The big OSR question

66 If seedbeds are dry, don't waste time and resource sowing OSR. ??

sowing with minimal soil movement. A minimally tilled, fine seedbed with good seed to soil contact will provide the optimum soil moisture retention — this means not turning over the soils more than 2-3cms on the surface,

Dick believes in building the potential OSR seedbed for two years before

he says.

after four days, it won't establish."

He also suggests rolling a couple of times; the first time to maximise the seed to soil contact and the second to firm the ground so that CSFB can't get into it easily.

Dick doesn't think there's any need to increase seed rates and suggests 75-100 seeds/m². "If you increase the rate and it gets chomped, then it's just money wasted. If the crop does get away, you end up with too many plants and the subsequent management problems that go with that.

"More recently precision drills have been useful in creating even well-established crops, this is because each seed is planted exactly the same distance apart at exactly the same soil depth. Don't go out to buy one, but if already in the shed or a contractor can access one, then it's worth it if soils are in good condition."

Maintaining long stubble on the field brings some protection against CSFB for the newly emerged plant, he reckons. "By allowing field spiders to build webs just above ground level, this offers maximum potential for beetle entrapment. Soil coverage with residue, biosolids, FYM or digestate will help maintain soil moisture and the smell will disrupt the CSFB from targeting small plants."

Nutrition can play an important role in 🕨



Dick Neale believes a flexible approach to drilling OSR is the best way forward this season, with soil moisture dictating whether it's worth a shot.

Technical OSR

Whether to drill is the question that many growers are considering when it comes to oilseed rape. Is it still worth the risk? *CPM* talks to Hutchinson's Dick Neale.

By Lucy de la Pasture

Without a doubt, cabbage stem flea beetle has wrought havoc to oilseed rape crop emergence in recent seasons but this has been vastly exacerbated by the very dry conditions the crop has been drilled into, hampering its ability to get up and away, says Hutchinsons' Dick Neale.

He believes that adequate moisture in the seedbed is the key driver in the decision whether or not to drill OSR this autumn.

"Lack of moisture in the seedbed has been a dominant factor in the past two seasons and where seed was planted into dry and dusty seedbeds, germination and subsequent crop emergence was slow and erratic, depending on where the seminal roots found moisture as the crop germinated.

"This staggered emergence pattern was like a picnic for the pest and they picked plants off as the crop emerged. Increasingly the need for rapid and consistent emergence across the field is being seen as key to avoid adult beetle grazing," says Dick. "This demonstrates that far more consistent and focussed establishment techniques are required — broadcasting seed as soil is randomly moved with a subsoiler just doesn't cut it anymore," he says.

Profession of hope

But farming is a profession of hope so could there be a turnaround in OSR fortunes? "If this autumn is different, and soils at drilling are moist, then seed will be able to imbibe all that moisture and emerge evenly. This will dilute the beetle pressure and the crop will have a much better chance of getting up and away," says Dick.

That doesn't mean that plans to include OSR should be considered a done deal this season, adds Dick. He suggests that for successful establishment, drilling windows may vary according to when adequate moisture is available.

"If seedbeds are dry, don't waste time and resource sowing OSR. But if conditions are favourable then it's definitely worth a shot. It's all about being flexible," he says, acknowledging that this approach will require more flexibility in variety choice and seed delivery options.

"For example, say on the 10 August there's been plenty of rain and there's sufficient moisture in the soil, then it's worth looking at drilling OSR. But if over the next five days conditions are hot, dry and windy and the soils are drying rapidly then stop drilling. If it rains again then pick up the drilling again, but if it stays dry then call it a day.

"Once the seed has started germinating, it's imperative the soil remains moist in the following seven days. If the seed dries out





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OSR

getting the crop through the danger period and Dick suggests pre-loading the seedbed with nitrogen. "N already in the soil has been observed to be more effective than when it's freshly applied or after drilling. It's certainly worth considering a late N application to wheat or barley crops earmarked for OSR drillings to achieve this, provided N max is not exceeded for the current crop," he says.

Phosphate is another key nutrient to

New OSR FIG launched

With so many failed OSR crops across the country, Bayer has attempted to gather crop information in the first-ever national CSFB management study to help assess the extent of problems and whether there were any common factors at play.

The survey took place in April and involved 223 growers, who together farm 24,500ha of OSR across the country using different establishment techniques. The headlines don't do much to instil confidence in the thwarted crop, with 14% of the crop area re-drilled and just 67% having survived to spring. Only 61% was anticipated to make it through to harvest, explains Bayer's Ed Hagues.

"Regional differences were evident, with much higher rates of crop survival in the North compared with the East Midlands, where less than half of the drilled area is thought to have survived. Drilling date also had a major bearing, with the highest rate of survival in crops planted before 21 Aug and the lowest after 31 Aug

 reflecting the very low moisture levels and timing of the main CSFB migration."

Digging deeper into the data, it was pest pressure that had the greater effect than soil

The Bayer study in April found that more than half the OSR had failed by spring in the East Midlands and nationally only 61% was expected to make it to harvest.



moisture, though there was better crop survival to spring when good levels of soil moisture were present, he explains.

"Surprisingly few, if any, associations were found between crop establishment techniques and crop survival. On the other hand, hybrid varieties were less frequently re-drilled and more of them made it through until spring than with conventional varieties," says Ed.

Building on this year's study, Bayer launched a special Dekalb Farm Innovation Group (FIG) project at Cereals Live. It will be managed by ADAS and sets out to explore and test key CSFB strategies identified in the study at a field-scale and find a sustainable means of keeping OSR in the rotation.

The FIG brings together six growers selected from study volunteers in ADAS-run tramline trials and will compare one of the fastest developing hybrids available (DK Excited) with farm standard varieties across a range of establishment regimes and management practices. The work will be supported by soil moisture measurements at cultivation, drilling and crop emergence as well as assessments of flea beetle pressure, adult damage, establishment success and larval levels, explains Bayer's Dekalb technical specialist, Richard Phillips.

"Our national study underlined the particular value of fast-developing as well as vigorously establishing hybrids alongside sowing at the right time. We want to examine these contributions and a number of other promising practices — including organic manuring, companion cropping and drilling into long cereal stubbles — in more depth and with greater precision. That way we can give growers the best and most practicable research-based advice," he says.

ADAS crop physiologist, Dr Sarah Kendall adds

consider, says Dick. "We know phosphate vastly improves the speed and vigour of establishment. I'd suggest using a placement fertiliser, but it's important to get this right to ensure that the nutrients are ►



A Bayer study over 24,500ha of OSR in April found adult CSFB has caused 12% of the drilled area to be replanted.

that the precise balance of different CSFB management practices examined in the project in an effort to obtain a viable crop will depend on the interests and experience of the growers involved.

"Like the other FIG projects we run, so much of the value of this initiative will come from the discussions we have with group members in setting-up the work, debating its findings and combining them with established elements of best OSR-growing practice.

"Getting the crop established is only part of the battle. It also needs to be profitable. This means growers can't afford to throw key elements of proven best-management practice out of the window in dealing with flea beetle. Otherwise, they'll end up with crops that will always struggle to deliver the yields that make them worth growing.

"Instead, we have to integrate the most useful CSFB controls carefully into the most productive management regimes. If this means changing when or how we establish or manage the crop we simply must adjust other elements of agronomy to fit."

With that in mind, the new FIG will likely look at drilling date and available moisture, seed rate optimum plant population (25-40 plants/m²) and spring management, including nitrogen rates and timings, PGRs and defoliation.



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Minimal cultivations, with no more than 2-3cm of soil movement is likely to be the best tillage option.

► applied where needed and also in the right amounts," he adds.

Placement N+P fertiliser should be utilised as micro granules, granule DAP or liquid DAP, he says. "It's best to use a product formulated for this approach and machinery adapted to place it so that the P sits down and around the seed. In our trials, over several years, we've had good results with Primary-P, which is formulated for placement and applied directly around the seed. It provides a very concentrated, available but persistent form of nutrients, which is why rates are lower."

Other phosphate products can be used to achieve the same results if the rates and application are carefully thought about, adds Dick.

"For example, if using DAP as a placement option, then I'd reduce the rate. You don't need the same amounts as when broadcasting it because when it's applied down the spout, the fertiliser becomes concentrated.

Companion plants, to include buckwheat, vetch, berseem clover or beans, can be utilised to maintain soil functionality, suppress weeds and enhance the growth of the OSR, adds Dick. "Companions aren't a viable deterrent for CSFB, but the additional biomass does help reduce pigeon grazing. Companions can also help negate the poor soil biology associations of brassicas."

As has become increasingly evident over the past two seasons, establishing the plant is only half the story. Larvae infestation is increasingly important and the timing of infestation and infestation levels are proving difficult to predict, but research is giving us some pointers, says Dick.

"Earlier sowing offers a longer egg laying period and can result in more larvae per plant. The crop can be also be impacted by multiple hatches in mild winters. Early, main stem infestations can allow the plant to grow away well in the spring but then mature prematurely with poor seed set and filling in the pod.

"Later infestations impact stem extension and branching, with many crops this season reaching no more than waist high. We've seen fresh infestations as late as early May in every branch this spring and this has caused previously even crops to become ragged with poor seed set," he adds. ■



Two passes with the roll after drilling OSR help with seed to soil contact and limits movement of adult CSFB.

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A global market perspective

Currently the global rapeseed market doesn't seem to be in short supply, although global stocks are expected to be down 1MT year-on-year to 8.5MT this year, says Philip Kimber representing the Seed Crushers and Oil Processors Association (SCOPA) at a global briefing held by BASF last month.

"2020/21 will likely see an increase in export flows of rapeseed/Canola from the major exporter countries — Canada, Ukraine and Australia — which make up for the reduced EU+UK crop. EU+UK production of OSR will be around 16.5MT, compared with 22.5Mt in 2017/18, due to growing and crop management issues in France, Germany and the UK amongst others.

"We currently expect an EU rapeseed deficit will reach 5MT in 2020/21, meaning greater dependence on imports with 25% of EU demand supplied by these imports compared to only 10% ten years ago," says Philip.

In the UK, CSFB damage has been largely responsible, exacerbated by the extremes in weather conditions. "This has resulted in the lowest surviving planted area since 1989, with 340kha in the ground compared with nearly 600kha only three years ago and yields that are very difficult to predict this harvest."

In 2019, the UK produced 1.7-1.8Mt of OSR seed, but Philip believes that 1Mt would be a good result this year based on the crop failures reported. With a UK crush capacity of 2Mt, there'll be a need to import to meet local demand for oil and meal.

The SCOPA model is based on home-grown rapeseed, sourced fairly locally to the crush and 600kha of OSR are required to fill crush capacity, says Philip. "That's why it's so important to have a sustainable OSR crop grown in the UK and we'll keep working with UK farmers in these unprecedented times, supporting local production to meet UK food and feed demand," he adds.



The 60% fall in demand for biodiesel during the pandemic has taken some of the pressure off dwindling global rapeseed stocks.



There's plenty of demand for home-grown rapeseed in the UK, with crushers having to import stocks to make up the shortfall.

The pandemic has caused a dramatic slump in demand during the past three months due to a fall in biodiesel sales in Europe. "Although this is likely temporary, this will ease anticipated supply issues going forward. Biodiesel accounts for about 60% of EU rapeseed oil demand, so the easing of lockdown measures and their impact on fuel consumption and food service outlets will influence the market's development in the coming months," says Philip.

BASF's Dr Carol Norris says the demand for the UK OSR crop is reflected in OSR prices, which makes it still an attractive proposition on paper and the highest margin break crop, where it can be grown successfully.

She believes a strategy for CSFB has to be thought of in the same way as blackgrass, adopting many different approachs and minimising larval return becoming the objective. Within that strategy genetics is a tool and not a solution on its own, she says.

BASF's Sarah Middleton adds that the UK seeds industry is learning from the experiences of other countries already, particularly by adopting the risk share approach based on similar schemes in Australia and Canada.

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