ADM
Unlocking Nature. Enriching Life.

Seed Varieties Information 2023/24

Introduction

Over the past 12 months and over the next 12, we have seen and will see further advancements in wheat breeding specifically targeting BYDV resistance and other major diseases. This is huge news for the industry and follows the government's rhetoric of reducing chemical inputs, especially insecticides, within food production.

Another area of significant growth and government support is the 'small seeds' industry. We use small seeds as a term to describe mainly mixtures of grass, cover crop species, wildflowers and other non-combinable crops.

The UK Government is committed to 'public money for public good' and the options to take areas out of arable production in favour of areas that can provide a wide range of economic benefits that are very attractive to growers, especially on areas of low productivity.

Despite being a merchant majoring on broad-acre cereal, oilseed and pulses seed, we also have a dedicated team to help you choose the right mixture for your environmental scheme, as this is a task that can often cause some confusion.

A big part of ADM Agriculture is vertical integration with our ADM partners' businesses, including the flour mills, Erith oilseed crush and pulse production at Long Sutton.

We are in a unique position to provide the end consumer of raw agricultural commodities the ability to trace their commodities' journey from a single seed lot from the breeder through to a delivery of a bulk load on intake. This process can often be over multiple years and harvests, which is of great importance to the consumer.

May I take this opportunity to wish you all a good harvest and to thank you for your custom again a year down the line.

Dave Cooper, head of seed

Meet the team

DAVE COOPER
Head of seed
Dave has recently become head of seed for ADM Agriculture, bringing with him 41 years of experience. Dave also looks after wholesale seed sales and leads production through our processing facility at Long Sutton.

BETH MOSES
Retail seed manager
Beth started working at ADM in 2015 as a laboratory assistant before joining the seed team in April 2020. Beth works predominantly on the retail side, and is the farm traders' first port of call for pricing enquiries.

PETER BUSFIELD
Contracts manager
Peter is responsible for placing our contracts with seed growers and maintaining our supply. He ensures we have the best varieties and growers producing high quality seed for our customers.

AMY GILBERT
Seed assistant
Amy joined the company in 2010 and has assisted in all areas of the retail desk during this time. Amy works in the administration of seed contracts and is the `go to' problem solver.

ROSIE WRAY
Seed administrator and small seeds specialist
Rosie joined ADM in autumn 2021 as a seed administrative assistant. When Rosie isn't keeping the seed team organised she is inputting and overseeing sales contracts and dealing with admin-related queries. Rosie also drives sales of small seeds through our team of farm traders, including but not limited to countryside stewardship, grass seed and cover crops.

Contents

Agronomic data taken from the 23/24 AHDB Recommended List (RL) for wheat, barley, rye, oilseed rape and oats. Pea and bean data comes from the PGRO Descriptive List 2023. Data for varieties not in the above lists are supplied by breeders.

From reading this publication, you can claim:
2 NRoSO points with reference **NO500448f** and 2 BASIS points with **CP/126102/2324/g**

Winter Wheat

KWS Zyatt

Breeder KWS UK Ltd
Parentage KWS Quartz x Hereford

ADM's view - KWS Zyatt remains the highest yielding Group 1 with good baking qualities which seem to be very consistent across seasons. Agronomically, KWS Zyatt is now very susceptible to yellow rust but remains moderately resistant to Septoria tritici. Second wheat performance remains strong and the variety has the Pch1 eyespot resistance. KWS Zyatt has a moderate speed of development so is best suited to the main drilling window.

Group 1

Agronomics

Mildew	7
Yellow rust	3
Brown rust	7
Septoria tritici	6.1
Fusarium	6
Resistance to lodging with PGR	8
Maturity	-2 (-1) 0 1 2 3

United Kingdom	99
East region	98
West region	99
North region	98
Untreated yield	75
First cereal	98
Second plus	99
Light soils	97
Heavy soils	99
Specific weight	78.4

Skyfall

Breeder RAGT Seeds UK
Parentage C4148 x Hurricane

ADM's view - Skyfall remains the only winter-recommended Group 1 with OWBM resistance. Stiff straw, early maturity and Pch1 eyespot resistance make the variety a consistent choice and very well suited to marginal soils. Skyfall is best suited to end of September/ early October sowings onwards, with an extremely wide sowing window courtesy of its low vernalisation requirements. Skyfall can successfully be sown until early March, providing flexibility in adverse autumns. The variety is very susceptible to yellow rust, so a thorough preventative approach should be used with fungicides.

Group 1

Agronomics

OWBM resistance

Mildew	6
Yellow rust	3
Brown rust	9
Septoria tritici	5.4
Fusarium	7
Resistance to lodging with PGR	7
Maturity	-2 -1 (0) 1 2 3

United Kingdom	97
East region	97
West region	97
North region	96
Untreated yield	70
First cereal	96
Second plus	97
Light soils	96
Heavy soils	97
Specific weight	79.2

Crusoe

Breeder Limagrain UK Ltd
Parentage Cordiale x Gulliver

ADM's view - Crusoe remains the benchmark for quality with consistent high proteins across years. Disease resistance in Crusoe is holding up incredibly well given the variety has now been on the Recommended List over 10 years. We know that Crusoe has a susceptibility to brown rust late in the season, but yellow rust resistance remains very strong, and its Septoria tritici score is holding up well too. Overall, despite its age, Crusoe still has an awful lot to offer Group 1 growers until we see the next generation of quality wheats arrive.

Group 1

Agronomics

Mildew	7
Yellow rust	9
Brown rust	3
Septoria tritici	6.2
Fusarium	7
Resistance to lodging with PGR	7
Maturity	-2 -1 0 (1) 2 3

United Kingdom	96
East region	96
West region	97
North region	94
Untreated yield	76
First cereal	96
Second plus	94
Light soils	94
Heavy soils	96
Specific weight	78.5

ADM's seed processing plant at Long Sutton

KWS Extase

Breeder KWS UK Ltd
Parentage Boisseau x Solheio

ADM's view - KWS Extase offers something very different in terms of growth habit, being incredibly vigorous in both the autumn and spring. As such, input timings need to be carefully monitored in February/ March, as growers can be caught out with how much faster this variety develops compared to others. Disease resistances are holding up well, with Septoria tritici and yellow rust scores remaining very high. Rotationally, KWS Extase is more suited to the first cereal position and should not be sown before October for best results. For those growers aiming for 13%+ proteins, remember that protein dilutes with yield so more N will be required than with Group 1's.

Group 2

Agronomics

Mildew	7
Yellow rust	8
Brown rust	6
Septoria tritici	7.8
Fusarium	6
Resistance to lodging with PGR	8
Maturity	-2 (-1) 0 1 2 3

United Kingdom	102
East region	102
West region	102
North region	100
Untreated yield	97
First cereal	101
Second plus	102
Light soils	102
Heavy soils	101
Specific weight	79.4

KWS Ultimatum

Breeder KWS UK Ltd
Parentage KWS Zyatt x Costello

ADM's view - Newly recommended KWS Ultimatum brings a totally different wheat to grow alongside stablemate KWS Extase. Unlike KWS Extase, which has come from French breeding, KWS Ultimatum has been bred and selected in the UK so has a more familiar growth habit. As such, KWS Ultimatum can be sown a lot earlier than KWS Extase. KWS Ultimatum boasts a particularly high specific weight to aid its yield potential, but also offers slightly later maturity than other Group 2's for those growers wanting to grow large area but keep storage simple.

Group 2

Agronomics

Mildew	7
Yellow rust	9
Brown rust	6
Septoria tritici	6.4
Fusarium	7
Resistance to lodging with PGR	7
Maturity	-2 -1 0 (1) 2 3

United Kingdom	101
East region	101
West region	102
North region	[103]
Untreated yield	93
First cereal	101
Second plus	[102]
Light soils	[[101]]
Heavy soils	100
Specific weight	79.6

RGT Rashid

Breeder RAGT Seeds UK
Parentage Icebreaker / Solo // Cougar

ADM's view - RGT Rashid is one of ADM's trusted biscuit varieties within a group of relative newcomers to the sector. Septoria tritici resistance is a big topic in soft wheats currently and RGT Rashid is leading the way in the Group 3 sector with a score of 6.4. RGT Rashid is most suited to the south and east of England, as yield performance sits highest there, and the late maturity is aided by being positioned in those regions. RGT Rashid is a slow developing wheat, but still performs well in late sown trials so offers a very flexible sowing window.

Group 3

Agronomics

OWBM resistance

Mildew	4
Yellow rust	8
Brown rust	6
Septoria tritici	6.4
Fusarium	7
Resistance to lodging with PGR	8
Maturity	-2 -1 0 1 2 (3)

United Kingdom	100
East region	101
West region	97
North region	98
Untreated yield	81
First cereal	99
Second plus	99
Light soils	100
Heavy soils	99
Specific weight	77.0

LG Astronomer

Breeder Limagrain UK Ltd
Parentage (Cougar x Leeds) x Britannia

ADM's view - Despite being second to last for yield on the Recommended List, LG Astronomer offers soft wheat growers one of the most reliable options in the sector. Having the highest untreated yield in the group as well as a very high specific weight and stiffest straw, LG Astronomer ticks a lot of boxes for a lot of growers. LG Astronomer will suit a wide variety of growing circumstances and is particularly suited to reduced-input systems. Overall LG Astronomer offers biscuit wheat growers a very good combination of grain quality, disease scores and yield potential and should not be overlooked.

Group 3

Agronomics

OWBM resistance

Mildew	4
Yellow rust	9
Brown rust	8
Septoria tritici	6.2
Fusarium	6
Resistance to lodging with PGR	9
Maturity	-2 -1 0 (1) 2 3

United Kingdom	99
East region	99
West region	99
North region	97
Untreated yield	88
First cereal	99
Second plus	98
Light soils	99
Heavy soils	100
Specific weight	78.2

RGT Bairstow

Breeder: RAGT Seeds UK
Parentage: Revelation / Santiago // Cougar

ADM's view - RGT Bairstow has been knocked off the highest yielding Group 4 soft spot now by LG Redwald but still offers growers a very good soft wheat option. RGT Bairstow gives growers an excellent partner variety to LG Skyscraper and LG Redwald as it has a slower growth habit and later maturity. Overall, the variety is fairly similar to LG Skyscraper agronomically, but with one significant benefit of a higher resistance to Septoria tritici. RGT Bairstow gives growers a wide choice of rotational positions and soil type options with no clear preference, however growers should manage the straw on more fertile sites.

Group 4 Soft

Agronomics

OWBM resistance

Mildew	6
Yellow rust	8
Brown rust	6
Septoria tritici	6.0
Fusarium	6
Resistance to lodging with PGR	6
Maturity	-2 -1 0 1 **2** 3

United Kingdom	103
East region	103
West region	103
North region	103
Untreated yield	87
First cereal	103
Second plus	103
Light soils	105
Heavy soils	104
Specific weight	76.8

LG Skyscraper

Breeder: Limagrain UK Ltd
Parentage: (Cassius x NAWW 29) x KWS Santiago

ADM's view - LG Skyscraper is now cemented as one of the most widely grown feed varieties in the UK, and for good reason. As a variety, LG Skyscraper remains one of the most consistent and best performers on farm. It's never had the highest Septoria tritici rating since being recommended, but yellow rust is holding up OK and yield performance is not dropping off, so consider this a classic 'high-input, high-output' wheat. LG Skyscraper has a fast speed of development in the spring, so is useful where a workload spread is required or if you need competition against grass weeds.

Group 4 Soft

Agronomics

OWBM resistance

Mildew	7
Yellow rust	7
Brown rust	5
Septoria tritici	4.9
Fusarium	6
Resistance to lodging with PGR	6
Maturity	-2 -1 **0** 1 2 3

United Kingdom	103
East region	103
West region	103
North region	102
Untreated yield	86
First cereal	103
Second plus	104
Light soils	103
Heavy soils	103
Specific weight	77.3

LG Redwald

Breeder: Limagrain UK Ltd
Parentage: LG Sundance x LG Generation

ADM's view - LG Redwald is a new addition to the Recommended List for the 2023 sowing season but has made an immediate impact by being the highest yielding variety available. Being an LG Sundance cross it shows a very good resistance to Septoria tritici and exceptional late-sown performance owing to its innate amounts of vigour. We recommend not to sow LG Redwald much before the start of October to best suit its growth rates. We would also suggest LG Redwald is best placed on medium / heavy soil types. Due to the height of the straw we recommend a full programme of growth regulators to be used with LG Redwald to maintain maximum yield potential.

Group 4 Soft

Agronomics

OWBM resistance

Mildew	6
Yellow rust	7
Brown rust	6
Septoria tritici	6.7
Fusarium	6
Resistance to lodging with PGR	5
Maturity	-2 -1 0 1 **2** 3

United Kingdom	107
East region	107
West region	109
North region	[103]
Untreated yield	92
First cereal	107
Second plus	[109]
Light soils	[105]
Heavy soils	107
Specific weight	75.5

RGT Highgrove

Breeder: RAGT Seeds UK
Parentage: Undisclosed

ADM's view - RGT Highgrove isn't a name that will be instantly recognisable and you wont see it on the Recommended List. However, it has stood out in trials over the past couple of years so strongly we couldn't afford to overlook it. On any trial site that has suffered from drought or prolonged periods of stress RGT Highgrove has consistently stood out as looking far superior to anything else. Coming from a French breeding programme RGT Highgrove is very early to mature and holds novel Septoria tritici resistance, not seen in any other varieties on sale in the UK, so is less likely to break down over time.

Group 4 Hard

Agronomics

Variety data from a different trial set so cannot be directly compared

Mildew	8
Yellow rust	9
Brown rust	6
Septoria tritici	6.5
Fusarium	7
Resistance to lodging with PGR	0%
Maturity	-2 -1 0 **1** 2 3

United Kingdom	107
Untreated yield	114
Specific weight	78.8

Champion

Breeder: DSV UK Ltd
Parentage: Reflection x DSV20122

ADM's view - Champion by name, Champion by every measure! The yield potential of Champion is exceptional and its disease scores are very strong, especially Septoria tritici which is the highest of all the mainstream feed varieties. Champion has a very vigorous growth habit and is suited to later sowing or in reduced/no-till situations as a variety with good inherent vigour. Champion has a strong tillering ability, so reducing seed rates below farm standard should be considered for best results and to help increase specific weight.

Group 4 Hard

Agronomics

OWBM resistance

Mildew	7
Yellow rust	8
Brown rust	5
Septoria tritici	8.1
Fusarium	6
Resistance to lodging with PGR	6
Maturity	-2 -1 **0** 1 2 3

United Kingdom	106
East region	107
West region	106
North region	102
Untreated yield	93
First cereal	106
Second plus	107
Light soils	106
Heavy soils	107
Specific weight	75.5

KWS Dawsum

Breeder: KWS UK Ltd
Parentage: KWS Kerrin x Costello

ADM's view - KWS Dawsum is the latest blockbuster feed wheat from KWS, boasting an impressive all-round performance. Its Costello heritage brings fantastic grain quality, making this the highest rated specific weight variety behind Costello. Disease scores are excellent across the board, and a particular strength is yellow rust resistance, like many Costello derivatives. KWS Dawsum has a slow speed of development in the autumn, so suits earlier sowings. The only Achilles heel for KWS Dawsum is that it doesn't have midge resistance. If this is a trait you desire then perhaps look elsewhere, but if not this may just be the perfect variety for a lot of growers.

Group 4 Hard

Agronomics

Mildew	8
Yellow rust	9
Brown rust	7
Septoria tritici	6.4
Fusarium	7
Resistance to lodging with PGR	7
Maturity	-2 -1 0 **1** 2 3

United Kingdom	104
East region	103
West region	105
North region	105
Untreated yield	95
First cereal	104
Second plus	105
Light soils	105
Heavy soils	104
Specific weight	80.0

SY Insitor

Breeder: Syngenta
Parentage: Hereford x AB111-1101

ADM's view - SY Insitor is king of the light land, with its incredible ability to build root structures and fill grain courtesy of its very high specific weight. SY Insitor is tall strawed, providing a valuable additional income, and its Septoria tritici resistance has held up well. It has seen a reduction in rust scores since its first year of recommendation, so this should be monitored, and the variety would benefit from a robust fungicide programme. Positionally SY Insitor is a very strong second wheat, courtesy of its rooting architecture and suits medium/late sowings.

Group 4 Hard

Agronomics

OWBM resistance

Mildew	7
Yellow rust	5
Brown rust	6
Septoria tritici	6.4
Fusarium	7
Resistance to lodging with PGR	7
Maturity	-2 -1 0 **1** 2 3

United Kingdom	104
East region	104
West region	105
North region	105
Untreated yield	82
First cereal	104
Second plus	105
Light soils	106
Heavy soils	104
Specific weight	78.9

Gleam

Breeder: Syngenta
Parentage: KWS Kielder x Hereford

ADM's view - Gleam is the benchmark variety in terms of consistency and flexible use on farm. Whether sowing early, late, on light land or heavy land, Gleam is easily adaptable in nearly all situations. Septoria tritici resistance remains reasonable considering how long it's been recommended, but its yellow rust ratings have seen a gradual decline so this should be monitored in the crop. Gleam still has fantastic market share which is testament to its reliability for growers. If you want a tried and tested feed wheat variety, you can't go far wrong with Gleam.

Group 4 Hard

Agronomics

OWBM resistance

Mildew	7
Yellow rust	5
Brown rust	6
Septoria tritici	5.7
Fusarium	6
Resistance to lodging with PGR	7
Maturity	-2 -1 **0** 1 2 3

United Kingdom	103
East region	103
West region	104
North region	103
Untreated yield	84
First cereal	103
Second plus	103
Light soils	103
Heavy soils	103
Specific weight	77.3

Winter Wheat

KWS Cranium

Breeder KWS UK Ltd
Parentage KWS Crispin x KWS Kielder

ADM's view - A KWS Crispin cross, KWS Cranium inherits fantastic late-drilled vigour, which is traced back to its grandparent Conqueror. After root crops or maize, KWS Cranium is a default choice for growers and is also well adapted to reduced / no-till systems. Septoria tritici resistance is holding up reasonably and KWS Cranium remains strong on yellow rust. Later maturity will naturally favour sites in the midlands and south. For those growers battling grass weeds, KWS Cranium has the right growth habit to help over come these troublesome weeds.

Group 4 Hard

Agronomics

OWBM resistance

Mildew	6
Yellow rust	9
Brown rust	4
Septoria tritici	5.9
Fusarium	7
Resistance to lodging with PGR	8
Maturity	-2 -1 0 1 2 **3**

United Kingdom	102
East region	103
West region	101
North region	102
Untreated yield	82
First cereal	102
Second plus	103
Light soils	103
Heavy soils	101
Specific weight	75.8

Graham

Breeder Syngenta
Parentage Premio x Expert

ADM's view - Graham is a stalwart of the Syngenta breeding programme and has been a solid variety choice for growers in the West, or those looking for an early-sown wheat variety. Yellow rust and Septoria tritici resistances have held up exceptionally well, aiding its consistency of performance on farm. Yield is starting to fall back now compared to some newer varieties, but still remains more than acceptable, and grain quality has proven to be good too. The only criticism you can throw Graham's way is that it doesn't have midge resistance. Otherwise it's a sure bet still after five years of recommendation.

Group 4 Hard

Agronomics

Mildew	6
Yellow rust	8
Brown rust	5
Septoria tritici	6.7
Fusarium	7
Resistance to lodging with PGR	8
Maturity	-2 **-1** 0 1 2 3

United Kingdom	102
East region	101
West region	105
North region	102
Untreated yield	93
First cereal	102
Second plus	102
Light soils	102
Heavy soils	102
Specific weight	77.6

LG Typhoon

Breeder Limagrain UK Ltd
Parentage Garrus x LGW88

ADM's view - New to the ADM portfolio for this year, LG Typhoon provides growers with an exceptionally slow developing wheat suitable for early sowing. Yield sits a way down the feed varieties but this variety isn't about yield, it's about slow speed of development and ultimate disease protection, scoring very highly for yellow rust and Septoria tritici whilst offering midge resistance. Another key strength for LG Typhoon is its second wheat performance which shouldn't be overlooked.

Group 4 Hard

Agronomics

OWBM resistance

Mildew	6
Yellow rust	9
Brown rust	6
Septoria tritici	7.3
Fusarium	6
Resistance to lodging with PGR	7
Maturity	-2 -1 0 **1** 2 3

United Kingdom	101
East region	101
West region	100
North region	101
Untreated yield	92
First cereal	100
Second plus	103
Light soils	102
Heavy soils	100
Specific weight	77.1

RGT Grouse

Breeder RAGT Seeds UK
Parentage Undisclosed

ADM's view - RGT Grouse offers an exciting opportunity for feed wheat growers to remove the need for autumn insecticides thanks to its genetic resistance to BYDV. RGT Grouse has been specifically bred to target the early sowing window with a slow and very prostrate growth habit. If you take up the Integrated pesticide management (IPM) option with the Environmental Land Management Scheme (ELMS) and opt to the no insecticide option you can also benefit from £45/ha, which makes RGT Grouse the best-value seed currently available in the market.

Group 4 Hard

Agronomics

Variety data from a different trial set so cannot be directly compared

BYDV R

OWBM resistance

Mildew	7
Yellow rust	5
Brown rust	5
Septoria tritici	5.5
Fusarium	6.2
Resistance to lodging with PGR	0%
Maturity	-2 -1 0 1 **2** 3

United Kingdom	114
Untreated yield	108
Specific weight	76.7

Spring Wheat & Rye

KWS Ladum

Breeder KWS UK Ltd
Parentage KWS Sywell x KWS Talland

ADM's view - KWS Ladum finally offers growers an alternative Group 1 milling option to Mulika. KWS Ladum offers fantastic grain quality and the ability for growers to have the flexibility to sow from November all the way through to the end of spring.

Spring Wheat

Agronomics

Mildew	[7]
Yellow rust	6
Brown rust	7
Septoria tritici	[7]
Maturity	-2 -1 **0** 1 2 3

United Kingdom	102
Specific weight	78.0

KWS Alicium

Breeder KWS UK Ltd
Parentage KWS 13-21 x Astrid

ADM's view - KWS Alicium is about as close to the perfect spring wheat variety as we can get. It has fantastic grain quality, the highlight being a specific weight of over 80kg/hl. Good agronomics and an early maturity mean that KWS Alicium is a sure bet for any spring-sown or late winter-sown wheat.

Spring Wheat

Agronomics

OWBM resistance

Mildew	[8]
Yellow rust	6
Brown rust	6
Septoria tritici	[7]
Maturity	-2 **-1** 0 1 2 3

United Kingdom	105
Specific weight	80.3

KWS Serafino

Breeder KWS UK Ltd
Parentage F1 Hybrid

ADM's view - KWS Serafino is a high yielding grain-orientated hybrid rye on the AHDB Descriptive List, a market growing year on year as growers look for additional species to maximise diversity in the rotation. Interest is really picking up in the UK as growers look for viable alternatives to second wheat and more reliable options on light land. Rye needs much less water to reach to grain maturity compared with other cereals, so is well suited to lighter soil types. However crops can successfully be grown on heavier soil types, with yield potential exceeding that of a second wheat or winter barley. A true dual-purpose variety, KWS Serafino's wholecrop yield is not compromised so it really is a one-stop shop for growers looking to maximise their marketing options from the crop, or needing flexibility should wholecrop contracts be disputed post planting. The major disease rye is susceptible to is brown rust, but KWS Serafino has the highest rating against this particular disease.

Rye

Agronomics

Brown rust	7
Ripening	-2 -1 0 **1** 2 3

Fungicide-treated grain yield	101
Straw length	131
Protein content	9.1
Hagberg	269
Specific weight	77.3

Winter Barley

Craft

Breeder: Syngenta
Parentage: SY 208-56 x SY Venture

ADM's view - The market-leading winter malting barley, Craft continues to deliver consistent performance on farm, with good grain quality and acceptable all-round disease resistance. The variety has the stiffest straw in its category. It favours lighter sites and looks highly likely to continue to dominate this market segment.

Two-row malting

Agronomics

BaYMV resistance

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

United Kingdom	94
East region	94
West region	94
North region	94
Untreated yield	79
Light soil yield	95
Heavy soil yield	95
Straw height	89
Nitrogen	1.71
Specific weight	70.7

LG Caravelle

Breeder: Limagrain UK Ltd
Parentage: LGBU11 - 5493B x KWS Moselle

ADM's view - Newly recommended LG Caravelle has joined the 23/24 AHDB Recomended List not only as the highest yielding two-row, but as the highest yielding winter barley FULL STOP. With yields rivalling the hybrids, we expect LG Caravelle to be a popular choice this autumn. LG Caravelle also has an exceptional disease package, and is early to mature.

Two-row feed

Agronomics

Brown rust score is breeder's own data

BaYMV resistance

Mildew	7
Brown rust	7
Rhynchosporium	6
Net blotch	[5]
Resistance to lodging	7
Maturity	-2 -1 (0) 1 2 3

United Kingdom	106
East region	109
West region	[105]
North region	[104]
Untreated yield	89
Light soil yield	103
Heavy soil yield	[106]
Straw height	85
Nitrogen	-
Specific weight	71.8

KWS Tardis

Breeder: KWS UK Ltd
Parentage: (11-12 x KWS Orwell)

ADM's view - After another outstanding year, both on farm and in trials, KWS Tardis will remain a popular choice with growers. KWS Tardis ticks all the boxes with high yields, accommodating a good all-round disease package and short stiff straw, resulting in great lodging resistance.

Two-row feed

Agronomics

BaYMV resistance

Mildew	5
Brown rust	6
Rhynchosporium	6
Net blotch	5
Resistance to lodging	8
Maturity	-2 -1 (0) 1 2 3

United Kingdom	103
East region	105
West region	102
North region	102
Untreated yield	85
Light soil yield	102
Heavy soil yield	107
Straw height	85
Nitrogen	-
Specific weight	70.6

Bolton

Breeder: Elsoms Ackermann Barley
Parentage: KWS Cassia x California

ADM's view - Bolton is well adapted to all of the UK, but performs particularly well in the East, delivering consistantly high yields. Bolton is also supported by a strong disease package and exceptionally stiff straw, boasting a score of 8 for lodging resistance.

Two-row feed

Agronomics

BaYMV resistance

Mildew	6
Brown rust	6
Rhynchosporium	5
Net blotch	5
Resistance to lodging	8
Maturity	-2 -1 (0) 1 2 3

United Kingdom	103
East region	105
West region	101
North region	102
Untreated yield	86
Light soil yield	103
Heavy soil yield	105
Straw height	83
Nitrogen	-
Specific weight	69.9

KWS Feeris

Breeder: KWS UK Ltd
Parentage: Amistar x KWS Kosmos

ADM's view - With specific recommendation for BYDV tolerance, six-row conventional KWS Feeris sits only a few of percent below the highest yielding variety, and delivers an excellent risk management tool for barley growers in high-pressure BYDV hotspots. Along with its outstanding yield potential, KWS Feeris has fantastic grain quality, really pushing the six-rows forward in this area. KWS Feeris also has exceptionally stiff straw and great disease resistance.

Six-row feed

Agronomics

BYDV T

BaYMV resistance

Mildew	4
Brown rust	6
Rhynchosporium	6
Net blotch	6
Resistance to lodging	7
Maturity	-2 -1 (0) 1 2 3

United Kingdom	103
East region	103
West region	103
North region	100
Untreated yield	85
Light soil yield	101
Heavy soil yield	105
Straw height	95
Nitrogen	1.76
Specific weight	69.8

SY Kingsbarn

Breeder: Syngenta
Parentage: F1 Hybrid

ADM's view - SY Kingsbarn is currently the most widely grown hybrid barley variety in the UK. SY Kingsbarn is the market leader for good reason, with consistently high yields in all regions. Solid disease resistance scores and excellent grain characteristics mean SY Kingsbarn has definitely set the bar high for any new hybrids joining the RL. Along with other hybrids, the early maturity is a positive for harvest workload and OSR entry. We expect SY Kingsbarn to continue to be a popular choice on farm.

Hybrid six-row feed

Agronomics

BaYMV resistance

Mildew	7
Brown rust	5
Rhynchosporium	6
Net blotch	5
Resistance to lodging	7
Maturity	-2 -1 (0) 1 2 3

United Kingdom	106
East region	106
West region	106
North region	107
Untreated yield	85
Light soil yield	105
Heavy soil yield	105
Straw height	104
Nitrogen	-
Specific weight	70.9

BYDV explained

Vectors: Aphids; made worse in mild winters and early sown crops.

Symptoms: Yellowing, wilting; resulting in yield loss.

Where: Traditionally coastal areas in the south/ south east/south west. However, when autumn and winters are mild, almost anywhere in the UK can be affected.

Control: Pyrethroids just before peak infection - once symptoms appear its too late!

Resistance is building to pyrethroids so the answer is varietal ***Tolerance*** or ***Resistance***.

Tolerance:		***Resistance:***
The plant still gets the infection but shows little to no symptoms	VS	The plant can't be infected

Spring Barley

Null-Lox

Null-Lox was originally a term to describe the first non (null) lipoxygenase (lox) spring barley varieties. The beer benefits from a fresher taste, increased storage times and improved flavour and foam stability. In recent years the original Null-Lox varieties have been enhanced to produce a line of varieties known as 3G and 4G. Both of these carry the original Null-Lox traits but 3G adds the '0-DMS' trait which stops the formation of dimethyl sulphide (DMS) during the malting and brewing processes. This allows the maltsters to reduce their kiln temperatures whilst also reducing the time per batch. In addition it allows the brewer to use less water so overall there is a significant carbon saving from using 3G and 4G barley. Finally, 4G stacks another trait on top of all of these making the barley / malt proanthocyanidin-free. Removal of this gives the final beer a much clearer appearance and reduces the need for brewers to rely on stabilisation agents to achieve the same result.

CB Score

Breeder: ADM Agriculture Ltd
Parentage: (CB China x RGT Planet) x (Lauxana x Laureate)

ADM's view - CB Score is a variety that has been specifically bred for Carlsberg, and comes from a new generation of Null-Lox, Null-Lox4G, giving improved beer quality among other benefits. Not only is CB Score a unique offering, it is a great variety in its own right. CB Score sits on the AHDB Recommended List as a described variety, with yields 3% higher than RGT Planet. This variety boasts a 7 for Rhynchosporium and has excellent agronomics.

UK Null-Lox

Agronomics

Mildew	9
Brown rust	5
Rhynchosporium	7
Resistance to lodging	7
Maturity	-2 -1 0 (1) 2 3

United Kingdom	101
East region	101
West region	101
North region	101
Untreated yield	92
Straw height	71
Nitrogen	[1.53]
Specific weight	67.8

Laureate

Breeder: Syngenta
Parentage: Sanette x Concerto

ADM's view - With full MBC approval for brewing and malt distilling, Laureate largely dominates the UK spring barley market. Seven years on from first appearing on the Recommended List, Laureate remains consistently high yielding across all regions. This variety is supported by an excellent agronomic package and disease profile, particularly for Rhynchosporium, which is reflected in the variety's high untreated yields.

Malting

Agronomics

Mildew	9
Brown rust	5
Rhynchosporium	7
Resistance to lodging	6
Maturity	-2 -1 0 (1) 2 3

United Kingdom	103
East region	103
West region	104
North region	102
Untreated yield	94
Straw height	70
Nitrogen	1.52
Specific weight	67.2

SY Tennyson

Breeder: Syngenta
Parentage: SY Splendor x LG Diablo

ADM's view - A new and exciting edition to the 2023/24 AHDB Recommended List, SY Tennyson is currently under test for MBC approval for both brewing and malt distilling. As the second highest yielding option on the list, this variety is also likely to be a popular choice for feed, particularly in the east where it excels with yields at 107% of control. Agronomically SY Tennyson has great lodging resistance and maturity similar to Laureate. The Rhynchosporium score could be a weak point for this variety, but we may see the rating increase slightly once we have more years of data.

Malting

Agronomics

Mildew	9
Brown rust	4
Rhynchosporium	[3]
Net blotch	[7]
Maturity	-2 -1 0 (1) 2 3

United Kingdom	105
East region	107
West region	[104]
North region	106
Untreated yield	92
Straw height	[69]
Nitrogen	1.47
Specific weight	66.6

Winter OSR

Acacia

UK Agent: Limagrain UK Ltd

ADM's view - Acacia has had another good year in trials and remains one of the highest yielding conventionals on the 2023/24 Recommended List. Acacia has recommendation for the whole of the UK, but performs particularly well in the East/West region. Acacia is not as vigorous as some of its hybrid competitors, but its yield and consistency cannot be ignored. It exhibits moderate disease resistance, with relatively short stiff stems.

Conventional

Agronomics

Light leaf spot	6
Stem canker	6
Resistance to lodging	8
Stem stiffness	9
Maturity	1 2 3 4 (5) 6 7

E/W Gross output	101
E/W Seed yield	102
N Gross output	101
N Seed yield	101
Oil Content	45.0
Plant height	141

Campus

UK Agent: KWS UK Ltd

ADM's view - Campus has been one of the most widely grown conventional varieties for the past seven years. The variety has very good vigour for a conventional variety, along with high oil content and moderate disease resistance. Campus will still be a popular choice for UK growers again for the 2023/24 season.

Conventional

Agronomics

Light leaf spot	6
Stem canker	6
Resistance to lodging	8
Stem stiffness	8
Maturity	1 2 3 4 (5) 6 7

E/W Gross output	99
E/W Seed yield	99
N Gross output	102
N Seed yield	102
Oil Content	45.2
Plant height	147

Companion cropping variety selection

Companion cropping can benefit oilseed rape crops by reducing weed pressure, fixing nitrogen and protecting against flea beetle, thereby improving establishment and yield. ADM's companion crop portfolio consists of Fix and Protect, Shielder and Beetle Blaster.

FIX AND PROTECT	SHIELDER	BEETLE BLASTER
40% TABOR Berseem Clover 60% LIFAGO Buckwheat	50% LIFAGO Buckwheat 25% TABOR Berseem Clover 25% Fenugreek	70% LIFAGO Buckwheat 30% Fenugreek

***TABOR berseem clover** *(Trifolium alexandrinum)* is an annual, nitrogen fixing legume that is the only single-cut berseem clover variety, which means it will not regrow after frost kill.

***LIFAGO Buckwheat** *(Fagopyrum tataricum)* is a different species to conventional buckwheat (Fagopyrum esculentum), it has rapid establishment, high vigour and creates a dense canopy to protect the oilseed rape plants.

***Fenugreek** *(Trigonella foenum-graecum* produces a natural odour which deters the fleabeetle from the oilseed rape crop. It also has fast establishment, high vigour and is frost killed.

Winter OSR

DK Excited

UK Agent: Bayer CropScience

ADM's view - DK Excited is proving to be well suited to early drilling and boasts very high vigour in both the autumn and spring. This hybrid features TuYV resistance, a key part of ADM's varietal selection criteria for new portfolio additions. It also has pod shatter resistance and excellent disease resistance, including a high stem canker score from the double-phoma resistance trait. Thanks to DK Excited's superb balance of traits and agronomic performance, we expect it to once again be a popular variety on farm for 2023 sowings. DK Excited is also supported by Bayer's industry-leading establishment scheme.

Hybrid

Agronomics

Variety data from a different trial set so cannot be directly compared

Light leaf spot	6
Stem canker	8
Resistance to lodging	8
Stem stiffness	7
Maturity	4 5 (6)

UK Gross output (based on data from 2 trials sites)	5.56 t/ha
UK Seed yield (based on data from 4 trials sites)	5.06 t/ha
Oil Content (based on data from 2 UK trials sites)	46.91
Plant height	4

LG Aviron

UK Agent: Limagrain UK Ltd

ADM's view - LG Aviron has excellent yield potential across all regions of the UK and is stacked with traits; with genetic resistance to TuYV, pod shatter and Phoma. LG Aviron also features the N-Flex characteristic, which enables plants to make better use of available nitrogen, improving vigour and enabling higher yields. Its excellent autumn and spring vigour make LG Aviron an excellent option for growers offering flexibility for planting later, after wheat, or into September. Due to its vigorous nature, it performs well, even in challenging seedbeds, and helps the crop to grow away from pest damage. With LG Aviron's taller straw and high vigour, we advise low seed rates and to avoid drilling this variety before mid-August.

Hybrid

Agronomics

Light leaf spot	8
Stem canker	[7]
Resistance to lodging	[8]
Stem stiffness	7
Maturity	4 5 (6)

E/W Gross output	105
E/W Seed yield	106
N Gross output	103
N Seed yield	105
Oil content	44.4
Plant height	150

Duplo

UK Agent: DSV UK Ltd

ADM's view - Triple-layered Duplo from DSV stacks resistance to TuYV, pod shatter and RLM7 resistance to Phoma. Duplo is the first variety with DSV's new N-efficiency, allowing growers to get the highest possible response to nitrogen fertilisers. Duplo also offers exceptional autumn vigour, the best we've seen in a variety so far. Duplo is packed, uniquely, in 1.8 million-seed packs, giving growers an additional 20% seed at no extra cost, to help increase seed rates in the most challenging of establishment areas.

Hybrid

Agronomics

Variety data from a different trial set so cannot be directly compared

Light leaf spot	5
Stem canker	9
Resistance to lodging	8
Stem stiffness	8
Maturity	4 5 (6)

Gross output	109
Seed yield	107
Oil Content	46.8

Aurelia

UK Agent: Limagrain UK Ltd

ADM's view - Aurelia is proving to be extremely consistent year after year, remaining within a few percent of the highest yielding varieties on the new AHDB RL. This consistent performance gives growers security in a variety that shows high yields, even in difficult seasons. Although Aurelia is suited to all regions, it particularly excels in the north. High yields are supported by a great package of genetic traits, including TuYV resistance, pod shatter resistance, and the RLM7 gene.

Hybrid

Agronomics

Light leaf spot	7
Stem canker	6
Resistance to lodging	8
Stem stiffness	8
Maturity	4 (5) 6

E/W Gross output	105
E/W Seed yield	105
N Gross output	104
N Seed yield	105
Oil content	44.9
Plant height	145

Winter & Spring OSR

Attica

UK Agent: Limagrain UK Ltd

ADM's view - Attica is loaded with all the traits we have come to expect from Limagrain's portfolio and has joined the new AHDB Recommended List as the second highest yielding variety. With TuYV resistance, pod shatter resistance and the RLM7 gene, Attica is easily the most attractive option on the RL with high yields and traits combined. With consistency in all regions and excellent all-round agronomics we expect Attica to be a natural successor to Aurelia and to be in high demand this autumn.

Hybrid

Agronomics

Light leaf spot	7
Stem canker	7
Resistance to lodging	[8]
Stem stiffness	8
Maturity	4 (5) 6

E/W Gross output	107
E/W Seed yield	107
N Gross output	107
N Seed yield	106
Oil content	45.3
Plant height	149

Matrix CL

UK Agent: DSV UK Ltd

ADM's view - As the first recommended Clearfield variety with TuYV resistance, pod shatter resistance and RLM7 protection, Matrix CL is a step forward for this segment of the OSR market. Proving to be high yielding in UK trials, Matrix CL is really raising the bar for any future Clearfields, and looks to be a promising variety that will likely become a firm favourite on farm. Matrix CL also has a great agronomic profile, including good light leaf spot scores, a very stiff stem and early maturity.

Hybrid

Agronomics

Light leaf spot	6
Stem canker	8
Resistance to lodging	[8]
Stem stiffness	8
Maturity	4 5 (6)

E/W Gross output	99
E/W Seed yield	98
N Gross output	95
N Seed yield	95
Oil content	45.6
Plant height	152

V3670L

UK Agent: Bayer CropScience

ADM's view - V367OL is the latest HOLL (High Oleic, Low Linolenic) variety to be brought to commercialisation. This variety has replaced sector stalwart V316OL, and is a step up in performance, giving an increase in yield, along with improved autumn vigour and disease resistance. Phoma resistance is still average, as with most HOLL varieties, but V367OL now includes pod shatter resistance to help protect the added value seed it provides.

Hybrid

Agronomics

Variety data from a different trial set so cannot be directly compared

Light leaf spot	6
Stem canker	6
Resistance to lodging	8
Stem stiffness	7
Maturity	4 (5) 6

UK Gross output (based on data from 2 trials sites)	5.52 t/ha
UK Seed yield (based on data from 4 trials sites)	5.00 t/ha
Oil Content (based on data from 2 UK trials sites)	46.66
Plant height	5

Lakritz

UK Agent: DSV UK Ltd

ADM's view - Lakritz not only has the highest gross output on the AHDB Descriptive List for 2023/24, the variety's UK seed yield is an impressive 3% higher than the next nearest competitor and it boasts a high oil content. Agronomically Lakritz is an early-flowering, medium-maturing variety with a good short stem. This is currently ADM's go-to variety for anyone with an opportunity to drill spring rapeseed.

Spring Hybrid

Agronomics

Shortness of stem	7
Earliness of flowering	[7]
Earliness of maturity	5

UK Gross output	[103]
UK Seed yield	[104]
Oil Content	[44.0]

Winter & Spring Oats

Mascani

UK Agent: Senova Ltd

Parentage: CWO 02/18/05 x 87-42CN1/2/2

ADM's view - Mascani remains the most in-demand winter oat variety among end-users. Although yield is slightly off the pace of newer varieties, quality is still the most important aspect. The variety's good specific weight and very high kernel content leads to high hullability. Mascani's average disease scores are still better than most other varieties on the RL, so it will remain a popular choice on farm.

Winter

Agronomics

Mildew	6
Crown rust	5
Resistance to lodging	6
Maturity	-2 -1 **0** 1 2 3

UK yield	95
Kernel content	75.7
Specific weight	53.5
Straw height	122

WPB Isabel

UK Agent: KWS UK Ltd

Parentage: (LW 03W0383-06 x Husky)

ADM's view - WPB Isabel has cemented itself as a firm favourite on farm, with consistantly high yields and good lodging resistance. With the highest specific weight of all AHDB-recommended husked spring oats for 2023/24, WPB Isabel's grain quality draws demand from end users. Market share is expected to continue to grow this season, bringing both agronomic and quality improvements from its KWS predecessor WPB Elyann.

Spring

Agronomics

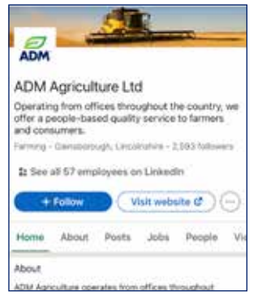
Mildew	5
Crown rust	5
Resistance to lodging	7
Maturity	-2 -1 **0** 1 2 3

UK yield	101
Kernel content	73.0
Specific weight	53.5
Straw height	109

Find us on social media

Do you follow us on social media? ADM regularly post updates on Facebook, Twitter, LinkedIn and YouTube

Subscribe and follow for the latest grain market information, seed and fertiliser updates, and look out for opportunities to gain CPD points across our channels.



Winter & Spring Beans

Vespa

UK Agent: Senova Ltd

ADM's view - Vespa is once again the highest yielding winter bean variety on the PGRO Descriptive List and is supported by a good all-round agronomic package, particularly boasting good standing power. The quality has so far been accepted for all end uses, and its larger seed size compared with Tundra is preferred for the splitting market in Egypt, where beans are used for Falafel, a deep-fried fritter. We expect Vespa demand to grow once again this coming season.

Winter

Agronomics

Downy mildew	5
Rust	5
Earliness of maturity	5
Standing ability at harvest	8

Yield	111
Protein content	25.7
Straw length	115

Tundra

UK Agent: Limagrain UK Ltd

ADM's view - Tundra is a universally accepted variety and market leader in the winter bean category. Tundra has smoother skin than some of the more traditional winter beans, so it has greater acceptance as a whole bean in the North Africa market. Historically, the larger, flatter, wrinkled winter beans have only been used for splitting, but Tundra can often fit both markets. Some newer rivals are entering the market with additional yield potential, but Tundra is still likely to maintain a significant sown area again this autumn.

Winter

Agronomics

Downy mildew	5
Rust	5
Earliness of maturity	6
Standing ability at harvest	8

Yield	94
Protein content	25.7
Straw length	105

LG Viper

UK Agent: Limagrain UK Ltd

ADM's view - With a score of 9 for standing ability, LG Viper is the stiffest variety on the PGRO Descriptive List for 2023/24. LG Viper also has the best score for rust by some margin and excellent resistance to downy mildew. Although slightly behind its stablemates for yield, LG Viper offers a strong alternative for spring bean growers with possibly the strongest agronomic package.

Spring

Agronomics

Downy mildew	6
Rust	7
Earliness of maturity	5
Standing ability at harvest	9

Yield	100
Protein content	28.4
Straw length	99

Lynx

UK Agent: LS Plant Breeding Ltd

ADM's view - Seven years after being listed, Lynx sits as the second highest yielding spring bean with UK yields at 107% of control on this year's PGRO Descriptive list. Lynx has set the benchmark incredibly high for any new varieties coming forward, and we expect the variety to continue as the market leader in this sector for some time to come. High yields alongside excellent downy mildew resistance and good standing ability make this variety an incredibly attractive all-round package for any spring bean grower.

Spring

Agronomics

Downy mildew	7
Rust	4
Earliness of maturity	6
Standing ability at harvest	8

Yield	107
Protein content	28.1
Straw length	108

Peas

Marrowfats are incredibly important to ADM and the vertical integration through the Long Sutton processing site. Over decades, marrowfat peas have been the preserve of the finest chip-shop peas in the UK as well as providing an essential export market to overseas customers for snack foods such as wasabi peas in Japan. ADM provides a very easy three-step process to enable you to grow one of the best gross margin break crops available.

Step 1 – ADM delivers your seed. We'll also advise what seed treatment to use to make sure you have minimal losses and the crops gets off to as strong start as possible.

Step 2 – The growing season. We'll provide you and your agronomist with all the technical support you need to grow the best crop possible. We also have the VIPea group which meets bi-annually and gives our growers the opportunity to engage with us and identify common areas of concern with the growing crop or future crops.

Step 3 – Storage and delivery. You store the peas on farm until we are ready to move them into Long Sutton. We'll sample and grade your peas before they move to put them on the most suitable production run. Again, if you have any concerns with longer-term storage of the peas our expert team are on hand to help guide you through.

So why not give peas a chance and become part of our exclusive VIPea grower group?

Kabuki

UK Agent: Limagrain UK Ltd

ADM's view - Kabuki has been the backbone of the marrowfat sector for decades providing the best end user qualities and most marketing flexibility. Marrowfat peas are the jewel in the crown for combinable pea growers being the most valuable of the pulse commodities due to appearance of the final product being vital to the end consumer. All marrowfat peas are supplied against our market-leading buyback contracts which give growers the assurance they have the best outlet lined up for their produce.

Marrowfat

LG Adder

UK Agent: Limagrain UK Ltd

ADM's view - LG Adder is a major step forward in marrowfat plant breeding, reaching new levels of resistance for downy mildew. It features reliable standing ability through to harvest.

Marrowfat

Agronomics

Variety data from a different trial set so cannot be directly compared

Pea wilt	Resistant
Downy mildew	9
Powdery mildew	Resistant
Earliness of maturity	5
Standing ability at harvest	7
Straw length	6

Manager

UK Agent: KWS UK Ltd

ADM's view - Manager is a yellow pea variety that has stood the test of time. Whilst Manager is a few percent off being the highest yielding yellow, it provides the best mildew resistance in the group, stands well and is early to harvest, making it an ideal start point for growers new to peas.

Yellow

Agronomics

Pea wilt	Resistant
Downy mildew	7
Powdery mildew	Moderate resistance
Earliness of maturity	6
Standing ability at harvest	7
Yield	108
Protein content	22.8
Straw length	83

Kameleon

UK Agent: Senova Ltd

ADM's view - Kameleon is the highest yielding yellow pea currently available. A large thousand seed weight, early harvest and good standing ability make it a very good all-round option.

Yellow

Agronomics

Pea wilt	Resistant
Downy mildew	5
Powdery mildew	Susceptible
Earliness of maturity	6
Standing ability at harvest	7
Yield	114
Protein content	21.8
Straw length	76

Daytona

UK Agent: Agrii

ADM's view - Daytona has been the stalwart of the blue pea industry now for a considerable time. To get the best premium, blue peas need to hold their colour and provide the buyer with the deepest green/blue appearance as possible. This is a trait we refer to as colour retention, and Daytona has had the most reliable colour retention for a considerable time.

Blue

Agronomics

Pea wilt	Resistant
Downy mildew	7
Powdery mildew	Susceptible
Earliness of maturity	6
Standing ability at harvest	7
Yield	98
Protein content	22.1
Straw length	78

Butterfly

UK Agent: LS Plant Breeding Ltd

ADM's view - Butterfly is a very new blue pea which we are looking to develop and learn more about as we go forward. High yields, early harvest and a decent seed size are all good attributes to have and we'll continue to progress Butterfly through the multiplication stages.

Blue

Agronomics

Pea wilt	Resistant
Downy mildew	6
Powdery mildew	Susceptible
Earliness of maturity	7
Standing ability at harvest	7
Yield	109
Protein content	21.1
Straw length	83

Carrington

UK Agent: LS Plant Breeding Ltd

ADM's view - Carrington is the highest yielding blue pea with exceptional mildew resistance. Although relatively new, its performance on farm so far has been great so for any grower of older varieties looking to move on to higher yielding alternatives, Carrington looks a good step to take.

Blue

Agronomics

Pea wilt	Resistant
Downy mildew	8
Powdery mildew	Susceptible
Earliness of maturity	5
Standing ability at harvest	7
Yield	115
Protein content	21.4
Straw length	86

Seed Treatments

Seed treatment (Active ingredient(s))	Approved for use in	Protects against: Microdochium seedling blight	Fusarium seedling blights	Septoria seedling blight	Loose smut	Bunt	Leaf stripe	Covered smut	Net blotch	Take all	Wheat bulb fly	Wireworm	Growth promoting benefits
Prepper *(Fludioxonil)*	Winter and spring: wheat, barley, oats, rye and triticale	Wheat Barley	Wheat Barley	Wheat		Wheat	Barley	Barley					
Rancona i-MIX *(Ipconazole, imazalil)*	Winter and spring: wheat and barley	Wheat Barley	Wheat Barley		Barley	Wheat	Barley						
Fountain *(Fludioxonil, tebuconazole)*	Winter: wheat, barley, oats, rye and triticale	Wheat Barley	Wheat Barley		Wheat Barley	Wheat		Barley	Barley				
Vibrance Duo *(Fludioxonil Sedaxane)*	Winter and spring: wheat and barley. Winter: triticale and rye Spring: oats	Wheat Barley	Wheat	Wheat	Wheat	Wheat	Barley	Barley					✓
Latitude *(Silthiofam)*	Winter and spring wheat and winter barley									✓			
Signal 300ES *(Cypermethrin)*	Wheat and barley that is sown before Jan 31st										✓	✓	
NUELLO iN *(Bacterial Endophyte)*	All crops												✓
Exseed *(Rhizobium bacteria)*	Pulses												✓

Tick = Label recommendation. Control may only be partial, please refer to product label.

All of our base fungicidal seed treatments offer a wide range of protection against seed and soil-borne diseases.

Prepper ADM's wheat fungicidal seed treatment of choice.

Rancona i-MIX and **Fountain** are our barley fungicidal seed treatments of choice.

Vibrance Duo has shown to have a positive effect on root growth, generating an average of 30% increased root mass over prothioconazole.

Latitude is the only chemical option to help reduce take-all in second and succesive cereal crops.

Signal 300ES is the only insecticidal seed treatment for control of wireworm and wheat bulb fly.

NUELLO iN is an endophytic bacteria which enables all crop species to fix atmospheric nitrogen and has a growth promoting effect througout the plants life, particularly in periods of stress.

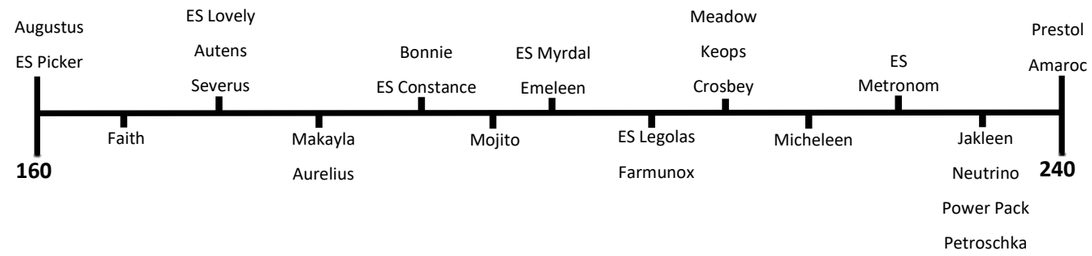
Exseed contains Rhizobium to help increase natural biological fixation of nitrogen in pulse crops.

Maize

Maize is a great option for forage production, as a feedstock for AD plants and to grow for grain. It is very high in energy and starch which means it is perfect for AD plants and livestock feed.

Heat units and maturity

The FAO number of a maize variety determines how many heat units will be required to reach the plant's optimum level ready for harvesting.



When deciding what maturity to go for it is important to think about the end use, weather, location and workload.

Weather

If the maize is late to mature, the land may be hard to work on if the weather is bad.

Location

Around the UK, the heat units vary. For instance, there are fewer heat units in the north so a variety will take longer to mature than if it was planted in the south.

Workload

It is important if a lot of maize is going to be planted to spread the harvesting window. This can be achieved by using a range of different maturity varieties.

Drilling

The soil should be 8°C and rising. If maize is drilled too early and the temperature of the soil is not warm enough, crop establishment and germination will be affected.

Small Seeds

ADM has a range of cover cropping options available, as both straights and ready-made mixes.
We can also offer bespoke mixes in order to suit your individual cropping requirements.

Primary characteristics

Secondary characteristics

This table is a guide only; local conditions, weather and crop rotations will affect performance.

Species	Latin Name	Type	Sowing Rate per ha	Sowing Depth	Sowing Period	Overwinter Use	Nitrogen Fix	Leaching Prevention	Organic Matter	Soil Structure	Biofumigant	Allelopathic	Nematode Control	Weed Control
MUSTARD														
Brown	Brassica juncea	Brassica	5kg	0.5-1cm	Apr-Sept	YES								
White	Sinapsis alba	Brassica	15kg	0.5-1cm	Apr-Sept	NO								
VETCH														
Common	Vicia sativa	Legume	50kg	1-2cm	Mar-Oct	YES								
Purple	Vicia atropurpurea	Legume	30kg	1-2cm	Apr-Sept	NO								
OIL RADISH														
Classic	Raphanus sativus	Brassica	10-25kg	1-2cm	Apr-Sept	YES								
Tillage	Raphanus sativus	Brassica	10-25kg	1-2cm	Apr-Aug	YES								
Type 1 and 2	Raphanus sativus	Brassica	10-25kg	1-2cm	Apr-Sept	YES								
CEREALS														
Black Oats	Avena strigosa	Cereal	50kg	1-2cm	Aug-Oct	NO								
Rye	Secale cereale	Cereal	50kg	1-2cm	Aug-Oct	YES								
CLOVER														
Berseem	Trifolium alexandrinum	Legume	15kg	1cm	Apr-Sept	NO								
Crimson	Trifolium incarnatum	Legume	15kg	1cm	Apr-Sept	YES								
Red	Trifolium pratense	Legume	15kg	0.5-1cm	Apr-Sept	YES								
White	Trifolium repens	Legume	10kg	0.5-1cm	Apr-Sept	YES								
OTHER SPECIES														
Buckwheat	Fagopyrum esc. / tat.	Polygonaceae	50kg	2-3cm	May-Aug	NO								
Linseed	Linum usitatissimum	Linum	50kg	2-3cm	Apr-Sept	NO								
Lucerne	Medicago sativa	Legume	20kg	1-2cm	Apr-Sept	YES								
Phacelia	Phacelia tanacetifolia	Borginaceae	10kg	0.5-1cm	Apr-Sept	NO								
Sunflower	Helianthus annuus	Asteraceae	12.5kg	1-2cm	Apr-Jun	NO								
Westerwolds	Lolium westerwoldicum	Grass	35kg	0.5-1cm	Apr-Sept	YES								
MIXTURES														
Sprinter		Mixture	25-35kg	1-2cm	Aug-Oct	NO								
Grabber		Mixture	35-50kg	1-2cm	Aug-Oct	YES								
Summer Legume		Mixture	15-20kg	1-2cm	Apr-Aug	NO								
Winter N-Fixer		Mixture	15-20kg	1-2cm	Aug-Oct	YES								
Summer Thrive		Mixture	20-25kg	1-2cm	Aug-Sept	NO								
Winter Revivor		Mixture	20-25kg	1-2cm	Aug-Oct	YES								

GRABBER	Sowing rate: 35-50kg/ha
• Low cost • Winter hardy • Fixes and catches nitrogen	80% Winter Rye 20% Winter Vetch

SPRINTER	Sowing rate: 25-35kg/ha
• Short term, very quick growing • Fixes and catches nitrogen • Winter kill likely	70% Black Oats 30% Spring Vetch

SUMMER LEGUME	Sowing rate: 15-20kg/ha
• Susceptible to frosts • Sequests carbon and replenishes lost nutrients	50% Spring Vetch 30% Purple Vetch 20% Berseem Clover

WINTER N-FIXER	Sowing rate: 15-20kg/ha
• Rapid establishment • Dense ground cover through the winter • Tolerant of poor soils • Fixes nitrogen in autumn and spring	70% Winter Vetch 20% Crimson Clover 10% Berseem Clover

SUMMER THRIVE	Sowing rate: 20-25kg/ha
• Produces high organic matter • Range of rooting depths and types • Flowering species provide essential food sources for pollinators	35% Black Oats 27% Spring Vetch 15% Buckwheat 10% Berseem Clover 10% Linseed 3% Phacelia

WINTER REVIVOR	Sowing rate: 20-25kg/ha
• Range of frost tolerant species • Different root depth and types • Fixes and catches nitrogen	50% Rye 25% Winter Vetch 10% White Mustard 5% Brown Mustard 5% Crimson Clover 2.5% Oil Radish 2.5% Tillage Radish

Grass seed

We aim to offer the best quality mixtures at the most competitive prices across our grass portfolio. Whether it is lawn and amenity or hay and silage, ADM can cater for any situation.
A few of our favourites:

Economy Paddock - Quick to establish, suitable for a range of soil types and excellent value for money.

Italian Ryegrass Blend - A versatile short term mixture with up to two years of intensive cutting and high yields.

Permanent Pasture (with or without clover) - Suitable for grazing or cutting. It has early spring growth, will tolerate hard sheep grazing and is a good palatable mix.

Stewardship scheme mixes

The aim of the countryside stewardship scheme is to incentivise farmers to look after and improve the environment which they can do by growing mixes that provide habitats and food sources for insects, birds etc. as well as mixes that improve soil structure and water infiltration.

ADM has a great selection of Countryside Stewardship mixes designed to keep things simple, with products tailored to the various scheme requirements.

For further information visit- www.gov.uk/countrysidestewardship

ADM Agriculture
Hemswell

Grain trading office that sources rapeseed and milling wheat from UK farmers for ADM's processing facilities and supplies wheat, malting barley, feed barley, cereals and pulses to UK-based customers, alongside export markets.

Products and services include:

- **All combinable crops**
- **Fertilisers**
- **Seeds**
- **Human consumption pulses**
- **Laboratory**

3,000,000t
Combined crops purchased

6,000
Supply partner farmers

Certifications:
SEDEX Members Ethical Trade Audit (SMETA)
TASCC
FIAS
EFISC GTP
BRC
ESTA
Soil Association Organic
ISO 14001:2015

ADM Agriculture
Great Yarmouth

Port facility located on the east coast of England, handling grains and oilseeds.

20,000t
Total ports grain storage capacity

ADM Agriculture
Watford

Destination marketing office operating via 19 ports throughout the UK and northern France. Supplying feedstuff to UK compounders and farmers, achieved through ADM's global reach and well established supply chain, giving access to oil processing, grains and cereal by-products with global origination.

2,000,000t
Non-grain animal feed supply

450,000t
UK ports storage

ADM Agriculture
Long Sutton

A major UK agricultural seed wholesale business and processors of seed, human consumption pulses and dried food ingredients. Services include:

- **Pulse processing**
- **Seed processing**
- **Pulse trading**
- **Storage**
- **Toll processing**
- **Laboratory**

Tel: 01472 666 211
Web: www.adm.com | www.adm-agri.co.uk

About ADM:
At ADM, we unlock the power of nature to provide access to nutrition worldwide. With industry-advancing innovations, a complete portfolio of ingredients and solutions to meet any taste, and a commitment to sustainability, we give customers an edge in solving the nutritional challenges of today and tomorrow. We're a global leader in human and animal nutrition and the world's premier agricultural origination and processing company. Our breadth, depth, insights, facilities and logistical expertise give us unparalleled capabilities to meet needs for food, beverages, health and wellness, and more. From the seed of the idea to the outcome of the solution, we enrich the quality of life the world over. Learn more at www.adm.com.