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Agroecology

Hitting the reset

It was the opportunity to take on a substantial amount of new arable land that gave brothers Dan and Tom Belcher the chance to hit the reset button. *CPM* discovers how they’re tackling issues close to their hearts and farming more sustainably while improving margins.

By Lucy de la Pasture

Back in 1999, March House Farm — located between Melton Mowbray and Oakham — consisted of 65ha of grassland and a small amount of arable, grown to support the sheep and cattle. By 2022, things have changed considerably, with the farm now supporting 1000ha of combinable cropping, rotational grass and grass leys; 2500 breeding ewes; 600 cows; 50 sows and followers; Christmas turkeys; a farm shop and café; and a dog grooming centre.

“A decision to direct sell some of our meat at a farmers’ market in London was the real turning point for us — demand for our products just kept growing and growing. So we thought this would be the perfect opportunity to sell from the farm, so we opened a farm shop in 2017 and have never looked back,” says Dan Belcher.

Native breeds

“All our meat is sold in-house and anything we bring in is sourced locally — this is really key to our business model. The beef is a native cross of Angus, Beef Shorthorn and Stabiliser cattle crossed with either an Angus or Shorthorn bull. This gives us a high-quality carcass with great marbling and flavour, which our customers demand,” he says.

“The lamb comes from our flock of Mashams and Scottish Mule ewes crossed with a Suffolk or Charolais ram, again giving us a quality carcass for the shop. Our herd of Tamworth, Large White and Gloucester Old Spot sows are crossed to a Large White boar, giving the flavour of the traditional breed and carcass conformation of a modern breed.”

Three years ago Dan was offered the

chance to take on a fairly large hectareage of arable cropping. March House Farm had a well-established rotation of arable and livestock, including maize, and yields were good with acceptable input costs acceptable. The new land was typical Leicestershire heavy clay, which was compacted and rife with blackgrass.

“We’re always looking at ways to bring the livestock and arable parts of the business together in the most sustainable and profitable way and we felt this was ▶



Building and sustaining good soil conditions is key, with the approach to tillage and cropping decided on an annual basis rather than having a set rotation.



The change in practice has allowed the Belcher brothers to integrate the livestock and arble sides of the business, with OSR grazed by the sheep before Christmas.

► our chance to look at how we could improve the quality of the soils we'd taken on and make more use of the FYM — of which we have plenty," he says.

"There was a legacy of heavy cultivations on the farm, which cost money and weren't doing very much for soil health, so we wanted to look at how we could manage this differently going forward. This was the real springboard into looking at how agroecological practices could help us to do this," explains Dan.

And when making a change, exploring how to best implement it is key to success, so getting good advice was crucial, he says. "We were already working with Tom Heathcote, head of consultancy at Knight Frank and he suggested that we get in touch with Ed Brown at Hutchinsons."

Ed has always had a particular interest in soil health and agroecology and is now heading up Hutchinsons bespoke Agroecology Service. "As an industry, we're looking for answers as to how many of the practices associated with agroecology — such as reducing cultivations, using cover crops and reintroducing livestock — can really make a sustainable and profitable difference to our farms," he explains.

"The brief from Dan was to look at how to incorporate the livestock, get on top of the blackgrass and improve soil structure, as well as aim for a drastic reduction of inputs whilst maintaining yields, so I had my work cut out," he recalls.

"With the new land, we were starting from scratch which meant that we had the chance to strip everything back to basics. One of our very first actions was to carry out a baseline soil survey to give a starting point for both the old and the new land so that suitable management strategies could be formed."

The baseline survey consisted of the Sustainable Soil Management (SSM) Gold analysis as well as VESS tests, water infiltration, worm counts and biological analysis. In short, the survey painted a picture of high magnesium clay soils with poor structure, poor water infiltration and low biological activity, says Ed.

The survey also highlighted that the original farmed area was in much better shape, with less compaction and higher worm counts, he adds.

One of the aims was to maximise diversity of crops in the rotation as much as possible. "This meant looking at how we could use a range of approaches from intercropping, companion cropping and variety blends, to integrating multi-species catch and cover crops," says Ed.

No set rotation

"Dan's old rotation was based around wheat, maize and grass-silage leys and the new land had been in a cereal-based arable rotation. But our aim now is to not really have a rotation. Instead each field will be judged on an annual basis and cropping decisions based primarily on what will suit the field that year to help us achieve our goals of improving soil structure and reducing blackgrass. Profit is always front of mind though."

Maize was dropped on the grounds of soil management and beans were introduced as a break crop and for the N-fixing benefits they offer, adds Dan.

"They've done well for the past two years, giving us a better gross margin than the spring barley, so we'll be sticking with this. We've increased the area of spring cropping, using spring barley, spring triticale, spring beans and a spring cereal/legume whole-crop mix.

"We're also trialling blends, and last year we looked at a wheat blend using Crusoe, KWS Extase, Gleam and Costello," he says.

"We've definitely seen some benefit from disease resistance — the crop was clean and only required a very low spend on fungicide. This year we'll look at a spring barley blend using Laureate, SY Tungsten and Diablo."

The brothers have also experimented



Dan Belcher sought out Ed Brown for some specialist advice for adopting agroecological principles on the farm.

with intercropping on the farm. "We intercropped the spring bean crop with oats and got pretty good results when this was whole cropped for the cattle. Next time we're looking at combining the crop and milling it for feed," says Dan.

Oilseed rape has made appearance on the farm for the first time this season, he adds. "OSR has gone in after some barley, having been established with companion crops of buckwheat and burseem clover and then lightly grazed off by sheep. We seemed to escape adult flea beetle damage and the sheep grazing should reduce larval damage and allows us to use one less fungicide and we don't need a growth regulator."

Tillage has also come under the spotlight at March House Farm. "We found the soils in the new fields had been min-tilled for a long time and had started to break down," says Dan.

One of the first discussions that Dan and Ed had was over his brand-new drill. "Ed didn't hold back in telling us that he thought it was unsuitable for some of our heavy water retentive fields," says Dan.

"Watching the drill work you could see that it was leaving a poor soil structure. It wasn't closing the soil behind it, and this was resulting in poor establishment."

Ed persuaded Dan to buy a Horsch Co4 tine drill, which is still a direct drill but moves more soil and covers the seed better. To get the measure of it, Dan trialled his old drill and the new drill on a field of barley. "To be honest we couldn't see a big difference in establishment, but the barley drilled with the tine drill germinated faster and the blackgrass was no worse."

But in other fields it has produced better crop establishment over the old drill, he acknowledges. "I think going forward, it'll be a case of picking the right drill for a particular field. It's always good to have some flexibility."

Where some of the fields were really badly compacted and had a heavy blackgrass burden, the farm has resorted to ploughing. And in some cases where the plough has been avoided, a low disturbance subsoiler has been used, adds Ed.

“It’s about doing what’s right for that field at that time, and sometimes this does require a reset.”

Cover crops have also played an important role. “It was crucial for us to get a good cover crop in after harvest for several reasons — to keep the soil covered, rather than leave it bare; and to help stabilise, structure and aerate the soil, thereby creating and improving drainage channels,” he explains.

“Cover crops also feed soil biology with carbon rich exudates, prevent the soils from slumping in winter and mop up any excess nitrogen,” he adds.

Ed highlights that finding the right mix is important. “We’ve been trialling several different ones and, so far, a three-way mix of white mustard, buckwheat and burseem clover sown straight after the combine has been the best option. If we’re putting it in before beans then we include oats but we leave them out if cereals are following on.

“Last year we trialled a whole crop mix of peas, beans, barley and vetch — we just drilled it and left it. This year we’ll try it again but leave out the beans and include red clover to help the spread of maturity as the beans were just a bit too late,” he adds.

Dan uses a home-built drill for the cover crops, which is effectively a rip, drip and seed machine. “It’s a low disturbance subsoiler which feeds molasses and humic acid down the back of the legs to feed soil biology until the roots can get down into the soil profile. A seeder unit is



Masham ewes form part of the flock and are topped with Charolais or Suffolk rams to produce quality lambs for sale through the farm shop.



March House Farm opened a farm shop in 2017 to add value by selling direct to the customer.

attached which broadcasts the cover crop seed behind the legs,” he explains.

Dan is pleased that the cover crops have allowed him to integrate the sheep into the arable side of the business. “They come on and graze off the crop, it’s sometimes sprayed off with glyphosate and can be drilled as soon as it’s dry enough.”

Some land had been recently entered into a mid-tier stewardship scheme so the brothers will let that run its course. “We’re hoping that it will be possible to switch into ELMs without having to do too much extra work,” says Dan.

Improving soils

“Poorly performing areas of fields have been taken out of production and put into AB15 or GS4 schemes. GS4 works well — the sheep have to come off for five weeks from May to August, then we cut it for silage or hay. This allows for a good regrowth and then the lambs go back in during August.”

One of the key objectives of improving the soils and profits at March House Farm was to look at how inputs could be reduced, nitrogen in particular, but without compromising yields. “It’s all about finding ways to optimise what we’re putting on,” says Dan.

On the back of high fertiliser prices this spring, he’s looking to reduce his N on wheats from 180kg/ha to 130kg/ha. The difference will be made up using foliar urea and FYM.

“With our new spreader we can spread FYM on 24m tramlines in the spring. We have switched from solid to liquid fertiliser this year, which will be applied with molasses and humic acid to improve efficiency of uptake and is just kinder to the soil. We’re also trialling foliar

stabilised urea and will put this on in three applications.”

Ed highlights one of the biggest challenges on the farm is excess magnesium, so gypsum is being applied to help this. “P and K levels are good, but its key that we manage trace elements.”

He uses sap analysis on all of the crops as this provides a really useful measure of what nutrition is actually being taken up in season and allows for correction to maximise plant health, he believes. “Soil testing tells you what’s in the soil, but not necessarily what’s being taken up by the plant.”

Dan is looking at the potential for a small AD plant as this could provide electricity for the whole business, while also providing a good source of fertiliser and full traceability along the whole food chain.

“We do use some precision technology and have the Omnia system which Ed uses to map the fields and for manure management. We’ve chatted about the option of using Omnia for variable rate drilling but feel we’ll tackle this by taking variability out of the soils as much as possible, rather than varying the seed rate — so we shall see how that works.

“We’ll continue to monitor and measure the practices that we’ve already adopted — this is key. While baseline soil measurements will be repeated again in four years, we’ll look more closely at areas such as crop establishment and inputs relative to yield,” says Dan.

“Our approach has taken a real mindset change, so we’re taking each step at a time. It’s not a rigid and defined approach but one that’s about responding to the field or situation in front of us, so we’ve learnt to be much more flexible,” he concludes. ■