

“ We can sell the story of how we produce food, look after our soils and the biodiversity in our care. ”

Technical Pulse progress

A former Soil Farmer of the Year, Durham grower Richard Suddes is growing winter peas and beans together. CPM pays him a visit to discover it's part of plan to capture added value for the produce he sells.

By Tom Allen-Stevens

Richard Suddes pauses before digging his spade into the soil. “You almost don’t have to look below ground to see how it’s doing as the crop looks so good above it,” he says.

What’s interesting about the crop under inspection is that it’s a blend — winter peas and beans have been grown together. There’s not a sign of disease, while looking across the crop, it really is a complementary blend of the two — not as open as a bean crop nor as full as peas. The plants themselves appear to support each other — the peas are relieved to have something to lean on, while the beans seem to thrive surrounded by their companion crop.

Richard notices the first flowers are coming out in the peas, adding flecks of deep pink and purple into the canopy. “I worry that the peas flower much later than the beans — it was the same last year — although they appear to catch up and the crops ripen together.”



A blend of benefits

The spade brings up a mass of roots and nodules — you can barely make out the light sandstone soil that lies around it. Richard’s quick to point out this is one of the major challenges he faces across the 320ha he farms, based at Cornsay, near Durham, with his father, Rob, and brother, Karl. The land varies from the sandstone to glacial till silty clay. “This soil ploughs like glue and sets like concrete,” he remarks.

Regenerative agriculture

It’s one of the reasons Richard has set a path on regenerative agriculture for the arable side of the business — since 2009, the land has been direct drilled. The farm’s pedigree Limousin herd and free-range chickens provide plenty of manure to feed the soils, while Richard is gradually cutting the inputs he applies across the rotation, which includes wheat, barley, oats and oilseed rape. No insecticide has been applied for 11 years (although cabbage stem flea beetle in late-drilled OSR has been treated in recent seasons). He’s considerably reduced mineral fertiliser, on track to cut this further to a third of the amount used by other arable farmers in the area, while a focus on tailored nutrition has lowered fungicide use.

“It’s not worth using SDHIs up here — the harvest is so late you don’t want to extend the green leaf duration and you don’t get the yield improvement if you do. What’s more, I’m seeing much less disease.”

Richard wanders over to the next-door wheat crop. It’s received 120kg/ha of

mineral N, topped up with manure, with applications being made as late as April. He reaches down to pull back the canopy and reveals a crop that’s entirely disease-free, right down to its base, although it hasn’t received a single fungicide.

The move into regenerative agriculture started soon after Richard returned to the family farm in 2005. “I saw results from a Claydon strip-till drill used locally. So in 2009 we took the step to sell all our cultivation kit with just a Claydon used to establish the crops. It was a bold step to change all in one year, but it was the best course of action because we had to make it work.”

The Claydon proved not to be the right drill for the farm, however, and two years later, Richard switched to a second-hand 6m Väderstad Seed Hawk, that the farm still has. “We have an issue with brome and find the Seed Hawk disturbs far less soil,” he explains. The farm also now has a ▶



The two crops make a complementary blend — not as open as a winter bean crop nor as full as peas.

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The spade brings up a mass of roots and nodules – you can barely make out the light sandstone soil that lies around it.

► Väderstad Rapid with the cultivation bar removed.

At the same time, Richard set about addressing how to get more from the soils. “We’d always focused on applying muck and straw to the lower-lying heavier land to address structural issues we were having. But that was robbing organic matter from the top fields, and not addressing the chemical mbalance we had with our glacial soils.”

Richard brought in Steve

Townsend at Soil First Farming, to help with the issue. “The difficulty with these glacial soils is that there’s generally a cation imbalance,” Steve explains. “You’re looking for the correct ratios of calcium, magnesium, potassium and sodium. In Richard’s case, Ca is low at just 22% while it should be nearer 70%. This allows the Mg to dominate and the soil goes anaerobic, with very few pore spaces, making it difficult to work.”

Steve notes that it’s a common problem in the north of England, especially on soils that have moved over to arable.

“Imbalances can be masked by organic matter and grass. Put the land into an arable rotation, and that’s when issues appear.”

Steve’s solution is to apply gypsum (calcium sulphate), that for Richard comes from recycled plaster board. The sulphate reacts with the Mg, with levels reduced through drainage and then replaced with Ca. This

opens up the soil and allows it to process carbon more efficiently while at the same time redressing the Ca:Mg soil imbalance.

But for Richard, the real light-bulb moment came from a 2015 study tour of American farms, funded by ASDA and organised by BASE UK. “We went to see the farm run by Joel Salatin and met Gabe Brown and other regenerative farmers. It was awe-inspiring how they were generating biomass from relatively poor soils. It was inspirational and mind-boggling and I came back with my head exploding,” he says.

Free-range chickens

That was when the free-range chickens were introduced to complement the cattle manure. Richard was also keen to get more from pulses in the rotation. “The other side to this is the carbon footprint of the Limousin herd. They’re fed a ration, sold at 12-16 months. But that’s 98% home-produced, thanks to the pulse crops in the rotation. I’d say that probably has a better carbon footprint than grass-fed beef sold at 24 months.”

But spring crops are a problem. “You rarely get a good opportunity to establish a good spring crop, and we can’t afford a late harvest — we regularly harvest wheat just before its birthday, and I’ve had to harvest spring beans at Christmas in the past. We have to get break crops off early to provide a timely entry for wheat.”

It was a conversation with Roger Vickers of PGRO that led Richard to try winter peas. “We’d often grown peas on the better land, but the stumbling block had always been that they’re a spring crop. Roger pointed out that winter peas are grown, and I found a variety through Frontier — Pionir, which is really a forage pea. This autumn we’ll probably grow Fresnel, which is a proper combinable winter pea variety.”

Winter peas have a reputation for poor standing ability, which is why Richard struck upon the



The peas flower much later than the beans, although they appear to catch up and the crops ripen together.

idea of growing a blend, using Tundra winter beans to support the peas. “It’s our second year, so we farm-saved the seed from what we harvested, almost turning straight round and planting after we’d put the crop through the cleaner to separate the two types. Karl, who runs the livestock side of the business, likes the crop harvested at 20% moisture and applies Propcorn to preserve it,” notes Richard.

The crop’s drilled with the Seed Hawk on wide, 23cm rows. “The drill has two tanks, serving separate lines. So we set it to put down two rows of peas to every row of beans. We drill at about 250kg/ha with a 70:30 mix. It’s then important to roll afterwards.”

The crop receives a pre-emergence herbicide of pendimethalin and a graminicide for cereal volunteers and brome in the autumn, and that’s it for chemistry. “We give it micronutrients and 50kg/ha of MOP in the spring,” says Richard.

“I was worried about flowering last year, as the beans start



The wheat is entirely disease-free, right down to its base, although the crop hasn’t received a single fungicide.

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much earlier. But the peas soon catch up and they ripen at the same time. You do need a desiccant at harvest, although the two crops harvest far easier than peas on their own as it's lifted off the floor."

The pulse crop forms part of a whole farm approach anchored around what's right for the soil, and Richard's noticing the difference. "One aspect in particular is the water runs off this farm beautifully clear. We've also saved on input costs while wheat yields are gradually increasing." The farm's also in Mid Tier Countryside Stewardship and "blessed with hedges", he adds.

And he's picked up recognition for his achievements, as joint winner of Soil Farmer of the Year in 2017 and also Northern Arable Farmer of the Year. Now the ambition is to turn this recognition into financial reward, and Richard's scathing about Red Tractor Assurance. "There are some elements of the scheme that seem so petty, needed just so you can sell your produce on the commodity market. Yet I know the standards we maintain are far higher than the average standard of the grain our produce is lumped in with.

"I do believe there's a market for what we do — we can sell the story of how we produce food,

look after our soils and the biodiversity in our care. And it goes beyond just selling carbon credits — this is carbon sequestered with real wildlife benefits."

Green Farm Collective

Richard's teamed up with five other farmers to form the Green Farm Collective that has a bold and ambitious business plan to capture the value of these markets. "We know we're in uncharted territory, but we're united in our passion for the type of farming we all follow. Whether it's a small, local food outlet looking for enhanced provenance or a large multinational company, wanting to offset carbon emissions through farms with a genuinely resilient and positive approach to climate-friendly agriculture, we believe there are substantial premiums available."

The group is aware this needs to be underpinned by credible certification and have signed up to Sandy, the new digital assistant from Trinity AgTech. "We'll probably still need independent verification, but the plan is that Sandy will provide the metrics behind the carbon credentials and biodiversity indicators. We're hoping



Richard Suddes has teamed up with five other farmers to form the Green Farm Collective that plans to capture premium value from their regenerative agriculture systems.

that will underpin the blockchain-secured provenance that takes the story of how we farm right through to the consumer," says Richard.

"The Australia trade deal can only put downward pressure on beef prices and I can see that will continue with other trade deals. Red Tractor won't protect us from these, and certainly doesn't recognise the regenerative practices and high regard for wildlife we have. But I think there are opportunities for those with the right farming mindset." ■



A 70:30 mix of peas to beans is drilled with the Seed Hawk on wide, 23cm rows, putting down two rows of peas to every row of beans.

Research to underpin an integrated approach

More and more farmers are looking for alternatives to chemistry to address agronomic issues in pea and bean crops, notes Becky Howard of PGRO. "Many growers are finding pyrethroids don't really work any longer. The more environmentally friendly farms have stopped using insecticides altogether," she notes.

To help this transition, PGRO has been conducting research into alternative methods of pest and disease control. "We're keen to gather the evidence farmers need to have the confidence to use them within their crops," she says.

A three-year project is currently underway in field beans across three sites in East Anglia, trying out different methods of trap-cropping for pea and bean weevil and bruchid beetle. "On one site, a small area has been sown early, with the majority of the field sown at the usual time in March.

At the other two sites, a crop has been established next to blocks of lucerne and vetch.

Lucerne is attractive to pea and bean weevil, while vetch attracts bruchid beetle."

Pheromone traps have also been deployed within the trap crops to lure the pests in, and away from the cash crop. "Initial results suggest it works, with a slight reduction in damage. We aim to develop heat maps of activity that will help us understand how the pests respond to the trap crops and move around."

Becky notes that the cold, frosty start to spring, followed by the wet May bring a risk of chocolate spot to bean crops. "For growers looking to reduce their dependence on fungicides, the first step to take is to grow a more resilient variety. Plant density also makes a huge difference to how disease develops in the canopy, so it's important to follow guidance on target population."

Vining peas are vulnerable to attack from bean seed fly following the removal of available seed treatments. "The fly lays its eggs on bare soil, so



Becky Howard is gathering the evidence farmers need to have the confidence to use IPM within their crops.

leaving a gap between cultivations and drilling can help," she says.

PGRO is also working with AHDB and Warwick University to develop pest-activity modelling to help good forecasting. "The plan to provide a tool to inform drilling date," says Becky.