

# In consideration of rotation

“There’s absolutely no point in being average.”

## Technical Sustainable OSR

More than most crops, oilseed rape reacts to where it is in the rotation, and how long since the last crop grown. *CPM* looks at two different approaches that both bring impressive results.

By Rob Jones

**Growing a sustainable crop inevitably raises questions about rotation — just how many years is right to put between winter oilseed rape crops?**

There’s no easy answer, and as with most issues in farming, it’s not the length of the rotation, but how the crop is managed that determines success. That’s been the experience of the two growers featured in this, the second article in a series *CPM* is putting together with Dekalb, that highlights the different approaches growers are taking to achieve a sustainable crop.

Both growers are getting more than 5t/ha yields and a profit margin that keeps OSR as a firm favourite in financial terms. But in Yorks, the rotation’s wider, while in Shrops it’s closing up.

### Holderness recipe that delivers

Winter OSR is far from Guy Shelby’s favourite crop at Benningholme Grange Farm to the northeast of Hull in the heart of Holderness. But the recipe the 2016 Arable Farmer of the Year has developed for the crop with his on-farm advisors in recent years ensures it’s consistently one of the most profitable crops on his family’s 550 ha Crown Estates tenancy.

Last year, indeed, their 70ha of DK Exalte with a single field of DK Imperial CL averaged 5.1t/ha to earn a gross margin of £1170/ha and margin after all costs of £720/ha. What’s more, although he and Agrii agronomist Billy Hosdell continue to base their budgets on an average yield of 4.2t/ha, they’re exceeding the 5t/ha mark with increasing frequency these days.

“There’s absolutely no point in being average,” stresses Guy who runs the mixed arable and livestock holding with his father, Chris and brother, David. “We budget conservatively but run every enterprise as well as we possibly can, giving our crops everything they need to perform wherever they have the potential.”

But they’re now growing a much wider range of crops, he continues. “We’ve also been integrating more forage into our arable rotation over the past three years to improve soil structure and grassweed control while supporting a virtual tripling of the Lleyn-cross flock David runs along with our new indoor beef-finishing enterprise.

“All this means we now grow winter OSR only once every six or seven years, after winter barley, winter wheat or spring barley, depending on circumstances. This is something we firmly believe is important in securing the highest levels of crop performance.”

In pursuit of consistent 5t/ha yields, Guy, Billy and Agrii seed specialist, Matt Richardson focus on four key essentials in their OSR management at Benningholme Grange — the right varieties; the best establishment; first class nutrition and the most effective disease and canopy management.

In variety terms, fast autumn development is critical on the farm’s heavy land which, like



*Guy Shelby believes in giving his crops everything they need to perform wherever they have the potential.*

this year, can lie excessively wet over winter — it being mostly at or below sea level — a wetness which makes slugs a perennial challenge.

“Get-up-and-go is particularly necessary too where the OSR goes in after winter wheat or spring barley as this means it’s often sown into mid-Sept,” points out Matt. “So we only select varieties we know take off very rapidly in the autumn and grow away robustly in the spring.

“We insist on varieties with good resistance to both phoma and light leaf spot for the greatest flexibility in spray timing.” This has become even more important as



*Last year DK Exalte averaged 5.1t/ha to earn a gross margin of £1170/ha and margin after all costs of £720/ha.*

the family has taken on the tenancy of another 170ha of land this season as well as all their contracting work.

“And finally, after a hailstorm just before harvest led a very promising crop to leave the bulk of its seed on the ground a few years back, proven pod-shatter resistance is another thing we prioritise,” he adds.

Establishment has moved from a home-built sub-soiler seeder based on a Flat-Lift to a 4m Mzuri strip-till drill. “Purpose-built for heavy clay, the Mzuri puts the starter fertiliser we now use on all our OSR in exactly the right place and delivers the goods in super emergence,” points out Guy Shelby. It also incorporates a slug pelletter, delivering single-pass establishment at just £55/ha, he adds.

Sowing rates have been cut to 50 seeds/m<sup>2</sup>, varied to SoilQuest management zones, and sowing in bands leaves untilled ground between. This minimises blackgrass emergence in the seedbed and saves on starter fertiliser.

“The early crop differences from good starter fertilisation are so obvious. It’s like night and day when you get a blocked pipe,” he stresses. “This season for the first time, we’re using a specialist 23.5:31:0 OSR starter fertiliser coated with P-Reserve and



*Good phoma resistance in the varieties means fungicide spraying can hold off until well into Nov and target light leaf spot, says Billy Hosdell.*

Woltrax Boron. It provides the same amount of N as DAP in less product and has the added benefit of the readily available phosphate and boron we know can be lacking with our calcareous soils”.

Good phoma resistance in the varieties means fungicide spraying can hold off until well into Nov as a rule, which is where light leaf spot is targeted with a good early ▶

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*Get-up-and-go is particularly necessary too where the OSR goes in after winter wheat or spring barley, points out Matt Richardson.*

▶ protectant spray, explains Billy Hosdell. “Then wherever leaf incubation shows it’s needed, at the start of stem extension in mid-late Feb we go back in with a strong azole combination — plus a strobilurin or SDHI in many cases to protect ourselves against LLS sensitivity changes.

“A robust spray of boscalid with metconazole supported with extra prothioconazole and tebuconazole at yellow bud gives us the early sclerotinia protection we want as well as a good LLS top-up. Where necessary, we add the specialist PGR, Toprex (difenoconazole+ paclobutrazol) at this stage to manage the canopy as well as improving its standing power.

“We include foliar micronutrients with all our fungicide sprays based firmly on tissue testing. The crops invariably need extra boron and molybdenum and we also tend to find both manganese and magnesium lacking on most of the ground.”

Broad spectrum soil analysis as well as tissue testing ensures the best balanced nutrition Guy and Billy find essential for top-performing crops. With such wet-lying ground, mineral nitrogen levels tend to be low and crops can be very hungry by the spring.



*Seme-dwarfs are quicker to harvest, while pod-shatter resistance helps ensure all their yield ends up in the grain tank.*

So early nitrogen (around 80kgN/ha) and sulphur (70-100kg/ha SO<sub>3</sub>) — is almost always important. Muck from the farm’s livestock enterprises maintains healthy P and K indices, topped up with modest levels of variable rate straight potash and phosphate. Two further applications of nitrogen — mainly as urea — go on by mid-flowering, bringing total N application to around 250kg/ha as a rule.

“Last year our total variable costs were £560/ha which worked out at a very reasonable £110/t against an average selling price of £340/t including oil bonus,” says Guy. “And even if we’d only made our budgeted yield our costs wouldn’t have been much more than £130/t.”

## Making most of OSR in Shrops

Despite continuing to grow it one year in every three or four, Rob Morgan and his agronomist brother, Dai are pushing 5t/ha from the 25ha or so of winter OSR they grow each year on their family’s Home Farm, Acton Burnell on the northern edge of the Shropshire Hills Area of Outstanding Natural Beauty.

In an approach that combines traditional power-harrow drilling and the pioneering use of low biomass hybrids with the semi-dwarf character, they’re currently achieving gross margins comfortably over £1000/ha. This ensures the crop fully justifies its place financially as well as rotationally.

Over the past 20 years the business has developed from a typically mixed south Shrops farm with a dairy herd as well as beef, sheep and cropping to an almost entirely arable holding with a small amount of grass. A calf-rearing enterprise provides a useful supply of farmyard manure for the crops.

While most growers have been extending their rotations, the Morgans have been concentrating theirs — grass leys as well as maize have dropped out, with Rob now busy with local contracting commitments. So the family needs a system that’s as easy to manage as it can be as well as consistently profitable.

“It’s difficult to find any cereal break that comes anywhere near winter OSR in margin-earning,” Rob explains. “Pulses can never do this and decent oat contracts are a bit like hen’s teeth these days. So we grow OSR between every two or three winter cereals.

OSR establishment at Home Farm is essentially a two-pass system, kept simple to fit in with a single 130hp tractor. Light discing precedes around 20t/ha of biosolids, incorporated with a Sumo Trio. The ground

is then drilled without delay with a 3m Kverneland Accord i-drill and immediately rolled.

“This recipe allows us to get consistently good establishment from conventional varieties at 55 seeds/m<sup>2</sup> and the low biomass hybrids we prefer at 35 seeds/m<sup>2</sup>, both sown after the end of Aug as a rule,” explains Rob.

Apart from allowing sufficient time for a decent stale seedbed, BCW Agriculture agronomist, Dai Morgan finds that drilling in Sept always seems to give better results, even with semi-dwarf varieties that have, in the past at least, been rather slower to take off than many.

“People often feel better about their crops in Oct when they’ve drilled them in Aug. But it’s what ends up in the tank that matters and our medium loam soils are definitely best sown after the Aug bank holiday and often well into Sept.

“It’s valuable too in reducing the infection period for clubroot which is becoming a bit of an issue in some of our fields and needs watching closely.

“Finally, we really don’t get a second chance with OSR establishment. So we need to get things spot on and that’s not always easy when Rob is so busy with contract combining.”

The fact that the Morgans are continuing to do so well with winter OSR in a rotation many might consider a little on the tight side these days is testament to the care and attention they put into every aspect of the crop.

In this their decision to concentrate on semi-dwarf varieties almost from their first availability in the UK has been significant. Following the 5.02t/ha they achieved from a 1ha trial plot last season, their preferred variety this season is DK Secret which they’re growing alongside sister low biomass hybrid, DK Severyni and a small amount of conventional OSR.

“Even though semi-dwarfs haven’t yet matched standard height winter OSRs in their official trial performance, they’ve always done us well,” points out Rob. “Plus, they’re a lot easier to look after — we can fertilise them well into flowering with our spreader, and we’ve never had them lodge on our relatively high fertility ground.”

Along with a 5t/ha yield, the varieties they’re now growing get away quicker in the autumn and have good disease resistance ratings, he adds

To protect against both phoma and light leaf spot without any PGR effect, Dai specifies a late autumn combination of penthiopyrad and picoxystrobin designed to

carry the crop through to the stem extension spray of tebuconazole and prochloraz.

A strobilurin is also included with tebuconazole in an early flowering spray to bolster the crop's light leaf spot defences, give good early sclerotinia protection and take advantage of its physiological effect in the absence of significant disease. This enables a low dose of boscalid at petal drop to complete the disease management programme.

"Despite good soil fertility levels, we certainly don't need any conventional plant growth regulation with the semi-dwarfs, but we're looking for some positive canopy management in our programme as well the valuable physiological effect we get from strops," notes Dai.

Variable rate P and K is applied each spring, while around 185kg/ha of Polysulphate, put on as soon as the ground can travel, brings 48% sulphate and 14% potash with extra magnesium.

## First split

"Overall, we reckon around 220-240kgN/ha of nitrogen is about right for our crops," Rob continues. "Our first split in the spring is usually only around 35kgN/ha. With the nitrogen from the sewage sludge, this is all the early N we need. We then add a further 100kgN/ha at stem extension and keep 65kgN/ha back as late as we can to feed the seed rather than the canopy.

"The semi-dwarfs really help here,

allowing us to hold off on spreading our final nitrogen a lot longer than we ever can with standard height varieties.

"I have to say pre-harvest spraying is much less of a problem with these types too," he continues. "They're far quicker to harvest. Their height, pod-shatter resistance and the pod sticker we always use as a belt-and-braces mean we get all their yield in the tank.

"Another advantage is stubbles that are altogether less demanding — and time-consuming — to deal with. We really appreciate this with the scale of the autumn workload our harvesting and drilling contracts bring. Reliably good performance with as little worry as possible is what we need from our OSR," concludes Rob. ■



*With OSR achieving gross margins comfortably over £1000/ha Rob (left) and Dai Morgan, reckon the crop fully justifies its place financially as well as rotationally.*

## Sustainable OSR

Knowing that success with oilseed rape is as much about what you do as how you do it, Dekalb is working with CPM to share the experience of successful growers with a broad range of different establishment and management approaches.

This sponsored series is all part of our role in providing trusted support and partnership to OSR growers that goes well beyond the most robust and dependable varieties.

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