

Real Results Pioneers

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The confidence to champion OSR

“At the later timing it was vigour that made all the difference.”

Wilts grower Martin Smart has come back into on-farm oilseed rape trials, growing just Clearfield varieties. CPM visits to engage in some canopy-gazing.

By Tom Allen-Stevens

Arriving at the entrance to the field, carefully mapped and precisely located, there's a Landrover, a dog, but no sign of Martin Smart. There is, however, a very gratifying crop of oilseed rape.

As you look over the field, with its last remaining scatter of yellow, the pods are setting, and it has that table-top finish that suggests it'll be gratifying at harvest, too. Then a cap appears above the canopy, with a grin and a cheery welcome. "I was just taking a look at how the canopy's coming together in this crop. I think we could have a potential YEN award winner here," says the cap.

Beneath it is Martin, who eventually emerges from the crop and explains that to get a true picture of the canopy, you have to take a photo from the ground looking up

to the sky, or better still, lie under the canopy and look up. "This field and the one opposite are both growing Clearfield varieties, but they were sown a month apart. There's another field of Clearfield OSR — InVigor 1266 CL — just down the road," he says. The plan today is to do some canopy-gazing to determine how this spectrum of Clearfield varieties are progressing.

On-farm trials

For years, Martin has carried out on-farm trials of leading varieties, monitoring them carefully through the season and posting updates on social media. The meticulous care he gives to his trials hasn't gone unnoticed and these days, he works with breeders who put forward varieties in National List or pre-NL trials, as well as those commercially available.

But for the previous two seasons, no trials came to harvest. "The trials we drilled in autumn 2018 should have been our best yet. We'd purchased a Väderstad Tempo all-singing, all-dancing 8-row drill. It was not just varieties but a whole range of establishment techniques we were looking at," recalls Martin.

"But the whole lot were wiped out by cabbage stem flea beetle — it was truly heart-breaking. I love my trials. To see

them blitzed like that just made me feel sick."

No trials were planted the following autumn, either. It was the first time since Martin started as manager for Ashton Farms, based near Trowbridge in Wilts, that no OSR at all had been grown. Usually, the crop makes up around 320ha of the total 1600ha cropped on land that varies from lightish chalk and brash to chalky boulder clay.

"I was persuaded to come back into OSR this year, so we're growing about 50ha, including the trials. They're all Clearfield lines because these represent less risk — you don't have to spend so much money up front, so you can see what successfully emerges without the worry the crop will be overcome with weeds. ▶



Martin Smart has high hopes for his InV1266 CL.

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Real Results Pioneers

► It's also simpler having all Clearfield varieties as you don't have to worry about which fields can be sprayed with herbicide in the autumn," he notes.

Martin's referring to imazamox, the broad-spectrum herbicide to which Clearfield lines have been specially bred to be completely resistant (see panel below). Spraying a conventional crop with it would result in complete crop failure, however.

"But the last time we grew any Clearfield varieties, there was a real gap in performance between them and conventional types. Plant breeders have assured me that's no longer the case, so that's what we're putting to the test this year."

Cottage, the 6ha field of heavy clay Martin's just emerged from, was established on 5 Aug and contains three Clearfield lines — one around the outside

and a further two in blocks in the centre. Following the previous crop of winter barley, the straw was removed and it received a light spreading of chicken muck. The field was cultivated with a Väderstad Topdown, rolled, drilled with a 6m Horsch Avatar, and rolled again.

"It just grew and grew and grew. The field had moisture and all the boxes ticked for a good establishment," notes Martin.

Clearfield is just one part in how to champion OSR together

What's required to help in the battle against CSFB is changing, believes BASF's Clare Tucker. "There's a growing feeling that we shouldn't abandon our OSR agronomy from the past, and that a successful crop requires strong, robust individual plants to tolerate the CSFB larvae.

A Clearfield variety isn't your get-out-of-jail-free card, but it will increase your chances of getting through the winter with a crop resilient enough to perform in the spring," she says.

Around 16% of the hybrid OSR market (or about 28,000ha) is expected to be planted with Clearfield varieties this autumn. They have a genetic mutation, introduced into commercial lines several decades ago, that confers resistance to the herbicide imazamox, contained in Cleravo (+quinmerac) and Cleranda (+metazachlor). This can be applied to the crop in Sept or Oct when the weeds are ideally at the 1-4 leaf stage.

"The advantage over Belkar (halauxifen-methyl+ picloram) is that there's a wider weed spectrum —

imazamox brings in charlock, runch, hedge mustard, and better control of chickweed and speedwells. The Clearfield herbicides also have fewer tank-mix restrictions, having good compatibility with tebuconazole, for instance," Clare adds.

The imazamox resistance also confers a level of tolerance to sulfonyleurea herbicides. "A spring-applied SU in the previous crop can result in impeded growth of OSR, especially in no-till situations. That's not the case with Clearfield lines," she notes.

Clare notes that historically, Clearfield varieties had a yield lag compared with conventional hybrids, but this is no longer the case. For best results, she advises applying the herbicide before weeds get too big and growing conditions are still good. Clearfield volunteers are easily managed between crops using cultural control and herbicides with alternative modes of action.

"Clearfield varieties have come of age," she says. "Combined with BASF's OSR Establishment Risk Share Programme, that gives you

£30/ha refund if your crop fails before the end of Oct, this brings you your best chance of growing a profitable crop."

InV1266 CL is one of four varieties in the scheme, notes BASF agronomy manager Andrew Clune. "The variety has very good autumn vigour as well as top spring vigour. It performed best in trials used to compile the NIAB Descriptive List of Clearfield varieties (see table). It also had a gross output of 101% in NL1 trials, showing the yield lag no longer exists."

InV1266 CL has the Rlm7 gene for phoma resistance and European data shows it's pod-shatter tolerant, he says. "Like most Clearfield varieties, light leaf spot does need managing, however." The variety is sold through Agrii for autumn 2021 plantings.

Andrew points to BASF's Champion OSR Together initiative for further support in getting the best out of the crop this autumn. "We have advice from top OSR experts, along with some exclusive trials we're carrying out. There are five



Planting a Clearfield variety increases your chances of ensuring you have a resilient crop that'll perform, says Clare Tucker.

growers across the UK who have joined the Real Results Circle and have provided crop diaries on how they've achieved success with OSR.

"We've seen CSFB batter growers' confidence in the crop to pieces. But everyone is working together to rebuild that. Looking ahead to this autumn, I think we're in a really strong position," concludes Andrew.

For more, go online to www.basfrealresults.co.uk and look for Champion OSR Together.

NIAB Descriptive List of Clearfield winter OSR varieties

| Variety | Trials* | Gross output 2017- 2020yield | | DM content | Oil vigour | Early | Flowering height | Plant stiffness | Stem | Maturity |
|----------------|---------|------------------------------|------|------------|------------|-------|------------------|-----------------|------|----------|
| | | (t/ha) | (%) | | | | | | | |
| PT279 CL | 9 | 4.66 | 103 | 4.38 | 44.3 | 6.7 | 4.4 | 142 | 7.8 | 6 |
| DK Imprint CL | 5 | 4.7 | 104 | 4.48 | 43.5 | 6.9 | 4.3 | 146 | 8.1 | 6.5 |
| DK Imove CL | 1 | 4.66 | 103 | 4.43 | 43.5 | 7.1 | 5.2 | 135 | 7.8 | 7.1 |
| DK Importer CL | 5 | 4.45 | 99 | 4.2 | 44 | 6.8 | 4.7 | 142 | 7.6 | 6.8 |
| Carlton CL | 9 | 4.47 | 99 | 4.25 | 43.4 | 7.1 | 5.8 | 140 | 7.7 | 7.4 |
| Nizza CL | 1 | 4.27 | 95 | 4.09 | 43.1 | 6.8 | 5.2 | 142 | 7.8 | 6.5 |
| InV1166 CL | 1 | 4.09 | 91 | 3.91 | 43.1 | 6.4 | 4.2 | 148 | 7.8 | 6.8 |
| InV1266 CL | 1 | 4.88 | 108 | 4.57 | 44.7 | 7.4 | 5.6 | 149 | 7.8 | 6.5 |
| Plurax CL | 7 | 4.62 | 102 | 4.31 | 44.8 | 7.7 | 5.7 | 133 | 8.3 | 6.3 |
| Grand mean | | 4.7 | | 4.33 | 43.8 | 7 | 4.7 | 144 | 7.8 | 6.5 |
| LSD (average) | | 0.76 | 16.2 | 0.7 | 43.8 | 7 | 4.7 | 144 | 7.8 | 6.5 |

Source: NIAB, based on a small series of NIAB TAG members' trials. *Note that tinted varieties are based on just one trial from one site and results should be treated with caution.

"In some of the field we put in a companion crop of buckwheat which looked equally impressive. But to be honest, I couldn't say whether it helped or hindered, and there's certainly no difference now."

Just opposite is Cottage 10, a 10ha field of similar soil type direct drilled with the Avatar a month later, on 5 Sept, following spring barley. While the same variety is grown around the outside, in the middle Martin has sown 12m strips, each around 0.1ha, of ten varieties. Again, they're all Clearfield lines, bred by DSV, including AHDB Recommended Lists Candidate variety Matrix CL, Plurax CL, and WRH 567 (Beatrix CL), still in National List trials, along with some coded lines.

At the same time, Martin established a 6ha field nearby of InVigor 1266 CL, another variety in its second year of NL trials. "It was David Leaper at Agrii and my agronomist Russell Frost who suggested I give it a go. So the field was direct drilled following spring barley, established at the same time as Cottage 10," he says.

"But both the trials and the InV1266 CL were blitzed by CSFB — I think the migration occurred on around 30 Aug. We sprayed once with pyrethroids, but monitoring revealed it was a waste of time, so we won't be spraying again as you do more harm to the beneficials. The plots varied a lot in vigour, and we very nearly ripped up the lot."

Martin persevered, and it turned out to be a sound decision. "What's noticeable is the general vigour across the Clearfield lines — they're comparable with the best of the conventional varieties in my view, and a considerable step-on from when we last successfully grew a crop of Clearfield OSR in 2017/18.



A pyrethroid spray used to check the CSFB was found to be a waste of time, and could do more damage to the beneficial insect population.

Starting in Cottage 10, it's difficult to tell the different lines apart, until you try canopy-gazing — that's when the differences emerge. Martin sows at a relatively low seed rate, aiming for a final plant stand of 20-25/m². "What I'm looking for are plants that grow like Christmas trees, with pods all the way up," he says. "That's why it's so important to have the right canopy at flowering — so the light can get right down and build the yield in the lower pods."

Big soldier

Moving down the road to the InV1266 CL, Martin's pleased with how the canopy has developed. "I've noticed different varieties produce different pods, too, with some curled and others long and straight. I look for seed number, but seed size is also important. That's especially the case at planting — you want a big soldier fighting for you in the field, which means a big seed. Don't plant in kg/ha but in seeds/m² — thousand grain weight varies considerably, and I won't accept a seed that's too small."

So how have the varieties performed this year? "At the later timing, it was vigour that made all the difference — you really need the plant to get up and away quickly to manage the impact of CSFB. There are some lines that really didn't perform, and I don't expect much from these at harvest.

"Although it wasn't a side-by-side comparison, the performance of the InV1266 CL was unreal — definitely among the best, I'd say. Subject to how it yields at harvest, I think we'll be establishing a larger block of the variety next season," says Martin.



Ideally OSR plants grow like Christmas trees, with pods all the way up, and a canopy such that light can get right down and build the yield in the lower pods.

But the main lesson he's learned this year from his trials is that it's worth sticking with OSR. "This year has restored my confidence in the crop. The advantage of Clearfield is that you don't have to spend so much before you know you have a crop. To my mind the varieties perform equally as well as conventional lines, but I'll be continuing my trials to work out which are the frontrunners." ■



Pods vary in shape and size across varieties — InV1266 CL has long, straight pods, and Martin looks for large seed.

The Real Results Circle

BASF's Real Results Circle farmer-led trials are now in their fifth year. The initiative is focused on working with 50 farmers to conduct field-scale trials on their own farms using their own kit and management systems. The trials are all assessed using ADAS' Agronomics tool which delivers statistical confidence to tramline, or field-wide treatment comparisons — an important part of Real Results.

In this series we follow the journey, thinking and results from farmers involved in the programme. The features also look at some in-depth related topics, such as SDHI performance and data capture and use. We want farmers to share

their knowledge and conduct on-farm trials. By coming together to face challenges as one, we can find out what really works and shape the future of UK agriculture.

To keep in touch with the progress of these growers and the trials, go to www.basfrealresults.co.uk or scan the QR code to visit the all-new, cereal fungicide virtual trial, offering a 360° map to compare plots.

