over wintering yellow rust whereas KWS Zyatt and Skyfall have been severely infected, as have most susceptible varieties including KWS Cochise."

In harvest 2022 season, spring-sown breeder trials remained totally clean until mid-grain-fill where other lines were dead, as were autumn sown untreated plots of KWS Zyatt and Skyfall.

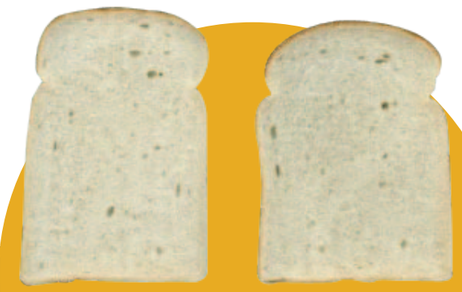
"There are two possible conclusions we can draw from these findings – either Nissaba is resistant through to maturity but then becomes notably susceptible, which would be unprecedented among varieties and so highly unlikely, or that it is not susceptible to the same strains that are affecting its competitors" concludes Mr Blackman.

Nissaba is of similar height to both KWS Zyatt and Skyfall, has good Septoria tritici resistance and an improved brown rust resistance to KWS Zyatt. Nissaba has an added bonus like Skyfall in that it is Orange Wheat Blossom Midge resistant and can match Skyfall's drilling window too with minimal vernalisation requirement.

Bread quality

Nissaba has been tested as part of the National List Flour Milling Variety Working Group testing for all quality varieties pre AHDB Recommended List and given a Group 1 result. Further breeder tests undertaken on produce from both winter and spring drilled crops have achieved 'very good' and 'excellent' white loaf bakes.

FLOUR ANALYSIS		
Moisture %	MIS48	14.5
Protein %	MIS48	12.1
Water absorption% @ 14% moisture	RHE01	60.1
Starch damage %	MIS48$	27
Tristimulus L* -b*	MIS48$	79.85
Hagberg FN	CHO01	392
Loaf volume cm³	4030	
UK G1 control cm³	3980	
Bread quality	Excellent	
Crumb structure	Resillient	
Crumb texture	Fine	
Crumb colour	White	
Minolta L*-b*	68.39	



Nissaba Control UK Group 1

The wheat protein was at a good level at 14.3%, the grain was hard milling and had good gluten strength (stability 6.5 minutes and tolerance 30 BU). The test baked bread was of a large volume and excellent quality.

It has been a long wait but finally it would seem there is an alternative available in the market to compliment Skyfall but with better disease resistance and marginally better yield.

Agrovista aims to have a tonnage available this autumn for growers who would like to try some.

Barley varieties

KWS TARDIS - 2 ROW

- A solid two-row feed variety with excellent standing ability offering maximum yield potential on fertile and well bodied land
- Good comparative performance in eastern region where yields have matched six-row
- Mid-length straw and relatively early

Mildew	5
Yellow rust	R
Brown rust	6
Rhynchosporium	6
Net blotch	5
Resistance to lodging (+PGR)	8
Maturity	-2 -1 **0** 1 2

REGION	YIELD
UK	103
EAST	105
WEST	102
NORTH	102
Untreated yield	85
Light soils	102
Heavy soils	107
Spec. weight	70.6

LG CARAVELLE - 2 ROW

- Notable yield improvement across all regions with and without fungicide - good mildew resistance
- Major competitor to six-row offer, especially in eastern regions
- Good grain quality and lower screenings

Mildew	7
Yellow rust	R
Brown rust	–
Rhynchosporium	6
Net blotch	(5)
Resistance to lodging (+PGR)	7
Maturity	-2 -1 **0** 1 2

REGION	YIELD
UK	106
EAST	109
WEST	(105)
NORTH	(104)
Untreated yield	89
Light soils	103
Heavy soils	(106)
Spec. weight	71.8

SY THUNDERBOLT - 6 ROW

Hybrid

- Joint highest yielding feed variety UK and west
- Highest yielding hybrid on RL for heavy soils
- A relatively tall-strawed hybrid requiring good PGR management
- Early maturity

Mildew	7
Yellow rust	R
Brown rust	6
Rhynchosporium	6
Net blotch	6
Resistance to lodging (+PGR)	5
Maturity	-2 **-1** 0 1 2

REGION	YIELD
UK	106
EAST	106
WEST	108
NORTH	105
Untreated yield	89
Light soils	104
Heavy soils	107
Spec. weight	70.9

SY KINGSBARN - 6 ROW

Hybrid

- SY Kingsbarn offers consistent high yield performance across all regions / soil types, with best outright yield in the north
- Tall strawed yet good lodging resistance, low brackling and responds well to PGR
- Bold grain with minimal screenings
- Seed cleaning and distribution ex Riby to ensure availability and timely delivery

Mildew	7
Yellow rust	R
Brown rust	5
Rhynchosporium	6
Net blotch	5
Resistance to lodging (+PGR)	7
Maturity	-2 -1 **0** 1 2

REGION	YIELD
UK	106
EAST	106
WEST	106
NORTH	107
Untreated yield	85
Light soils	105
Heavy soils	105
Spec. weight	70.9

Aleksandra

winter barley

Agrovista ***exclusive***

A breeder once said that for a variety to excel on the Recommended List (RL) it had to be average at everything and while there is a degree of truth in that comment, there is nothing average about Aleksandra winter barley.

With the highest untreated yield across two years of national official independent trials and the best specific weight available from any variety currently available, Aleksandra offers key benefits to livestock and arable farmers alike. Treated yield is close to KWS Tardis, giving growers a wide spraying window of opportunity to maximise yield at least fungicide cost and spray when the conditions are right, without worrying about disease build-up.

ALEKSANDRA - 2 ROW

- Aleksandra is an RL candidate two-row feed barley with **exceptional** disease resistance and the highest untreated yield and specific weight of **any** variety available today
- Treated yield equal Tardis
- Medium to long strawed perfectly suited to livestock farmers - easy to manage feed variety with max straw

Mildew	7
Yellow rust	R
Brown rust	8
Rhynchosporium	7
Net blotch	5
Resistance to lodging (+PGR)	(6)
Maturity	-3 -2 -1 **0** 1

REGION	YIELD
UK	103
EAST	(105)
WEST	100
NORTH	101
Untreated yield	(97)*
Light soils	–
Heavy soils	–
Spec. weight	72.7*

*Relative to Caravelle/Tardis RL

Bracket values give guidance on comparative agronomic values based on commercial observations and Agrovista trial performance.

Breeder trials Ireland harvest 2022

Sowing date: 13/10/2021 Harvest date: 15/07/2022

	Yield as a 100% control treated (9.81t/ha)	Specific weight (kg/hl)	Plant height (cm)	Straw breakdown (%)	Straw breakdown (%)
Rating date		15/07/2022	05/07/2022	05/07/2022	15/07/2022
CASSIA©	97	63.0	85	1	2
INFINITY©	87	64.1	85	1	2
BELFRY©	117	60.7	105	0	1
BAZOOKA	123	61.9	105	2	2
VALERIE	102	63.8	80	1	2
KWS TARDIS	108	64.6	75	1	1
ALEKSANDRA	**115**	**66.3**	**100**	**3**	**2**

Notably the specific weight was also exceptional, greater than both KWS Tardis and KWS Cassia.

Aleksandra has been trialled for three years for yield, disease resistance and specific weight with consistent performance across regions and soils. Yield without fungicide is only likely to be of key interest to organic growers or those following a Regenerative Agriculture regime. The wider implication is that with fluctuating weather patterns, opportunities to spray to combat disease can sometimes be limited. Many livestock farmers depend upon arable contractors to manage their cropping, so getting to the field on time may not always be possible.

With Aleksandra's excellent disease resistance there is less risk that disease will take hold before the sprayer can protect.

Aleksandra's straw is marginally taller than most 2 rows, but not as tall as the hybrid 6 row lines – (see image on opposite page). A three PGR programme would be recommended for fertile soils or the wetter west.

For example, Aleksandra was grown in private breeder trials in Ireland 2022 under this regime, (see table above), where it excelled with a mean 7% treated yield advantage over KWS Tardis (26% higher yield untreated) and minimal straw breakdown.

With the highest untreated yield across two years of national official independent trials and the best specific weight available from any variety currently available, Aleksandra offers key benefits to livestock and arable farmers alike.

Candidates RL 2023 AHDB

		Yield treated UK	Yield treated east	Yield treated west	Yield treated north	Yield untreated	Lodging % untreated	Lodging % treated	Brackling % treated	Straw length	Ripening +/- KWS Orwell	Specific weight (kg/hl)	Mildew	Brown rust	Rhynchosporium	Net blotch	BaYMV	Variety type
	ALEKSANDRA	**103**	**(105)**	**(100)**	**(101)**	**(99)**	**(12)**	**(36)**	**11**	**(102)**	**0**	**73.3**	**7**	**8**	**7**	**5**	**R**	**Two-row**
Control	CRAFT	93	93	93	94	81	(1)	2	8	(94)	0	71.3	6	7	6	5	R	Two-row
Control	FUNKY	103	103	102	104	88	(4)	2	14	(94)	0	70.3	5	7	6	5	R	Six-row
Control	ELECTRUM	96	96	97	96	82	(4)	6	6	(94)	-1	71.5	6	7	5	5	R	Two-row
Control	SY KINGSBARN	107	107	107	107	83	(10)	11	11	(109)	0	71.6	7	5	6	5	R	Six-row
Control	LG MOUNTAIN	100	100	101	99	84	(3)	3	22	(87)	0	71.9	5	7	5	5	R	Two-row

(x) limited data - see below. Extract of RL Winter Barley trials harvest 2023 candidate varieties.

1. It is important to note that official information at the RL candidacy stage in a variety's life is limited with only two harvests and minimal trial numbers per agronomic character assessment. Results pre-RL can therefore only show a 'snapshot' of the potential of a new line.
2. Some ratings are particularly affected by the smaller trial set. Lodging trials specifically are undertaken on highly fertile sites, such as following peas and tend to be in different locations to yield trials. Yields from lodging are not recorded in the dataset and nitrogen rates are adjusted to try to induce lodging. So not reflective of a realistic situation.
3. National List (NL) trials carry some 50 varieties. It is impossible to apply PGR and fertiliser at the correct timings to suit all varieties in trial each year. To suggest that Aleksandra is weaker treated with PGR than untreated is clearly unrealistic. NL1 lodging trials in 2021 placed Aleksandra no worse than SY Kingsbarn or Funky untreated. The excellent untreated yield in NL trials and performance in Ireland detailed on the previous page, could not be so if the lodging ratings as stated were correct.

Agrovista Pre-NL trials Aleksandra

	2 sites NIABTAG			2 sites NIABTAG		
Treated	**Yield 2020**	**Control % 2020**	**Specific weight**	**Yield 2021**	**Control % 2021**	**Specific weight**
ALEKSANDRA	**7.56**	**108**	**71.49**	**9.87**	**104**	**71.6**
BAZOOKA	7.51	108	66.82	9.77	103	65.15
KWS GIMLET	7.21	103	67.89	9.88	100	66.35
KWS CASSIA	6.93	99	68.04	9.47	94	69.1

Agrovista screen varieties for one season and then only the most promising are placed through the NL trialling system. Specific weight for Aleksandra has always been the best across all three years of trialling, ensuring consistent and reliable performance whatever the weather.

With Aleksandra's excellent disease resistance there is less risk that disease will take hold before the sprayer can protect.

Nuello® iN + Voltek BIO

(formerly Tiros)

Seed treatments

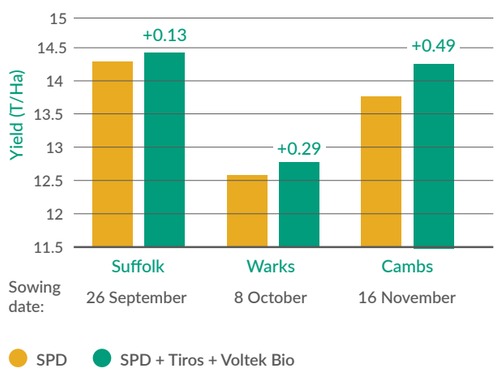
In last year's Cereal and Oilseed Rape Key Varieties brochure 2022 we introduced the complimentary seed treatments Tiros and Voltek Bio which can help improve crop establishment and nutrient use efficiency naturally. **Tiros has now been renamed Nuello iN.**

Nuello iN is revolutionary in its ability to fix nitrogen via two strains of endophytic bacteria, (two reduces variability often associated with biological products). The bacteria move into the plant tissue, minimising the effects of any environmental stresses such as UV or oxygen, the latter of which can reduce the efficacy of the nitrogenous enzyme fundamental to N-fixing.

Voltek Bio is a metabolite complex which boosts nitrogen and carbon uptake, aiding germination and supporting seedling establishment. It works in conjunction with Tiros to enhance germination, increase root and shoot biomass and by default improve establishment and stress tolerance.

At our main AgX trial site in Northamptonshire we run wheat variety assessments and in 2022 grew our exclusive wheat variety Sartorial with both single purpose seed treatment (Beret Gold) and with a Nuello iN +Voltek Bio alternative (including Beret Gold). The latter outyielded the straight SPD by 0.6t/ha. Trials have further shown across three locations, that regardless of sowing date the new seed treatment combination increases crop yield.

AAT 22-114 trial series (standard nitrogen rate)



James Cheney, Agrovista Agronomist and Soil Health Specialist in the Midlands Team has seen key improvements to the resilience of crops especially through last season's dry weather.

"Voltek Bio + Nuello iN is now my go to seed dressing option" commented James,

> *With weather patterns so unpredictable, abnormal temperatures across the growing season and realisation that soil health generally is not at its optimum, we can benefit seedling establishment and boost plant health from day one leading to better plant resilience through to harvest and beyond*
>
> **John Murrie**
> **Technical Manager (Seed Treatments) Scotland**

"The seed treatment combination sets my crop up from day one. Rooting and nutrition uptake is key to get the crop off to the best start, as I look to move towards more regen approaches and look more at soil health" he continued.

"Reducing reliance on fungicidal seed dressing is a big part for me to help improve soil biology and this combination helps with that. I'm seeing better more even establishment and along with our nutrition range, I'm seeing yield and quality improve too." He concluded. Visual effects are often stark in many trials treated versus untreated.

There is growing evidence to suggest that the two seed treatments working together are not just building crop health but also building plant resilience, both by better rooting and scavenging for nutrients, more nutrient uptake and better nutrient use efficiency. It is known that in the presence of stress genetic modification can occur (epigenetics).

By maximising plant health and minimising environmental stress researchers are finding they can improve crop reproduction but not just in terms of yield; seed vigour and percentage viable germination also benefit, especially when working in conjunction with another of Agrovista's exclusive Innovation products 3 Alo T6P. Nuello iN and Voltek Bio could also bring benefit to anyone wishing to farm save their own seed.

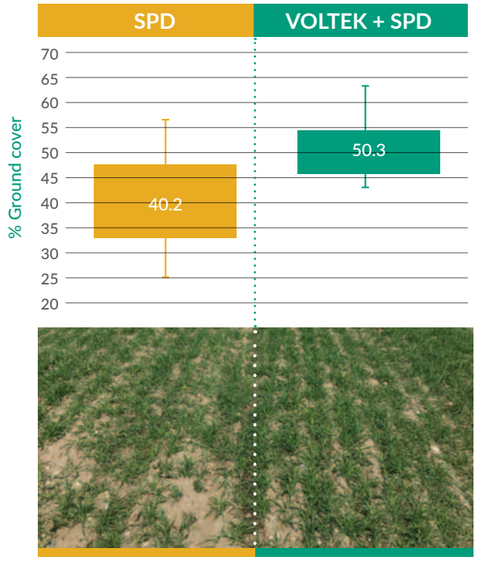
Voltek

Voltek is also available as a standalone seed treatment. Unlike other basic root stimulants, Voltek contains both a phosphite and an innovative metabolite called Petanoate, which can also be found in our unique yield-boosting product Klorofill.

Petanoate is an organic keto acid-based compound which has been proven to positively influence a range of biological processes including chlorophyl production and photosynthetic rate, as well as reducing abiotic environmental stress and biotic stress from herbicides.

The best chance of a good return on investment for Voltek is when conditions are less than perfect and seedling establishment is at risk from environmental conditions or a poor soil growing medium.

Though yield increases of up to 1.13t/ha have been recorded when testing Voltek as a seed treatment, an average yield improvement of 0.4 to 0.5t/ha would be a more realistic outcome, with increases of root biomass over untreated of 15% (5% more than using Manganese) and a 30% increase in shoot biomass over untreated (11% more than Manganese).



Voltek Strip Trials Morley Research Centre, Norfolk. Assessed 6th May 2020. Spring Barley growth stage GS 24-26. 10 photos per plot analysed using Canopeo App.

Voltek seed treatment opportunities

	Winter wheat early Sept driilled	Winter wheat early Oct driilled	Winter wheat Oct-Nov driilled	W. wheat early 2nd, 3rd continous	Winter barley	Winter oats
Light soil	X *(unless dry)*	XX	XXX	XXXXX	XXXX	XXXX
Medium soil	X *(unless dry or poor soil structure)*	XX	XXX	XXXXX	XXXX	XXXX
Heavy soil	X *(unless dry or poor soil structure)*	XX	XXXX	XXXXX	XXXX	XXXXX
High pH/calcareous soils	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX

X - Low chance of return XXXXX - High chance of return

Voltek is available on most cereal varieties available through Agrovista this autumn.
More details on all three seed treatments can be found at www.agrovista.co.uk/innovation

OSR varieties

Agrovista exclusive

Risk-sharing offer 2023

DX Extremus

Hybrid oilseed rape

DEKALB ESTABLISHMENT SCHEME

Available with the DeKalb establishment risk share scheme

subject to grower enrolment

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.

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

Light leaf spot 7

Stem canker 8

Resistance to lodging 8

Maturity 2 3 4 5 6

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

DART

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
- First MSL hybrid to offer pod shatter resistance through Harvest Max technology
- 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 GAI'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 6 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	6
Resistance to lodging	8
Maturity	2 3 4 **5** 6

AGRONOMIC DATA	
RL	2023/24
E & W	103%
Oil content	45.2%
Plant height	145
TuYV resistance	Yes
Pod shatter resistance	Harvest Max

PT303

Hybrid oilseed rape

- PT303 is the first sclerotinia-tolerant hybrid available to UK growers
- 104% gross output east and west, 102% gross output north (UK recommended list 2023)
- 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

Regional suitability: E W N

Light leaf spot	7
Stem canker	6
Resistance to lodging	8
Maturity	2 3 4 5 6

AGRONOMIC DATA	
RL	2023/24
E & W	104%
NORTH	102%
Oil content	45.7%
Plant height	159
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**

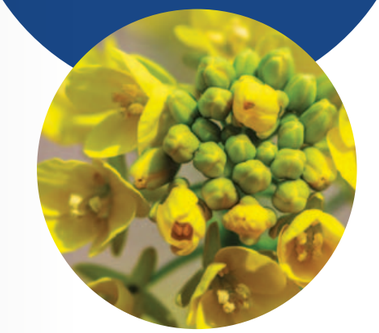
Risk-sharing offer 2023

Agrovista ***exclusive***

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

Conventional

- 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

Light leaf spot	6
Stem canker	9
Resistance to lodging	8
Maturity	1 2 3 4 5

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

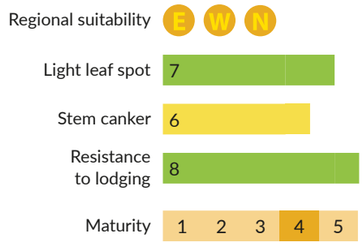
#ForOurGrowers

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	2023/24
E & W	101%
North	101%
Oil content	45%
Plant height	143
TuYV resistance	Yes
Pod shatter resistance	–

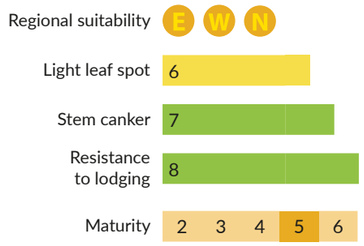
Clearfield

BEATRIX CL bred by DSV

Agrovista exclusive

Hybrid

- Exceptional gross output for a Clearfield variety. Quad trait hybrid 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

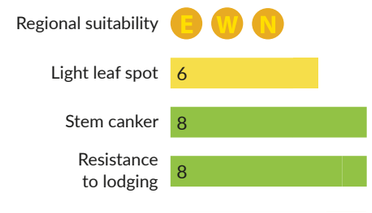


AGRONOMIC DATA	
RL	2023/24
E & W	97%
North	94%
Oil content	45.9%
Plant height	146
TuYV resistance	Yes
Pod shatter resistance	Yes

MATRIX CL bred by DSV

Hybrid

- Highest yielding Clearfield variety on the recommended list. Quad trait hybrid 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



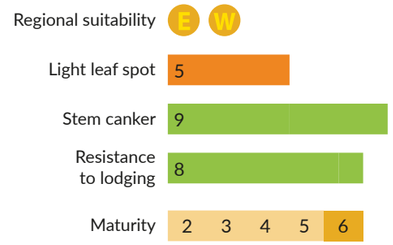
AGRONOMIC DATA	
RL	2023/24
E & W	99%
NORTH	95%
Oil content	45.6%
Plant height	152
TuYV resistance	Yes
Pod shatter resistance	Yes

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

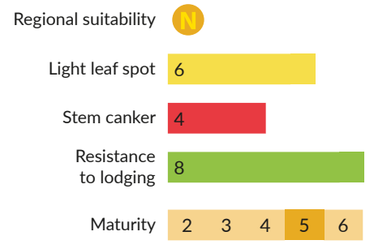


AGRONOMIC DATA	
RL	2023/24
E & W	97%
Oil content	46.1%
Plant height	143
TuYV resistance	Yes
Pod shatter resistance	Yes

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 or Crocodile
- Good light leaf spot resistance underlines Cromes suitability for oilseed rape production in northern regions
- Medium height with good lodging resistance



AGRONOMIC DATA	
RL	2023/24
North	99%
Oil content	45.7%
Plant height	142
TuYV resistance	–
Pod shatter resistance	–

OSR VARIETIES

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