

New varieties profiled

“Specialist traits are more important as growers look to adopt IPM.”

Technical AHDB Recommended List

The 2022/23 AHDB Recommended List sees a whopping 37 new varieties added across wheat, barley, oilseed rape and oats. CPM attended the launch to find out more.

By Charlotte Cunningham

With an industry push to adopt integrated pest management (IPM) strategies on farm, specialist traits within some of this year's recommended varieties could play a key role in helping growers do just that.

That's the view of Paul Gosling who manages the AHDB Recommended List (RL), who gave detail on the 37 new varieties added to the 2022/23 RL at the end of last month.

Following a few difficult years for trials, good conditions last autumn saw the majority of trials establish well, explains Paul. "It made a nice change from recent years. Winter oilseed rape in particular suffered much less from drought and cabbage stem flea beetle than of late, which largely mirrored what was seen in the field in commercial situations. In fact, we had our best set of trials across the country since 2015.

"Unfortunately, however, that has prevented us from testing a new protocol we've put together to measure varietal

resistance to larval feeding from the beetle – which is often the case when you try and address an issue. However, we'll continue to monitor this."

So what's new on the 2022/23 RL and what's been dropped?

Oilseed rape

The OSR category has seen the biggest shake up, after a fairly lacklustre affair last year, with 12 new varieties added to the RL. The new line-up includes seven hybrid types — including two Clearfield varieties — and two conventionals.

"We've tweaked the variety assessment method this year to ensure conventional varieties could still make it onto the list," explains Paul. "We don't have good data on the market for OSR seed, but what we do have suggests that up to 40% of all the crop sown is to conventional types.

"However, those varieties tend to lag behind in terms of yield and other traits, so it's becoming difficult to keep them on the list. Therefore, we tweaked things slightly to make sure we're still encompassing that area of the market."

Looking to the varieties themselves, new hybrids include: PT303 from Corteva, LG Auckland and LG Adonis from Limagrain, Dart by DSV, Tennyson from Elsoms, and finally Flemming by LSPB.

PT303 now tops the list after demonstrating a high gross output yield of 107% — a 2% increase on previous chart-topper, Ambassador.

The variety is also the first winter OSR to offer genetic protection against the yield-sapping disease sclerotinia, explains

Andy Stainthorpe, Corteva's seeds and inoculants manager. "The launch of the 2022 RL has confirmed what we've been seeing in UK trials for the past three years – PT303's yields are market-leading, and it has clearly demonstrated it has the resilience required for the UK's challenging conditions."

For those looking for a conventional type, Annika from Limagrain is recommended for the whole UK but with particularly high performance in the East/West and North. Growers in the North may find Amarone (also from Limagrain) of particular interest. Amarone is recommended for this region only and boasts a high gross output (105%) as well as good resistance to lodging (8, based on limited data) and a robust tolerance to light leaf spot (7). ▶



This year's RL sees the addition of 37 new varieties across cereals and oilseeds.



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AHDB Recommended List

New winter wheats at a glance

Variety	Scope and type	Breeder/contact	Points to note
KWS Palladium	Group 2	KWS	High Hagberg and protein. Relatively early maturing and high resistance to yellow rust, mildew and septoria.
Mayflower	Group 2	Elsoms	Ukp classified for export. High untreated yields. Resistance to lodging but responds well to PGRs.
KWS Guium	Group 3	KWS	Highest yielding Group 3 on the list. Medium for distilling. High resistance to yellow rust and OWBM but very susceptible to brown rust.
KWS Brium	Group 3	KWS	Medium for distilling. Late maturing with high specific weight and Hagberg. High resistance to yellow rust and mildew.
RGT Rashid	Group 3	RAGT	Recommended for East only. Medium for distilling with robust disease resistance package including OWBM. Susceptible to mildew.
RGT Birstow	Soft Group 4	RAGT	Highest yielding soft feed variety but low specific weight. High resistance to yellow rust and septoria as well as OWBM.
RGT Stokes	Soft Group 4	RAGT	Good for distilling and particularly high yielding in West and North. Weak strawed but responds well to PGRs.
Champion	Hard Group 4	DSV	Highest yielding variety on the RL, proven across a range of positions/soil types. Good disease package including OWBM, resulting in high untreated yields too.
KWS Dawsum	Hard Group 4	KWS	Very high yielding with high Hagberg and specific weight. Good disease package resulting in similarly high untreated yields.
LG Typhoon	Hard Group 4	Limagrain	High yielding and late maturing. No major disease weaknesses including OWBM.

New winter OSRs at a glance

Variety	Scope and type	Breeder/contact	Points to note
PT303	Hybrid	Corteva	High gross output in East/West and North. Good resistance to LLS and stem canker, resistant to TuYV.
LG Auckland	Hybrid	Limagrain	High yielding in East/West and limited data shows similar good performance in North. TuYV and pod shatter resistant.
LG Adonis	Hybrid	Limagrain	Recommended for East/West, with a very high gross output. Good disease resistance including TuYV.
Dart	Hybrid	DSV	Very high gross output in recommended area of East/West. Good resistance including TuYV.
Tennyson	Hybrid	Elsoms	Recommended for East/West. High gross output and high resistance to stem canker.
Flemming	Hybrid	LSPB	Recommended for East/West. High resistance to lodging and very stiff-stemmed. TuYV resistant.
Annika	Conventional	Limagrain	Recommended for the UK with high treated gross output in East/West and North.
Amarone	Conventional	Limagrain	Recommended for North only. High gross output plus high resistance to lodging and LLS.
LG Constructor CL	Hybrid (Clearfield)	Limagrain	Clearfield variety with high gross output in East/West and resistance to lodging.
Matrix CL	Hybrid (Clearfield)	DSV	Clearfield variety with high gross output in East/West and North as well as high resistance to lodging.
Crossfit	Hybrid	DSV	Specific recommendation for East/West due to its resistance to the common strains of clubroot. Also has high resistance to stem canker plus TuYV and pod shatter resistant.

New barleys at a glance

Variety	Scope and type	Breeder/contact	Points to note
Lightning	Two-row feed	Elsoms	Performed well across all regions in treated and untreated trials. Moderate straw strength.
LG Dazzle	Two-row feed	Limagrain	High-yielding, short-strawed with high untreated yields. High potential on heavier soils. Limited data suggests net blotch susceptibility.
SY Canyon	Six-row feed	Syngenta	Highest six-row specific weight on the RL. Early maturing but relatively tall which needs managing.
KWS Feeris	Six-row feed	KWS	Specific recommendation for its tolerance to BYDV. Susceptible to mildew but good grain quality.
Jensen	Spring malting	Limagrain	High yielding with potential for brewing. Particularly suited to the East and West plus a good disease package.
Spinner	Spring malting	Agrii	High yielding with potential for brewing. Better performance in the East. High untreated yields.
Malvern	Spring feed	Agrovista	High yielding recommended for the West. Limited data suggests very susceptible to rhynchosporium.
CB Score	Spring (described variety)	ADM	A Null-Lox 4G variety. Stiff strawed with high resistance to brackling and mildew.

New oats at a glance

Variety	Scope and type	Breeder/contact	Points to note
Merlin	Spring husked	Cope Seeds	Very high yielding. Early maturing with high resistance to mildew. Limited data suggests very susceptible to crown rust.
Lion	Spring husked	Saaten Union	Average yields but very high kernel content. Very susceptible to mildew.
Lennon	Spring naked	Senova	Short variety with good untreated yields for naked oats.

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PT303 now tops the list after demonstrating a continuously high gross output yield of 107% — a 2% increase on previous chart-topper, Ambassador.

▶ Then there's the addition of three specialist varieties — two new Clearfields and a clubroot-resistant type.

Though yield has often been a sticking point for Clearfield hybrids, Paul says the addition of LG Constructor CL from Limagrain and Matrix CL from DSV, marks a large step forward for those seeking high output. "Clearfield seed makes up about 10% of the market, a figure which has declined possibly due to the historic

issues with yield and vigour. "But both varieties mark a noticeable development in these areas — both with a UK recommendation and good resistance to lodging too."

Crossfit, from DSV, is a hybrid type — specifically recommended for the East/West region — with a resistance to the common strains of clubroot. "This is also combined with excellent stem canker resistance (9)," explains Paul. "Admittedly, clubroot resistant varieties make up a very small percentage of the market, but it's important to have these varieties available to suit growers' needs."

PX138 from Corteva has also been added as a described semi-dwarf variety, offering more options to growers seeking this type of variety, he adds.

Outgoing OSR varieties include Temptation, DK Exsteel, DK Expansion, George, PT275, Ballad and Barbados.

Wheat

The wheat list has also shuffled significantly, with ten varieties added and five saying goodbye to their place on the RL. "We know this might upset some people as there's a perception that the wheat list is

too long, but these new recommendations are spread across the groups, giving more flexibility and options to growers," says Paul.

This includes the milling industry which has become increasingly reliant on a small group of varieties, he explains.

The RL 2022/23 features two new Group 2 winter wheat bread-making varieties — KWS Palladium from KWS and Mayflower from Elsoms. "Both have a notably strong disease resistance package and therefore will help the industry spread risk. They both have brilliant grain quality, with Palladium just taking the edge, and Mayflower is ukp classified for export," says Paul

"Mayflower does have some issues with lodging (6) but responds well to PGRs."

Group 3 biscuit-winter wheat varieties suffered disproportionately from the increased susceptibility to septoria in the 2020/21 season and the latest RL sees the inclusion of three new varieties in this group. These are KWS Guium and KWS Brium from the KWS stable and RGT Rashid from RAGT. "The KWS varieties feature a different genetic basis for their resistance to septoria which should be ▶

Rating reviews for septoria and lodging

After changes to RL yellow rust ratings announced last year, the 2022/23 RL follows suit with alterations to both septoria and lodging scores.

The former was announced earlier in the year after an 'explosion' in septoria in Cougar-parented varieties, explains Paul. The ratings have been prepared using a standard three-year dataset, in addition to a one-year dataset to help reveal the influence of the 2021 disease season.

"Following subdued septoria levels in RL trials and commercial crops during early spring, the disease increased rapidly in June. It looked as if there would be a downward shift in disease ratings for those varieties with the old Cougar variety in their parentages. Analysis of disease data has translated to lower ratings for many varieties, with 'Cougar-types', as expected, suffering the largest falls."

Introduced in 2013, Cougar had the highest septoria rating on the RL (7). By 2015, its resistance declined. Subsequent AHDB-funded investigations found that a number of septoria variants were able to cause disease exclusively in Cougar.

Although Cougar was removed from the RL in the 2016/17 edition, the use of the variety in breeding programmes meant that the 2021/22 edition of the RL featured eight varieties with Cougar genes in their backgrounds.

Research from Irish sites, published this summer, revealed a similar shift in resistance associated with the descendants of Cougar.

Analysis of UK RL results shows that not all the varieties with Cougar in their parentage have been affected equally, points out Paul. "This is because resistance is based on the cumulative impact of many minor disease resistance genes, in addition to the 'Cougar resistance'. The results also show that problematic septoria variants are not distributed uniformly across the UK — with resistance in these varieties holding up better in Scotland.

"It's impossible to know how the septoria population will evolve. The Cougar-virulent isolates could become more common in Scotland, but their frequency could also reduce — we simply don't know. Disease ratings are only able to reflect recent pathogen populations, they can't predict the future."

Although the smaller one-year dataset introduces volatility into the ratings, it may help indicate the level of resistance in the coming season and guide the tailoring of fungicide programmes.

New recommendations for winter wheat include varieties with an alternative genetic basis of resistance to septoria, which should make useful contributions to the control of this



important foliar disease, he adds.

With regards to lodging scores, a similar approach to the revised cereal rust rating system was taken, with an improved calculation used to award more realistic scores, explains Paul. "We knew lodging ratings had become a bit compressed over recent years, whereas in the field, a greater level of difference was being seen. So, we've revised the cereal lodging ratings to help pull apart varietal differences.

"This will make the ratings more representative of what's seen in the field and improve their consistency. Effectively, we reset the scale in the same way as we did with yellow rust, so although ratings have fallen for some varieties, this is a consequence of calculation change, not an increased susceptibility to lodging."

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KWS Feeris becomes the first RL barley variety to boast a tolerance for BYDV.

► more durable," he reckons.

"KWS Guium becomes the highest yielding Group 3 on the list at 102%, while both varieties from the KWS house are rated medium for distilling. RGT Rashid is recommended for the East only, also rated medium for distilling and has a good disease package, including orange wheat blossom midge (OWBM). It is, however, susceptible to mildew (4)."

In the Group 4 sector, there are two new soft wheats both from RAGT — RGT Bairstow and RGT Stokes. "RGT Bairstow is now the highest yielding soft-endosperm feed variety (103%), but it does have a low specific weight (75.9)," says Paul. "RGT Stokes is rated good for distilling and has shown to be particularly high yielding in the West with a score of 105% and in the North, with a yield of 104% — though this is based on limited data."

According to RAGT's Lee Bennett, RGT Bairstow's performance has been evident from the early days. "RGT Bairstow has delivered exceptional results in all regions, building on its early promise as a consistent performer. It also has the highest second wheat yield of any recommended variety at 104%, almost a point ahead of its nearest rival."

There are three additions to the hard Group 4 list — Champion from DSV, KWS Dawsum from KWS and LG Typhoon from Limagrain.

Champion grabs the headlines particularly as it becomes the highest yielding variety on the RL, with a UK score of 106 and an East yield of 107% of control varieties, explains Paul. "This was proven across a number of rotational and geographical positions and soil types and it has shown high untreated yields too (90%)."

Both KWS Dawsum and LG Typhoon also look to be well-rounded varieties with no major weaknesses, he adds.

Coming off the list this year are LG Detroit, LG Quasar, LG Sundance, Shabras and KWS Kinetic.

Barley

The 2022/23 RL features no new winter malting varieties, however, for growers of winter barley, there are four new options to choose from, notes Paul.

These include two-row varieties Lightning (Elsoms) and LG Dazzle (Limagrain), as well as two six-row types, SY Canyon from Syngenta and KWS Feeris from KWS — which also boasts a specific tolerance to barley yellow dwarf virus.

"The pair of two-row varieties offer improvements to disease resistance and untreated yields at 88% and 87%, respectively, and both have a UK recommendation," explains Paul.

"Meanwhile, KWS Feeris is the first conventional six-row variety added since 2017 and offers improved grain quality, as well as BYDV tolerance — the first barley on the RL to demonstrate this trait.

"It's important to remember that this is a tolerance, not a resistance, so while the variety may get symptoms, it won't experience the yield loss of a susceptible variety," says Paul.

Dubbed 'the ultimate management tool for barley growers,' KWS Feeris has been brought to market as part of KWS' Sowing for Peak Performance initiative (SSP), explains KWS' Kirsty Richards. "The SSP initiative is all about the bigger picture — it encourages dissecting a variety and using key traits and performance indicators as little nuggets of information to guide decision making on a wider scale. Bringing this BYDV trait into a commercial variety is something we've been working on for quite some time — long before the ban on neonicotinoids."

The RL also sees the addition of three new spring barley varieties, under test for brewing — Jensen (Limagrain), Spinner (Agrii) and Malvern (Agrovista), which Paul says offer treated and untreated yield increases over the current market leaders. "Jensen and Spinner are both recommended for the UK with high yields of 105% and 103%, respectively."

Malvern is specifically recommended for the West but is a bit of a headscratcher with a rhynchosporium score of just 1 — though this is based on very limited data — but an untreated yield of 95%, which doesn't quite add up, says Paul. "This is something we'll be looking into further but, for now, it does have very high potential in the west.



RGT Bairstow is now the highest yielding soft feed variety with yields of 103%.

"All of these varieties are still under test for brewing, so the success of them will depend on their uptake by the brewing industry."

The 2022/23 RL also features a newly described Null-Lox variety — CB Score by ADM Agriculture. But what is 'Null-Lox'? "This means the variety has reduced lipoxygenase enzyme which, according to breeders, means better taste, improved shelf life and better foam stability. These characteristics will be attractive to a certain type of brewer — largely those making lager rather than traditional craft beer and ale. Because of that the MBC haven't given it categorisation but do recognise that there's a place in the market for this type of variety."

Leaving the list is KWS Tower, SY Baracooda, Libra, Cosmopolitan, Sienna, Iconic and Propino.

Syngenta spring barley variety, SY Bronte, is also expected to be added to the National List on 19 December 2021.

Oats

There are three new varieties for oat growers — two spring husked and a spring naked oat. Merlin — from Cope Seeds — is very high yielding (105%), with a high resistance to mildew (8), explains Paul. "Limited data suggests it's very susceptible to crown rust, however, with a score of 3."

Saaten Union variety, Lion, has average yields (99%), but a very high kernel content (76.2)," he adds. "It is however very susceptible to mildew (3)."

Naked oat Lennon — from Senova — is a short variety with good untreated yields (64%) for naked oats, says Paul. ■



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