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All the bells and whistles

Machinery On Farm Opinion

A Suffolk farm business put plenty of thought into its move to an oilseed rape establishment system that performs a number of important tasks in one pass. CPM visits to review progress.

By Tom Allen-Stevens

There’s a pleasing satisfaction that comes from walking into a field of oilseed rape in late Feb and seeing well spaced plants, each with a thick crown and just enough canopy to capture the early spring sunshine. Dig one up and it reveals its healthy, long taproot, with side branches set out to explore the Hanslope series chalky boulder clay.

The foundation for this crop near Shimpling in Suffolk was put in place with a

5m HE-VA 9-leg subsoiler, with Accu-Disc coulter units. The combination has now established its third OSR crop for Apollo Farms, and it’s proving something of a success, says Fred Rush. “We’ve moved over wholesale to the system — it does three jobs in one go and the plants look a lot better with a very strong root structure. That has to be welcomed.”

Cleaner job

It was a conscious effort to improve OSR establishment that led the business to the new set-up. “There was nothing wrong with the Väderstad TopDown and Biodrill it replaced. But this does a cleaner job — blackgrass is a challenge for us, and this puts the crop at 55cm row spacings with very little soil disturbed in between.

“The seed is placed accurately into loosened soil with liquid fertiliser, then closed up with slug pellets applied. It’s a more targeted approach that helps the crop get through those vulnerable early stages.”

This year’s OSR crop extends to 350ha

from a total 2000ha of arable land the business farms, alongside a thriving haulage enterprise. It’s grown one year in five, usually after winter barley or wheat, in a rotation that includes spring barley and sugar beet.

“We’ve expanded the rotation as much as possible to deal with the dreaded blackgrass,” notes Fred. Previously a solicitor, he joined the business last year as



Apollo Farms has moved wholesale to the new oilseed rape establishment system that does three jobs in one go.

the youngest of three active generations of the Rush family involved in it.

Dealing with blackgrass is also one of the key objectives for the new tool, but their approach has slightly differed this year, explains arable operator Matt Tatum.

“Normally we’d chop the straw then go straight in with the HE-VA. But last harvest we removed the straw, and I whizzed over the area with the Carrier with a straw rake behind to encourage a blackgrass chit. Then we sprayed that off directly before establishing the OSR.”

Low disturbance points

The subsoiler legs at 55cm spacing are fitted with low disturbance points, set at a depth of around 175-200mm. This loosens the soil for the seeding zone, onto which the fertiliser is sprayed — 100-120 l/ha of a 25:12.5:0 mix. The packer roller follows, firming the bed for the double-disc Accu-Disc coulters, that follows directly in the path of the subsoiler leg. A press wheel closes up the slot, and the second seeder unit broadcasts the slug pellets. A pass with the rolls completes the job.

The system works well, and Matt can easily cover 40ha/day. “It’s a one-man system, as long as someone sets me up with the 9000-litre bowser so I can refill the front tank.” Lugged along at around 9km/h by the Claas Xerion 3800, this uses considerably less fuel in the field than the Quadtrac and TopDown — 27 l/hr compared with 100 l/hr.

It’s quite a long machine, stretching to 16m from the front tank to the very rear of the seeder. “We’ll generally escort it down our narrow Suffolk lanes, and there’s a camera on the front tank to improve visibility. But it folds up to 3m and it’s not too awkward to manoeuvre. Visibility out the back is great, and that’s where you



With the fertiliser tank front-mounted, there’s good visibility out the back.



Fuel costs have come down to 27 l/hr, says Fred Rush (left) while Matt Tatum can easily cover 40ha/day.

need it, so it’s definitely better to have a front-mounted tank.”

The big issue with the machine has

been wearing parts, however. “When we started we were changing points at a phenomenal rate — as much as 2-3 times ▶

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Oilseed Rape establishment goes through an Evolution

HE-VA has launched its new Evolution oilseed rape seeder in 3m, 4m and 5m widths, offering an armoury of techniques focused on delivering better establishment and early growth of the crop.

Originally shown at LAMMA in 2017 as a prototype 3m machine, it's undergone fine-tuning, expert input and product development and was seen for the first time at this year's LAMMA event on the Opico stand, in mounted 3m and trailed 4m and 5m versions.

The Evolution is based largely on the HE-VA subsoiler with Accu-Disc seeder, that aims to establish a strong and viable rape plant. The new set-up comprises a fully-loaded machine which can achieve precision drilling and seed placement, soil and nutrient management and pest control in one pass.

The seedbed is prepared by the low disturbance, medium-depth sub-soiling legs and points. This encourages good rooting with resulting early, vigorous spring growth, says Opico. A V-profile roller then re-consolidates,

creating a micro-tilth ready for seed placement.

One change from the previous set-up is a set of front discs that slice through the soil surface ahead of each leg. The aim here is to ensure the pass causes minimal soil disturbance to prevent blackgrass seed being brought to the surface.

HE-VA says its Accu-Disc double-disc coulters allow seed placement to be controlled precisely and consistently to a required depth, ensuring no seed is visible on the surface, and providing ideal conditions for germination. The rear wheel then closes and re-consolidates ensuring good seed to soil contact.

Slug pellets can be applied in the same pass as the OSR seed is drilled, using HE-VA's twin multi-seeder operated by a single control box. An optional Nitro-Band or Nitro-Jet can also be added to put on granular or liquid fertiliser exactly where and when the young plant needs it. The potential here is to give the emerging seedling an initial growth boost pushing the rape seedlings ahead of any pest damage.

"Establishing OSR is difficult with flea beetle



The Evolution is a fully-loaded machine with precision drilling and seed placement, soil and nutrient management and pest control in one pass.

hammering crops at cotyledon stage.," notes Opico's James Woolway. "This, combined with blackgrass and slug pressures, is making it very challenging to get a currently profitable crop out of the ground. The new Evolution seeder throws all our best technology at the plant getting it off to a good, strong start and able to withstand any pest pressures."

The 3m machine starts at £34,952+ VAT.

► a day. That's a lot of down time and the price of low-disturbance points at that time meant the cost of wearing metal alone was almost £32/ha," says Fred.

Their dealer, TNS at Newmarket, helped source alternative points that are then hard-faced in the farm workshop — a job that takes around half an hour — before they're fitted and brings the bill down to a "much more palatable" £6/ha. "A set of points will now last a day and it takes just 10 mins to fit them," notes Matt.

Opico has also tested a variety of point designs both with and without hard facing and tungsten. This has resulted in HE-VA developing some cast-steel tungsten-tipped low-disturbance points which retail at £35.61 each. These new points last four times longer than the original fabricated points supplied with the machine, says Opico.

The machine was one of the first to arrive in the UK, and as such there have been issues to resolve, recalls Fred.

"Getting to the seeder units was difficult at first, so we installed a ladder and access platform. But then one day in the field the whole seeder mounting-bracket fell off."

Matt takes up the story: "When it happened, TNS and Opico came out to fix it within a couple of hours and we were back up and running the next day. Then, over winter HE-VA redesigned the platform and upgraded our machine — it hasn't caused any problems since."

The rims of the outside wheels, that

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carry the wings, have also cracked and had to be welded, which caused a bit of concern. "It's frustrating because they're an odd size so not easy to replace, so this has caused some downtime. But I suspect it was initially set up so it wasn't carrying the weight correctly. Again, TNS came out and resolved the issue."

One thing they take great care with is calibration, explains Fred. "Every day we do a tray test to check the outlets are operating correctly. We had a slight issue with uneven seeding on a few fields in the machine's second season, so the test provides valuable peace of mind."

The seeder unit has only eight outlets, with an outer pipe originally split to make up the nine. "I wasn't sure it was such a good idea to split the tube that takes the seed that travels the furthest from the fan, so we changed it and the central outlet is now split."

But the attention to detail on the seeding side has paid off and they've been confident enough to take seed rates as low as 20 seeds/m², a rate Fred feels produces stronger, thicker plants.

An important element of this is the fertiliser applied at planting, and Fred's convinced this has benefits. "It puts the nutrients in a narrow band, so the emerging seedling gets the nutrition it needs. Our system carries over a lot of straw, which can soak up the N. This applies both seed and fertiliser in a more precise manner."

No pre-emergence or early autumn herbicides are applied other than a low dose of contact graminicide to deal with cereal volunteers, because a lack of soil disturbance means a mid-Nov application

of Astrokerb (propyzamide+ aminopyralid) is all that's needed to control grass and broadleaf weeds in most seasons. Clopyralid is sometimes required in the spring to mop up areas of sow thistles.

Hungry soils

"The starter fertiliser is insufficient for optimal spring crop growth on our hungry clay soils and monammonium phosphate (MAP) is applied to fields with a P index below 3 in the spring. Potash is seldom needed on our K-releasing clays." The crop generally receives a total of around 250KgN/ha (including autumn N) although rate and application time will vary to manage canopy size.

So what's the next step with Apollo Farms' OSR system? "It's been a learning curve, and we continue to make tweaks and adjustments to the set-up every year," says Fred. "But we're not going to making any major changes or capital investments.

"It's been a success and delivered what we were looking for, which is a more scientific approach to how we establish OSR. It also represents a financial outlay of £55,000 for a machine that's only used for two weeks every year. It fits in well with the Xerion, and we've just bought a new cereal drill that suits this set-up, so this system won't get any big changes in the near future."

That includes a switch to the new Evolution seeder from Opico, which, as its name suggests, is the next step on from the machine that's earned its spurs with



Matt has been hard-facing wearing parts to improve durability.



The seeder unit has only eight outlets, with a pipe from one of the central outlets split to make up the nine.

businesses such as Apollo Farms. But for those thinking of buying the Evolution, Fred has some advice: "The real plus from our system is the number of jobs it does well in one pass — soil preparation, seeding, fertilising, and slug pellets. So if you have a system that allows it, go for all the bells and whistles." ■



Each plant has a thick crown and a healthy, long taproot, with side branches set out to explore the Hanslope series chalky boulder clay.

Farm facts

Apollo Farms, Shimpling, nr Bury St Edmunds, Suffolk

- **Enterprise mix:** 2000ha arable; six-lorry haulage business
- **Rotation:** Oilseed rape (Picto, Campus), winter wheat (KWS Gator, RGT Gravity, KWS Kerrin, KWS Santiago, Skyfall), sugar beet or spring barley (Propino), w wheat, w barley (Bazooka) or wheat
- **Soils:** Hanslope, chalky boulder clay
- **Staff:** Ken, Robert and Fred Rush plus two full-time employees on the arable side
- **Mainline tractors:** Case IH Quadtrac 550; Claas Xerion 3800; Fendt 724; Case Maxxum 150; Case Puma CVX200
- **Combine:** Claas Lexion 770 on Terra Tracs
- **OSR establishment:** 5m HE-VA 9-leg subsoiler with Accu-Disc coulter units, two Opico Hatzenbichler seeders and 1600-litre Opico Nitro-Jet front-mounted tank
- **Drills:** 8m Simba Horsch CO; 8m Väderstad Rapid; 6m Kverneland power-harrow combination; 12-row Monosem sugar beet drill
- **Ploughs:** Kverneland 6f + 3f waggon plough; 6f and 5f Kverneland
- **Cultivation:** 2x Väderstad TopDown; 6m and 9m Lemken Korund; 8.2m Väderstad Carrier with straw rake; 6.6m and 4.6m Cultipress; 12m Dalbo rolls
- **Loaders:** Claas Scorpion 9055, 2x JCB 540-70, Sanderson
- **Sprayers:** 2x Bateman RB25 and RB16 3000-litre with 24m booms
- **Spreaders:** 2x Bogballe M3W with iPad variable rate controllers