

# Exposing its strengths...

“ I think it's going to tick a lot of boxes. ”

## Insider's View

**As the oilseed rape market begins to make a recovery, there's a new variety on the horizon which seeks to combine output with 'yield-protecting' characteristics. CPM discovers DK Expose.**

**By Charlotte Cunningham**

**After a turbulent few years for the crop, interest in oilseed rape seems to be growing again on the back of a kinder year pest-wise and buoyant prices.**

But while there's much talk of growing 'black gold' this year, selecting a variety robust enough to withstand the peaks and troughs of the growing cycle will be key. And adding to the options available to growers this season is DK Expose, the latest high-yielding hybrid candidate offering from Dekalb.

Having recently completed National List 1 and 2 trials, the variety is a candidate for the AHDB Recommended List this autumn, explains breeder Matthew Clarke. He says the decision to enter DK Expose into UK trials came after seeing it come out on top in Dekalb's 51 site pan-European trial set.

"The very first thing that stood out for us

three years ago in our breeding trials was DK Expose's high yield potential, with a completely untreated yield of 4.33t/ha at 107% of the control mean. It was the highest yielding variety in our European network. This was consistent across a very wide area and, unusually, it performed equally well under the continental climates of Germany and France, the ultra-continental climates of Poland, Hungary and the Ukraine, and the more maritime conditions of the UK, Denmark and Sweden."

### Stress tolerance

"This gives us great confidence that the variety is as tolerant as it can be to a broad range of environmental stresses — including winter cold and summer drought as well as disease and viral pressures beyond those to which it carries known resistance."

Reflecting on DK Expose's performance so far, Richard Williams, who heads up the UK Dekalb trial work, says the nature of the variety may not yet have allowed DK Expose to showcase its full potential in NL trials. "DK Expose is later maturing than many varieties, which puts it at a disadvantage in any trials that are harvested early."

Even so, its gross output across all the sites averaged 106% of the control mean in NL1 and 105% in NL2 last season, he adds.

While these ratings were far from exceptional among the entries, Matthew notes that in both trial sets the variety was in the top three for its performance in the later-harvested half of the sites. "Average gross output ratings of 111% and 108%

respectively here indicate that its performance potential is as good as the best of the current RL candidates."

Aside from yield, DK Expose offers a number of other attractive agronomic qualities. In the field, Richard says DK Expose is very well suited to the early August sowing window — something which growers are more focused on targeting in a bid to escape the plight of the pesky cabbage steam flea beetle. "Dekalb varieties boasting the 'Ex' prefix have become known for their vigorous establishment to aid the ability to get up and away quickly. DK Expose is no exception."



*The decision to enter DK Expose into UK trials came after seeing it come out on top in Dekalb's 51 site pan-European trial set, says Matthew Clarke.*



David Bouch says DK Expose will be a key variety for Hutchinsons this season.

## DK Expose at a glance

### Gross output

Gross output	4.83t/ha
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### Disease

Light leaf spot	6
Phoma	8
TuYV	R

### Agronomy

Pod shatter resistance	R
Resistance to lodging	8
Stem stiffness	7
Earliness of flowering	7
Earliness of maturity	6
Height	6
Oil content	44%

Source NL2 trials 2021

At the other end of the spectrum, it can also move into the September window if needed, he adds. Away from the usual RL characteristics, Dekalb also award varieties a Development Before Winter (DBW) score in its own trials. "Even this season, where conditions led to some seriously over-developed crops with vulnerably high growing points before Christmas, DK Expose's DBW score in our field-scale trials was good but not excessive from early August sowing."

### Added flexibility

"Reasonable DBW scores from sowing in the second week of September also show the variety can be almost as well suited to later-sowing as one of our most rapid developers, DK Exsteel. This flexibility is a particular feather in its cap where harvest delays or conditions prevent the crop being sown as early as planned."

DK Expose also boasts TuYV and stem canker resistance with the *Rlm7* gene in its DNA, adds Matthew. "It also scores really well for light leaf spot resistance, which perhaps hasn't been picked up in AHDB trials as the data so far has scored it as a 6.4. But we're confident in its resistance."

Pod shatter resistance is another asset, and Matthew says this further allows growers to make the most of its particular ability to stay green and accumulate yield over an extended period by delaying desiccation until optimum whole canopy ripeness, without significantly increasing the risk of seed loss.

Overall, in its own large plot trials, Richard emphasises that it's been particularly consistent, and this is the overarching strength of the variety.



Richard Williams believes the true potential of DK Expose is well beyond what it has shown so far in NL trials.

With all signs pointing in the right direction, what does the market think? David Bouch, national seeds manager at Hutchinsons, says DK Expose is going to be a key variety for them this autumn. "We haven't seen a huge amount from Dekalb over the past year or two, so it's nice to see something coming to market that's stacked with all the traits the breeder has become renowned for — like the *Rlm7* gene and TuYV resistance. We're incredibly supportive of these types of traits. TuYV, in particular can be a lot more destructive than farmers realise."

Having official trials data to back this performance up too is very valuable, he adds. "Dekalb has always had a strong market presence, and much of this has been built up despite not having an awful lot on the RL. However, as a candidate, farmers ►

## Trialling NUE

As well as its stack of desirable characteristics, DK Expose's performance in trials looking at nitrogen use efficiency could make it an even more attractive option, reckons Richard.

In the 2020/21 European trials, four top-performing TuYV resistant 'EX' and competitor hybrids showed mean gross outputs falling from 4.84t/ha to 4.61t/ha when nitrogen applications were cut from 180kg/ha to 140kg/ha — an average gross output reduction of 0.23t/ha.

This resulted from an average reduction in yield of 0.25t/ha coupled with an increase in oil percentage of 0.7, explains Richard.

"However, both DK Excited and DK Expose lost less than half this gross output at 0.09t/ha

and 0.11t/ha respectively, and a quarter that of the 0.44kg/ha lost by the variety least tolerant to nitrogen reductions.

"In showing this superior tolerance to nutrient stress, they follow in the footsteps of a number of Dekalb hybrids introduced since the first variety to emerge from the breeder's restricted N development programme in 2016, DK Exception."

Richard adds that Bayer studies suggest much of the environmental stress tolerance the Dekalb programme has long concentrated on building into OSR is linked to a superior ability for branching — both in general, and branching from low down on the stem, in particular; a capacity that depends on a

number of essential hormonal factors.

"The fact this ability can only be fully exploited where plant populations are not too high underlines the requirement for especially careful control over seed rates to make the most of this extra resilience.

"All the more so with earlier sowing, which offers greater opportunities for spring N savings through better establishment and GAI development anyway, and for which both DK Excited and DK Expose are some of the best-suited varieties.

"At current fertiliser and OSR values, this superior nitrogen use efficiency is especially valuable in offering substantial margin gains from input economies."



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DK Expose's performance in trials looking at nitrogen use efficiency could make it an even attractive option.

► will be able to view and compare its performance against standardised, benchmarked data which is useful for many."

In terms of best feature, David believes it's the combination of yield, inherent disease resistance and tolerance, and the ability to get up and away quickly which are likely to pique the interest of growers this coming season.

"From what we've seen of it in small plot trials, it's certainly going to be a vigorous type which we're pleased about. Though last year was a better one for OSR growers, and this season looking to following suit with many crops around the country looking well, no one has forgotten the devastation CSFB infestations can cause. Having a

variety which gets going quickly and away from pests gives greater chance to avoid these pressures.

"The hybrid vigour also adds an element of flexibility to DK Expose," he adds. "If you have to drill later and the conditions allow it, I think this could comfortably go in the ground in the September sowing window and still do well. I think it's going to tick a lot of boxes.

"I think it's also important with variety choice in general never to have all your eggs in one basket, so DK Expose is a welcome addition to the market."

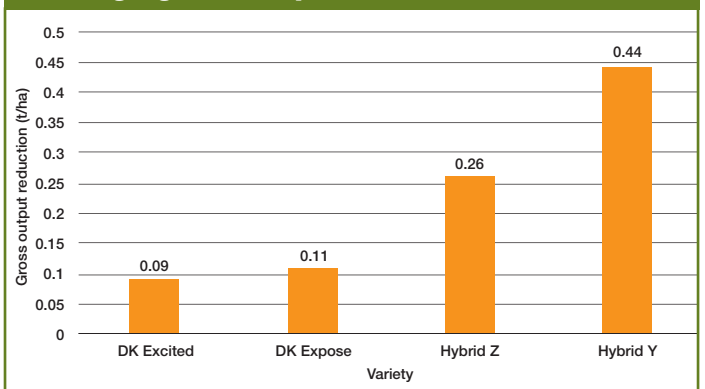
### Later maturity

David is on the fence as to whether the later maturity is a stumbling point. "I think it's going to very much depend on the season and the grower to determine if this is an advantage or disadvantage, but it's something to bear in mind."

Though not a downfall, he adds that in an ideal world the LLS score would be higher. "At present, it's looking like a 6 which is good enough, but in an ideal world I think growers would like to see a 7 or 8 — albeit that's not easily achievable. This may mean the variety is better suited to the southern half of the country, though LLS is definitely becoming more of a challenge nationally."

The introduction of the variety, and its hopeful imminent

### Average gross output reductions



Trials investigated reducing N applications from 180kgN/ha to 140kgN/ha. Average = 0.23.

Source: Dekalb trial sites, 2020/2

recommendation this autumn, comes at an opportune time for the UK OSR market, surmises David. "With the war in Ukraine causing buoyant prices for UK OSR and the anticipated lack of other oils, like sunflower, due to the inability for the country to export, there could be a strong opportunity for UK-grown crop to start its recovery."

United Oilseeds' Beckii Gibbs is also positive about the variety. "From what we've seen so far, DK Expose is likely to provide consistent yields in both the East/West and the North and I think it has a very good chance of making it on to the RL this autumn."

Like David, Beckii notes the 'DK traits' like TuYV resistance and good autumn growth as particular strong points, as well as its 'excellent' rating of 9 for lodging and an 8 for stem stiffness. "This is all supported by good disease ratings, particularly with regards to stem canker (8)."

Looking at where it might find its place in the market, Matthew believes the robustness in a range of environments will make DK Expose an option to a number of growers.

"I think the early drilling potential is a characteristic which is going to appeal to a lot of growers. Many of the varieties out there, including some of our own, move really quite quickly towards stem extension and this is probably something you want to avoid if you're targeting the early drilling slots. So something like DK Expose is going to be



*DK Expose is a new high-yielding, flexible hybrid candidate variety which is up for recommendation onto the RL this autumn.*

much better in terms of that.

"We only bring forward varieties we're confident have the underlying genetic strength to perform consistently well in their particular environments," says Matthew. "This all-round tolerance is as much a result of testing them completely untreated under a range of high-stress conditions as it is about the major traits we're breeding into them."

"In our opinion DK Expose is probably the highest yielding hybrid we've seen so far. Going forward, most of our varieties will be TuYV resistant from now on as we recognise the importance this can play in overall strength of a variety and it seems that this is what the markets want."

"With our seasons becoming increasingly unpredictable, we see the sort of stress tolerance being shown by DK Expose as especially valuable in helping to minimise the risk of OSR production." ■

## Battling the beetle

While the prospect of a variety which is tolerant to the mighty mouth of CSFB larvae might be a way off just yet, there are a number of traits which may give growers an edge. So how well can DK Expose stand up against the yield-robbing pest?

"It's always a difficult question to answer, as it's not known for most varieties," explains Matthew. "However, it's certainly a robust

variety overall, and its rapid spring growth characteristics might make it more tolerant of larval damage. But again, there's a lot of speculation about these things and it can very much be season and farm dependent."

Richard adds: "Based on what I've seen in trials so far, it seems to be able to withstand the pressure, albeit this has been based in low pressure seasons."



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