

ISSUE 38 | OCTOBER 2026

DIRECT DRILLER

SOILS MAGAZINE

THE FUTURE OF YOUR SOILS

Who Pays for the Transition?

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MAGAZINE

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DIRECT DRILLER PRINT IS MOVING TO A PAID SUBSCRIPTION

WRITTEN BY CHRIS FELLOWS

The question we hear from farmers at this time of year is some version of "Where is this all heading?" This autumn it feels louder than usual.

You only have to look at what farmers have been talking about these past few weeks. Up in Scotland, a suggestion that future farm payments could be tied to formal training landed about as well as you would expect, with men and women who have farmed for 40 years asking why they should sit in a classroom to prove it, and a smaller camp wondering whether any trade that takes public money can really refuse to show its workings. Both halves have a point, which is usually the sign of an argument worth having. In the week SFI "launched" in late September, our own Farmer Happiness Index showed the biggest fall we have ever registered. Hardly a surprise, but proof that governmental decisions do materially affect farmers' mental health.

Elsewhere, the week's news told its own story about the direction of travel. Smithfield Tractors called time on 30 years as a John Deere dealer, which is the sort of quiet change that says more about where the machinery trade is going than any press release. And once again, the question of who actually benefits from farmers' own information was being chewed over, as the food industry was told to turn that data into action. If you have read Direct Driller for any length of time, you will know it is a question we keep coming back to, because the answer still is not settled and little in the way of payments for this information is flowing.

None of this stands still, and neither do we. Which brings me to a change here at Direct Driller that I want to explain properly, farmer to farmer.

For nearly 10 years we have posted Direct Driller out to farmers for

nothing and put every issue online for free as well. We would love to carry on doing both, but the printing and the postage have to be paid for (they have tripled since we started), and until now that has come entirely from our advertisers and sponsor. I had to double-check this, but a Royal Mail 1st Class Large Letter 500g stamp costs £3.60 these days. To keep the printed magazine going, we are asking the farmers who want it on paper to help cover the cost of it.

From the next issue, a printed copy of Direct Driller will cost £6.25, billed yearly as a single £25 payment. That is four issues posted to your door – in January, April, July and October – of around 100 pages each of no-till, soil health, cover crops, machinery, tech and real results from real farms. This issue is the last one we will post out free. If you want to carry on getting the paper copy, you will need to subscribe before the next one goes to print.

Now the important part, so nobody is caught out. The online magazine is not changing, and it stays completely free. Everyone currently on our print list will be moved automatically to a free digital subscription, so you keep getting every issue online without lifting a finger. You only need to do something if you want the printed magazine to keep arriving in the post. If you are happy reading on a screen, or you are abroad, there is nothing to do and nothing to pay. The £25 only covers printing a magazine and putting it in the post, so it is UK addresses only.

Signing up takes a couple of minutes. Scan the QR code on this page with your phone, or head to the shop at directdriller.com and log in. If you are on The Farming Forum, it is the same account and the same password. Your name and address are already on file,

so there is nothing to type in. Pick the print option, pay the £25, and you are sorted for the year. This same portal is where you will also change your address going forward.

Everyone on our list will also get an email over the coming weeks with step-by-step instructions, so you will not have to work it out from scratch. And if you have supported Direct Driller as a patron over the past year, thank you. You will receive a code giving you your first year of print free – our way of saying thanks for backing us when it was pay-what-you-like.

We know £25 is not nothing, and some of you will decide the free online version does the job. That is fair enough. For those who like the paper on the kitchen table or in the cab, it works out at about 48p a week to keep it coming. Missed a few issues over the years? Back copies are available from Farm Marketplace if you want to fill the gaps.

Any questions, drop us a line at subs@directdriller.com or give us a ring on **01543 396 770**. As ever, thank you for reading, and for coming along with us. We are never quite doing it right yet, and that, as I have said before, is rather the point.

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THE MECHANICS OF SOIL: WATER

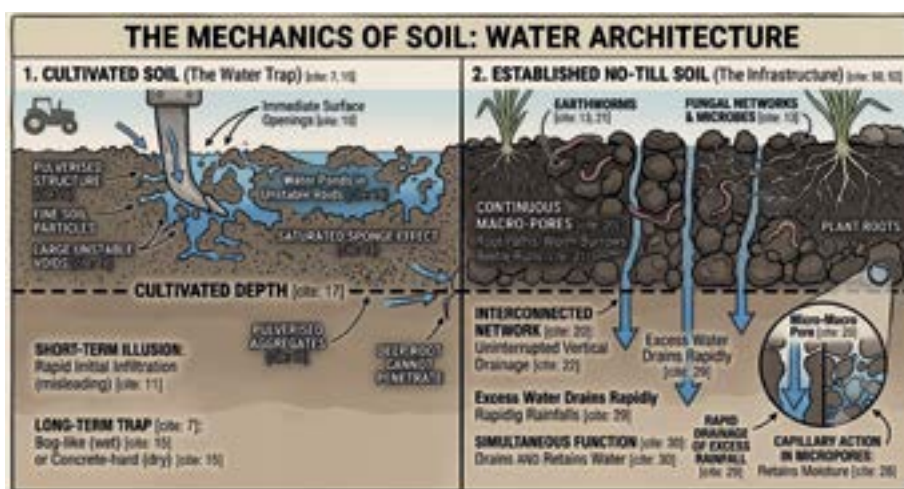
By Tony Gent

In my previous article on the mechanics of soil, we explored how cultivation dismantles the extraordinary structural engineering that a living soil builds for itself. This follow-up looks at what that means in practice for the most critical resource moving through your soil every day: water. Get this right, and no-till starts to make intuitive sense. Get it wrong or fail to understand it and you'll be fighting your soil season after season.

The cultivated soil water trap

Most farmers switching to no-till have a nagging concern in those early years: will the soil drain properly without cultivation to open it up? It is an understandable worry, but it rests on a fundamental misunderstanding of how water actually moves through soil.

When you run a tine or disc through the ground, you create immediate, visible porosity. Water disappears quickly after rain. The field looks and feels workable. But this is a short-term illusion. What cultivation actually does is destroy the aggregate structure that gives soil its load-bearing strength. Those aggregates, the natural clumps and clusters built by microbes, fungal hyphae and earthworm activity, are the pillars that hold open the soil drainage architecture. Break them apart, and you create large, unstable voids that rapidly fill with water and then hold it by surface tension, like a saturated sponge.



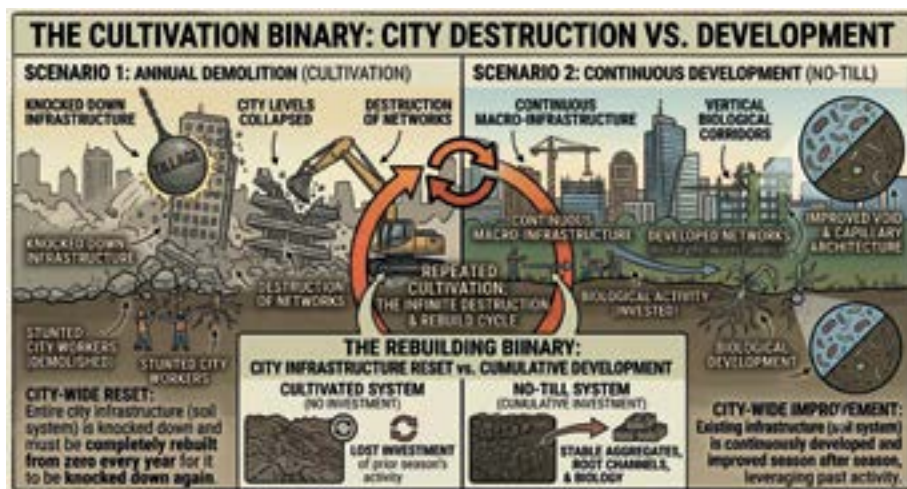
The result is familiar to every arable farmer: a field that goes from bog-like in wet weather to concrete-hard in dry. The soil has lost its ability to buffer between extremes, because the structure that enables both drainage and moisture retention has been pulverised. Drainage in a cultivated system is, critically, only effective to the cultivated depth. Below that, conditions are often no better and

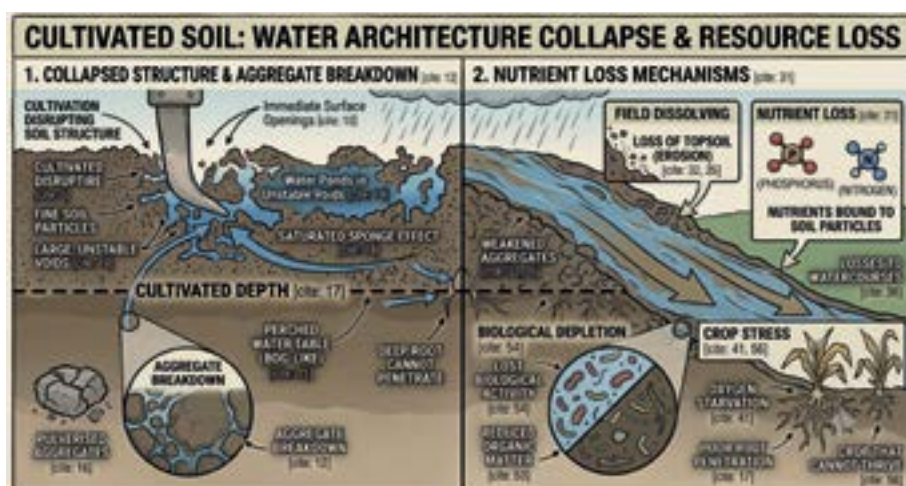
frequently worse than equivalent no-till land.

How no-till soil actually drains

A well-established no-till soil manages water through a completely different mechanism: an interconnected network of stable macro-pores. These are the channels left by old root paths, earthworm burrows, beetle runs and the tunnels created by decaying organic matter. Critically, these channels are continuous; they run vertically through the soil profile without interruption, connecting the surface to subsoil drainage. Cultivation destroys this continuity.

In our experience on heavier clay soils, the type that in a cultivated system turn into one of two states – waterlogged soup or cracked, iron-hard blocks – the transition to no-till has been remarkable. Within a few seasons, what once behaved like the most difficult of soils started performing more like a well-structured loam. The extremes simply





one-off fix that works with the no-till system rather than against it.

The bigger picture: Soil as infrastructure

Understanding how water moves through soil reframes the whole question of what soil actually is. It isn't a growing medium that needs to be engineered each season; it is infrastructure that can last centuries. It is a system of channels, voids, biological corridors and structural columns that, if left undisturbed, becomes progressively more capable of managing water, storing nutrients and supporting plant life.

Cultivation resets that infrastructure to zero every time. The cost is not just the fuel and depreciation; it is the lost investment of every season's biological activity, root growth and structural development. In an era of increasingly volatile weather, where dry springs follow wet autumns and summer droughts are punctuated by intense rain events, the ability of a soil to buffer those extremes isn't a nice-to-have. It is the difference between a crop that thrives and one that doesn't. No-till, understood through the lens of soil mechanics and water management, isn't a leap of faith. It is the logical conclusion of understanding what soil is actually doing when you leave it alone.

Tony Gent farms in England and has been no-till for nearly two decades. This article is a follow-up to The Mechanics of Soil, published in Direct Driller, issue 36.



Tony Gent

disappeared. The soil was never completely dry, and never noticeably waterlogged.

The key is that no-till soil retains the strong aggregate structure which holds open the smaller voids between particles. These micropores retain moisture through capillary action, providing a continuous, steady water supply to roots even in dry periods. Meanwhile, excess water during heavy rainfall events moves rapidly away through the macro-pore network. The soil is doing two jobs simultaneously – draining and retaining – which a cultivated soil simply cannot do.

Runoff, ponding and nutrient loss

One of the things that surprises farmers new to no-till is seeing surface water running off their fields during an intense rainfall event when the neighbouring cultivated ground is absorbing it. That initial surface absorption from a freshly worked field looks reassuring, but follow what happens next and the picture changes considerably.

Once a cultivated soil reaches capacity, which it does quickly because the structural voids fill and the weakened aggregates can't hold more, runoff begins. And because the structural strength of the soil has been lost, that runoff carries soil particles and nutrients with it. The field effectively starts dissolving. Topsoil and the nutrients bound within it move downslope, into drains and watercourses.

No-till runoff, when it occurs during extreme events, is a different animal

entirely. Because the soil structure is intact, the water runs over a stable surface. It doesn't carry soil particles. The field doesn't erode. And any ponding that does occur in low-lying areas is typically temporary; the continuous macro-pore network draws the standing water down and away relatively quickly. In an established no-till field, seeds and growing crops can tolerate these short-duration wet periods in a way that the oxygen-starved, soup-like conditions of a waterlogged cultivated field make impossible.

When drainage problems persist

It's worth being honest here: some drainage problems that existed before no-till do not simply resolve themselves once cultivation stops. In some cases, removing cultivation actually helps. We have seen areas that had persistent ponding issues under a conventional system recover their natural drainage once left undisturbed. The biological channels re-established themselves, and the problem disappeared.

But where long-term ponding persists and is leaving uncropped areas, it will not sort itself out without intervention. In those situations, the most cost-effective and least disruptive solution we have found is targeted installation of a drainpipe to the lowest point of the problem area, with a small zone of gravel backfill running from the pipe up to the surface. This gives the excess water a direct route out and, once in place, requires no ongoing attention. It is a

FARMER FOCUS

TOM SEWELL



It's raining!

Yes! After what seems like a lifetime of hot, dry, windy weather, we actually have rain! I'm sitting here in the kitchen (during the day!), admiring the steady rain out the window and, as of two minutes ago, we've had 6.4mm; that's the first meaningful rain in what feels like months.

Today is 7 October and so far, we have only planted oilseed rape, which was sown two weeks ago. Because we only have the 12m Horsch Avatar drill to plant crops, we decided to run through the stubbles with the Sumo LDS (low disturbance subsoiler) before planting OSR. Some land had an application of chicken litter, another field had some soft fruit compost, two fields had no organic manures, and all five fields planted with OSR had the straw baled.

All OSR has been planted with a companion crop of buckwheat and berseem clover, although in one field we are partnering with AHDB to run a tramline trial on different companion crops, and two tramlines with OSR only.

When Chris emailed me a few weeks back to ask if I'd write another article, he said, "Without it being too doom and gloom!" Who does he think I am?!

I've just reread my last article from January and an excellent one from Clive Bailie that was published in April. Those two articles have stood the test of time and are pretty much where I am today in my thinking, but some things have moved on.

So rather than moan about 101 things, I'll report on a few positives and comment on a few other things!

As a family, we have always been part of a local church. It's one of the reasons why we never work on Sundays. Up until a few years ago, I served on the leadership team of a church in Maidstone, but with COVID and lockdown, things changed. I have four children, and the youngest two play football, which, as they have got older, has moved to a Sunday morning affair! So, the dilemma came. Do we stop them playing football so we can all go to church as a family, or do we, for a season in life, give them both the opportunity to do something they enjoy and are reasonably good at? Long story short, they both continued in their footballing journeys, and as a family we encouraged them in that. I didn't feel that after 17 years of leadership service I could continue while being absent on a Sunday morning and stepped down from leadership. We have recently moved to another church that has a 5 pm service, and we can now attend as a family as well as support the boys in their matches.

At this new church, I've had to get to know people from scratch. The question eventually comes... "What do you do for a living?"

Up until recently, that question has been relatively easy

to answer, and with confidence and gusto I would proudly declare that I was a farmer!

However, on reflection I'm now beginning to rethink that response. As an aside, I recently had a visit from an American representative from Kelly (who make the Kelly chain harrow), who informed me that 97 per cent of American farmers have off-farm jobs!

With that in mind, I now find I can respond to the question in many ways:

Just saying you're a farmer sounds like you sit in a pub with two black labs, in a checked shirt and drinking warm beer!

Builder, plumber, forklift driver, ground worker, painter, welder, fabricator, heavy plant operator, accountant, logistics and planning, customer relations, HR, health and safety, just-in-time logistics, taxi driver, disaster management, security guard, police liaison, waste disposal, stock control and catering are just some of the things I could confidently say I tackle on a daily basis!

Just saying you're a farmer sounds like you sit in a pub with two black labs, in a checked shirt and drinking warm beer!

When I was a child, about the age of five or six, I was mad-keen on Britains farm toys. Those of you who are of a similar age will remember, probably in the early 80s, eagerly awaiting the Britains catalogue. For those of you who have no idea what I'm on about, this was carpet-farming at its finest. This little pamphlet would come out with all the items of model farm machinery you could buy. It was free and given away in toy shops. Our local toy shop at the time was Gamley's in Hailsham, East Sussex. My mum would take me there, normally after we'd been to Woolworths and British Home Stores, and if I'd saved up enough money, I could buy a new trailer, baler or perhaps some animals.

The animals never really interested me – I always wanted the big shiny tractors or combine harvesters. Dad built me some farm buildings, a model silage pit and even some pallets to scale to complete the dream farm set-up. Today's equivalent of the Britains catalogue is Farmers Guide, Profi or Farm Contractor, but I'm getting increasingly disillusioned with the eye-watering amounts even the most basic of machines now cost. I recently read a report on a new medium-sized tractor with a price tag of over £400k. That buys a pretty nice house in many areas and a pretty nice farm in some countries! I'm starting to feel that justifying new kit needs to come from larger and larger farms and/or large non-farming incomes?!

Our three main tractors are from 2006, 2008 and 2010. They have depreciated to the point that they're now probably

appreciating and are worth what I paid for them over 10 years ago! They have no AdBlue, complicated screens or regen requirements. They are, and have continued to be, reliable and only clock 200-300 hours a year! One pulls the 12m drill so we're well on top of the job, but with years like this we need to be!

It's when we look at combine or sprayer replacements that the challenge comes! I have noticed a number of farm machinery sales recently where the farms have been covering a large area, one in excess of 10,000 acres and many over 2,000 acres. My childlike interest in a machinery catalogue is awakened, and I'm intrigued as to why these businesses are selling up. In many cases, the combine and sprayer are of an age and condition that suggests they need replacing, and that can represent a financial outlay that many are increasingly reluctant to embrace. So, for me, my old-but-reliable machines will stay to fight another harvest! I have invested in one new toy, having sold a lot of surplus bits and pieces last winter: a new hot water power washer. With a flow rate of 21 litres per minute, it blasts any loose paint and stickers off, while putting a smile on your face every time you use it!

Back to the farm. Harvest was a relative doddle. The combine, having been serviced by Paul King, was faultless in its fourteenth season. We were blessed to have Irishman Anthony Brennan as our combine driver for the summer, who piloted and maintained the axial flow through the wheat and beans in his quiet, confident manner. Yields were similar to 2025 (poor), but wheat quality was excellent, and sale prices so far are averaging over £200/t. Beans planted behind the LDS were very even and looked like a big crop. They could have been even better had we not had a 34+ degree heatwave at flowering!

We have subsoiled for the bean ground again this year, so once we start drilling, we will continue through direct-drilled wheat into the beans.

We are currently converting a concrete frame building into industrial units, having obtained change of use, and have also just got approval from UK Power Networks to put a solar system on the three southern-facing grain-store roofs. This will include 264 panels, batteries and the capability of supplying incoming and existing tenants with electricity, while ensuring the farm buildings and farmhouse have a cost-effective supply in the future!

I'm even looking at electric vehicles for future replacement, given the bonkers price of fuel at the moment! If costs continue to rise, we have to keep finding ways of cutting back in order to survive. Solar is one of those opportunities, and with a proposed six-year payback, it makes me look at ROI percentages with a whole new focus and enthusiasm!

To finish on a good note, this year my eldest daughter, Emma, announced her engagement! She's marrying a great guy from Norwich and they'll live in Ipswich. I guess that'll make my future grandchildren tractor boys?!

So, with a wedding to pay for, I'd better get back to work!
Merry Christmas!



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REGENERATIVE AGRICULTURE WHO PAYS FOR THE TRANSITION?

By Joe Stanley, Head of Sustainable Farming, The Allerton Project

Farmers may be increasingly lacking in harvestable yield, but one commodity we aren't short of is shiny reports proclaiming the unmitigated benefits of regenerative agriculture and its potential to fundamentally rewire our food system. Taken at their most effusive, such documents and the organisations behind them ascribe to "regen" the near-magical ability to reduce synthetic inputs to zero, eliminate cultivations and increase yield – while generating sufficient natural capital to require a second bank account in which to hold the proceeds.

The on-farm reality tends to be somewhat less dramatic, with incremental improvement (and not infrequent backsliding) being the experience of most practitioners, not least when faced with the reality of attempting to implement a systems change in the midst of some of the most challenging weather to face farmers in many generations. Almost everyone agrees that the appropriate regen practices in the appropriate context will benefit a farm business over time; what is less certain are the timescales of those improvements and the costs of implementing them.

The Allerton Project was commissioned by Nestlé UK&I to investigate the economic realities of "the regenerative transition" over five years on three model 600ha arable farms in the East of England: Sand, Loam and Clay. We conducted this work in partnership with the Andersons Centre, who based Loam Farm's transition on their own long-running Loam Farm dataset and created the other two farms for this project. The results were recently released in a major report, *From Risk to Reward: Investigating the Economic Transition to Regenerative Farming*.

The transition from a "conventional" to a more "regenerative" system was modelled over five years in the absence of any external support, such as the Sustainable Farming Incentive, green

finance or supply chain incentives, and was therefore judged on its own farming merits. Each farm was presumed to be 2:1 owned to rented, with representative rotations and establishment strategies for their context, and the financial figures generated were at the pre-rent and finance point.

The modelled transition presumed very "conventional" farming systems in the baseline year, with the "transition" representing nothing overly dramatic: a gradual progression towards reduced cultivations and direct drilling, cover and catch cropping, the return of some crop residues to the soil and the introduction of grazed livestock. The modelled results were then sense-checked by a panel of expert farmers to ensure that they remained rooted to the reality on the ground of those who had already made this transition.

As can be seen in Figure 1, the initial picture is striking. From the baseline year, all three farms see a decline in profitability from which none recovers before year four. This equates to an average per-hectare deficit of £73 for Clay Farm, £119 for Loam Farm and £399 for Sand Farm over the five-year term.

What is driving this decline? There are savings to be made during the transition – reduced fuel, reduced labour, reduced depreciation from a more efficient machinery fleet – yet as our panel of farmers highlighted, in reality, some of these initially modelled savings can be less significant than hoped. With less autumn cultivations, it doesn't necessarily follow that staff can or will be let go – though they may be redeployed to more profitable activities. A changing climate and differing soil types can also make reliance on one single drill or cultivator risky, reducing the real-world potential to consolidate machinery fleets and horsepower.

On the debit side, a reduction in yield was presumed during the transition – but not, for most crops, a particularly dramatic one, with Loam and Clay Farms seeing an 8 per cent and 5 per cent drop at worst. (Sand saw a 19 per cent drop, largely a result of poorer sugar beet yields.) Sand Farm also saw more costs associated with planting both cover and summer catch crops (remembering the absence of any support scheme), while Clay Farm was so badly impacted by the complete lack of straw sales that only 50 per cent of straw was modelled to be chopped to protect the bottom line.

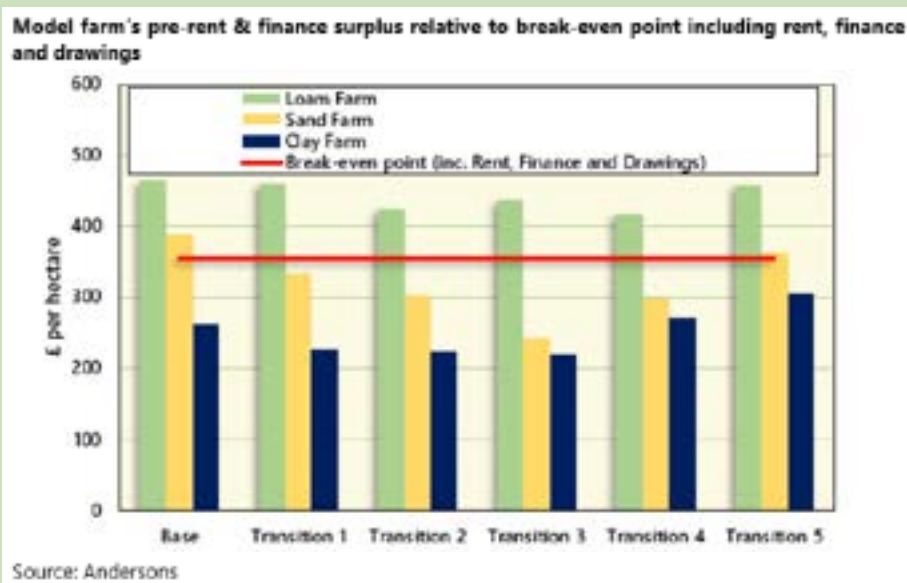


Figure 1. Profitability (£/ha) of the three farms across the initial five-year transition period vs break-even point.

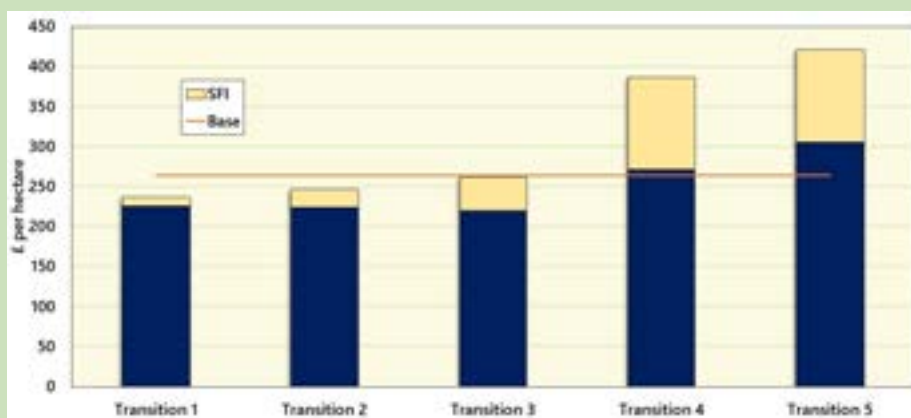


Figure 2: Clay Farm with a modest SFI scheme

While the long-term importance of more regen practices to invest in farm resilience is referenced repeatedly in the report (and is shown to be the major motivating factor from the farmer poll conducted as part of the work), what can't be escaped is the short-term reduction in farm income resulting from the transition. In a sector making good money and able to reinvest in future resilience, that would not be a serious matter. But a mere glance at the P&L of most arable businesses over the last few years (and even much of the last few decades) shows that many farm businesses are unable to accept even short-term pain for longer-term gain, especially when much that is being asked of them in the form of more sustainable farming practices is to deliver on the goals of both government and the supply chain.

Related to this, the other significant point to note from Figure 1 is the fundamental lack of profitability for two of our three farms throughout this process, with Sand Farm producing losses in four of the five years of the transition and Clay Farm losing money in all five – as well as in the baseline year. For Sand Farm, this represents an average deficit of £50/ha per year to break even over the five-year model; for Clay Farm, £106.

With English farmers facing, according to provisional figures, the worst harvest since 1984 (to join similarly disastrous seasons in 2020, 2024 and 2025), and with commodity prices in real terms at historic lows, this matters. The regenerative transition as desired by government and the supply chain can – in the short term – increase farm business risk. In a negative cash flow environment, that can't simply be

brushed under the carpet.

We did look at what a modest SFI scheme would deliver and how that would change the picture. As can be seen in Figure 2, even the staged introduction of relatively few options (cover and catch crops, no-till farming and low-input harvested cereal) made a significant difference to pain inflicted by the transition. However, given the 18-month hiatus in SFI funding up to September 2026 and subsequent farce surrounding its 352-minute application window, it's clear that this is not a reliable source of support (whatever ministers might claim). Indeed, according to the Farming Roadmap, the very future of SFI looks highly uncertain from 2030, with Defra openly stating that they plan to stop funding so-called "transitional options", such as cover crops and reduced tillage, from that date, with higher regulatory baselines "the stick" and the private sector supposedly coming to fill the gap.

Therefore, it's great that Nestlé is sufficiently curious to have commissioned this report by The Allerton Project, and better still that they have taken such interest in the results. As a company, Nestlé is one of the global leaders in its regenerative aspirations, with a target of 50 per cent of key commodity products to be sourced from regenerative production methods by 2030, and a slew of promising pilots and initiatives already in place to help build more resiliently farmed landscapes. Yet it is for Nestlé and the rest of the food value chain to reflect on what more they need to do to help farmers build the resilience and sustainability that are a key part of their own business models going forward, and also of the pressure that needs to be placed by all stakeholders

on government to ensure that the rug of even the limited public funding which is available today isn't pulled away before a sustainable financial mechanism is in place to maintain high-quality, domestic food production here in England.

Key findings from the report:

1. There is a challenging transition period. Farm profitability declines during the five-year RT across all soil types. However, there is a strong upward trajectory of profitability by year five, indicating a potential end to the "transitional" period in the short-medium term and thereafter.
2. Risk must be more evenly shared. 82 per cent of farmers surveyed felt the risks associated with the RT should be more evenly spread across the supply chain. A more collaborative partnership between farmers and those who rely on the produce they generate is essential.
3. Climate change is adding to the challenge. Many regenerative practices farmers are seeking to adopt are becoming increasingly more challenging in a climate of more consistent extremes.
4. Short-termism is stifling the transition. The RT is a long-term proposition, yet the food and farming landscape is littered with short-term thinking. There must be more joined-up thinking that supports farmers to invest in the health of our soils and landscapes.
5. Regen is a route to resilience. It's difficult to justify the RT to farm businesses on its own financial merits. However, the RT brings wider benefits for farm and supply chain resilience.
6. Knowledge exchange and training are crucial. There is a learning cost to the RT, and moving away from the status quo requires mindset change. Farmers learn best from other farmers, but government and supply chain must help facilitate learning to accelerate the success of transition.

Read the
report here



FARMER FOCUS

CLIVE BAILYE



The Haves and the Have-nots

Walk across our winter bird food plots on a grey afternoon in November, and the noise is something else. Finches, buntings, linnets, the odd covey of English partridge getting up under your feet. By late winter, it's close to deafening. In summer, the same fields were chest high in flower, humming with bees and butterflies, and I've lost count of the letters, cards, emails and comments over the gate from people in the village asking what we're doing, telling me how good it looks and how much they appreciate it.

This is the last winter of it. Our SFI 2023 agreement finishes on 28 February 2027 and what replaces it is a good deal thinner. So, it seems like a fair time to look at what the scheme did for us, and why the way it's ending leaves me uneasy about where we're heading.

We were in from the start. We went into the SFI pilot in 2021. The money wasn't the reason (there wasn't much of it); I wanted a hand in how the thing was built. If Defra were going to design what replaced BPS, I'd rather be in the room arguing than outside complaining. It was clear from day one that the scheme was a long way from perfect, and handing that feedback straight to Defra felt like the only way we'd end up with something fit for purpose, a scheme that actually delivered public money for public goods. And to be fair, they listened, and plenty of that feedback found its way into what came next.

Then SFI 23 came along, and for a farm like ours it solved a problem I'd been chasing for 30 years.

Combinable crop farms on light land have never had a reliable break crop. Oilseed rape was the answer for a generation, and as easy as it is to blame the flea beetle and the loss of neonicotinoids for finishing it, the truth is we wore it out. OSR was the only break that paid, so we grew it far too often for far too long, and the beetle, the pigeons and the slugs caught up with us.

The obvious alternative is pulses, which on our soils are very much a wish crop. You either wish you hadn't grown them or wish you'd grown more, and you never know which until the combine is in. I've tried many other alternative crops in my quest for a consistent margin. Lupins, soya, winter peas, linseed, millet, canary seed and oats have all been grown here with varying degrees of success, and not one of them has given me that holy grail: the consistently profitable break crop. We've grown potatoes in the past too, but roots don't sit well within a no-till system and there's no guarantee of profit in them either. High stakes, high risk and high fixed costs, none of which frankly I'm brave enough for anymore.

The solution SFI 23 offered was a break crop that never needed harvesting. By putting summer pollinator mixes and winter bird food into the rotation as a full season, unharvested cover, we ended up with the simplest system I've ever run: two cereals, then a year of cover. What came out of production gave



us a guaranteed margin, no synthetic inputs, and a proper gap in the cereal rotation that no cash crop had ever given us.

The result surprised me. After nearly 20 years of direct drilling and cover crops, I thought I knew what our soils could do. A full season under a living mix that never sees a combine was another level again. The wheat behind it needed less nitrogen, the structure on our worst sand changed in a way you could feel on the spade, and the natural capital was there in abundance, obvious to anyone driving past, let alone anyone walking their dog along the footpaths that criss-cross the landscape around our farm. On marginal ground like ours, that was decent value for the taxpayer, and better value than another field of oilseed rape, the crop that for years gave the countryside its predominantly yellow hue each May.

Still a long way from perfect, and with a lot more room for improvement, SFI was nonetheless heading in the right direction, and that's a sentence I don't write about Defra very often.

Then the problem shifted: from refining the detail of what was on offer to who was administering it. A revolving door of farming ministers, and a scheme born under a Conservative government, then inherited by a Labour one that seems at best indifferent to farming and at worst hostile to it, meant the question stopped being how good the scheme was and became who could get at it. Your agreement date decided your rules. Caps came and went, percentage limits appeared, start dates moved, and I ended up with neighbours farming the same soil and crops under different rules to me, purely on the strength of when their paperwork went in. Then in March 2025, the whole thing shut without notice and anyone not already in was told to wait.

That was the start of the haves and the have-nots; an industry divided by nothing more than paperwork and a calendar.

Announced in February, SFI 26 came in two windows. Window 1 in the summer was for small farms and those without an agreement, and rightly so, because those were the people the earlier rules had shut out. Window 2 in September was for the rest of us, with a cap of £100,000 per agreement and a pot of £233 million for the whole of England.

Our existing agreement runs out in February, so I had to have a plan, and the cap changed everything. Taking whole fields out of production for a full season doesn't fit under it, so the design

brief for the new scheme was the opposite of the old one. Keep the gross output of the land, take as little as possible out of production, and be rewarded for the things we do while growing cash crops that benefit the environment.

Our new agreement is built around what we do rather than what we don't: direct drilling, no insecticides, variable rate nutrition, companion cropping, a multi-species cover in every gap between harvest and drilling, and how we manage our hedges. The pollinator and bird food mixes haven't gone altogether, but they've shrunk to the awkward corners and poorer parcels where I'd struggle to grow a decent crop anyway.

Plenty would say that is how it should be – food on the good land and birds in the corners – and in principle I don't disagree. In practice, we'll do a fraction of the good of the last three years.

Then came 22 September.

Window 2 opened on the Tuesday morning. By three o'clock, Defra said three quarters of the money was gone, and at 3.48 pm it closed with the lot allocated. The Farming Forum thread that morning told the story. Farmers refreshing a page that wouldn't load, agents with a dozen clients and one pair of hands, and members calling it what it was, madness. The farming minister's line was that SFI had been built to be "simpler and fairer". Within a week, over a hundred MPs had written to the secretary of state about those who had missed out.

I was in London that day, nowhere near a desk. Our application went in from my phone by lunchtime, because the homework was done. The plan was drawn up months earlier, and I'd used AI to check the guidance, test the plan against the cap and, when the window opened, submit the application for me.

I'm glad we're in. If we weren't, the next three years on light land at today's prices would have been unthinkable. On the AHDB numbers, four of the five worst harvests on record have come since 2020, and this year's is forecast to be the smallest yet. Geopolitics far beyond the control of any British farmer has compounded it, with fuel and fertiliser at prices that are hard to justify putting on a field at all. Take that income away from a business like ours, and it breaks.

Treating an industry like the queue for Oasis tickets is wrong

But it isn't right that the agreements went to whoever was quickest with a laptop and best at using AI. Treating an industry like the queue for Oasis tickets is wrong, and plenty of good farmers lost that race through no fault of their own because they were drilling, or lambing, or didn't have a plan ready on 22 September.

Part of me says this is simply budget. The pot is finite and we have to accept it. What I find harder to accept is the way it was done, because the effect has been to set farmers against each other. I've watched it play out on the forum in the weeks since. People who missed out angry with those who got in, with their agents, with the neighbour whose application landed twenty minutes before theirs. Whether anyone in Defra meant it or not, divide and rule is what it feels like from the field. The gap I first noticed in 2023 is now a chasm, and with delinked payments down to a few hundred pounds a farm, those on the wrong side of it are, in cold reality, unsupported.

I've said it for years and believe it now more than ever: the relationship between farmers and government support has become the same as that between a drug addict and his dealer.

There was a decent case for support once. But a little became a lot, then something we couldn't do without, and then the dealer knows that he can make you do pretty much anything for the next hit. Look at the hoops we jump through, me included, for schemes we'd never have entertained 20 years ago. Then look at the panic when the supply was cut off one Tuesday afternoon in September. That is withdrawal.

The worst of it is what we didn't notice while we were high. Thirty years of direct support let a lot slide. A high street of butchers, greengrocers and bakers eroded and was replaced by a handful of supermarkets that now control what Britain eats and what the farmer gets for it. Imports produced to standards that would be illegal on my farm but are legal on a British shelf. Assurance schemes that cost us money and earn us nothing. Red tape upon red tape, and, in the last two years, a tax grab on the farm itself. Each crept in and we put up with it, because the cheque still arrived and took the edge off. The patient's health was failing the whole time; we just weren't sober enough to feel it.

I'm not saying go cold turkey. Nobody kicks a 30-year habit by having the supply cut off in an afternoon, and anyone who thinks the market will sort it out has never tried to grow wheat on sand at today's prices. Getting from a heavily subsidised agriculture to one standing on its own feet, with public money paying only for real public goods, is a long, painful job. It needs honest trade policy, a supply chain with some fairness in it, and regulation that costs less than it earns.

It is possible. I've met enough farmers here and in Europe who farm profitably with far less of a crutch than we've got used to. It's clearly not going to happen with the current approach, and the blame doesn't sit with this government alone. The knife was stuck in by governments of both colours over many years; this one just seems to enjoy twisting it. Whether the next one has the stomach to pull it out, and enough understanding of farming to treat the wound properly, is the question that matters.

In the meantime, this winter I'll walk the bird food plots and listen to the song. Next winter, most of those fields will be back in oilseed rape, probably foolishly, and a field of rape in January is a quiet place. The birds that fill them now will have to go and find their winter feed elsewhere, and I doubt the locals will thank me for it.

My father told me years ago that farming one year at a time was a sure way to fail in the end, and he was right. It's why the whole thing feels so precarious now. A rotation is planned years ahead. A soil takes a decade to change. A drill is bought to last 20. None of it can be planned around a scheme that changes every time a minister does, and that is the bit politicians never grasp. Farming is a long game. Consistency matters more to us than the size of the cheque.

Right now, farming is split into the haves and the have-nots, and I'm lucky enough to be a have. I'm well aware of it, and grateful for it. But when I think of the neighbours who aren't, the fields that won't be sung over next winter, and how little of any of it was ever in our own hands, somehow, it doesn't feel much like winning.

CONFUSION OVER REGENERATIVE AGRICULTURE

By James Warne

Few topics in agriculture generate as much confusion today as regenerative agriculture. Speak to 10 people, and you'll likely get 10 different definitions. Read a few articles, attend a conference, or sit through a retailer sustainability presentation and the waters become even murkier. What started as a practical farming system has, in many cases, been repackaged into a marketing term, stretched well beyond its original purpose and increasingly used as a badge for everything from carbon claims to biodiversity targets.

A recent conversation with a land agent perfectly illustrated the problem.

"The difficulty my clients have with moving into regen is the yield reduction that comes with it," he explained.

My immediate response was simple: why should they be experiencing a yield reduction?

The answer was revealing. Several farms had dramatically reduced or eliminated crop inputs on the assumption that this was what regenerative agriculture required. Predictably, output suffered. Yet somewhere along the line, the idea has taken hold that regenerative farming is simply about using less fertiliser, fewer pesticides and fewer inputs overall.

It isn't.

In fact, what is often being described sounds far closer to an organic system than a regenerative one. If a farm intends to eliminate synthetic inputs, there is a strong argument for pursuing certified organic production, where at least there are established conversion schemes and potential market premiums to offset the transition.

Regenerative agriculture was never founded on the principle of removing inputs. Reduced input use, improved water quality, enhanced biodiversity, carbon sequestration and cleaner air are all potential benefits, but they are outcomes, not the primary objective.

At its core, regenerative agriculture is about rebuilding soil function through increasing soil carbon. The aim is to create healthier, more resilient soils that cycle nutrients efficiently, retain water effectively and support greater biological activity. Achieving that requires a systems approach guided by soil health principles, not an arbitrary reduction in crop nutrition.

Indeed, successful regenerative farming often demands the use of inputs. The difference is that inputs are applied strategically and efficiently, rather than by routine. In many respects, regen resembles what used to be called the "third way" between conventional and organic systems: productive agriculture supported by thoughtful management of both soil biology and crop nutrition.

Carbon alone isn't enough

Building soil carbon is central to regenerative agriculture, but carbon cannot work in isolation.

For biomass production, whether above or below ground, nitrogen remains essential. The challenge is not whether crops need nitrogen; they do. The challenge is determining where that nitrogen comes from and how efficiently it is used.

A grassland farm I know provides an interesting example. For around 15 years it has operated with virtually no external inputs. Large areas sit within stewardship options comprising low-input grassland, flowering plots and bird-food mixes. Livestock grazing is limited and generally extensive, while some grassland is cut periodically for hay.

The intention has always been to improve biodiversity.

However, over time the opposite effect appears to be occurring. Grass growth has steadily declined as fertility

reserves have been depleted. More surprisingly, biodiversity has also begun to diminish. Without meaningful carbon and nitrogen cycling, the biological engine that supports soil life gradually runs out of fuel.

Healthy soil biology depends on food. Whether we are discussing bacteria, fungi, earthworms or larger soil organisms, the principle remains the same: if we want living soils, we have to feed them.

Are inputs really the enemy?

Another widespread misconception is that all modern agricultural inputs are inherently damaging to soil health.

The reality is far more nuanced.

Some of the farms demonstrating the strongest improvements in measured soil carbon, earthworm counts and biological activity over the past decade have not significantly reduced inputs at all. Instead, they have focused on improving soil structure, reducing disturbance and managing inputs more intelligently.

Certainly, individual products can have detrimental effects. Some herbicides and fungicides have been shown to negatively affect earthworm populations and should be used carefully. However, broad statements that all crop protection products destroy soil biology simply don't stand up to scrutiny.

Most herbicides and fungicides have relatively limited long-term impacts on overall soil biological function when used appropriately. Likewise, while large single applications of nitrogen can create stress within both soil and crop systems, splitting applications into smaller doses improves nitrogen use efficiency while reducing potential impacts.

The critical point is that soil health is influenced far more by system management than by blanket

assumptions about any one input.

The biology obsession

Soil biology is another area where enthusiasm frequently gets ahead of scientific reality.

We regularly hear claims that biological inoculants, microbial brews and various liquid biology products can replace significant quantities of nitrogen fertiliser. It's an attractive idea. Unfortunately, practical results are often far less impressive than the marketing.

The problem is straightforward: soil biology is largely controlled by environment.

A microbe produced in a warm, carbon-rich brewing vessel faces a dramatically different environment once it is sprayed through a nozzle onto a field. The same applies to organisms introduced via composts. Conditions within a compost heap bear little resemblance to those experienced after spreading and incorporation.

This is not an argument against compost. It remains an excellent source of carbon, available nutrition and organic

matter. It helps feed the soil ecosystem. But expecting introduced biology to substantially transform a poor soil environment is another matter entirely.

Even under favourable conditions, biological nitrogen fixation and nutrient cycling from microbial products are unlikely to supply the quantities of nitrogen required to support modern crop yields on their own.

What we can influence is the environment those organisms inhabit. Better soil structure, improved aeration, enhanced water infiltration and a consistent supply of carbon provide the conditions under which beneficial biology can thrive naturally.

The missing piece

Perhaps the greatest contradiction within modern regenerative agriculture is the obsession with measuring microbial diversity while often neglecting the factor that matters most: habitat.

If we want healthy, functioning soils, fungi are particularly important. Fungal networks play a critical role in nutrient cycling, soil aggregation and carbon

storage. Yet fungi thrive best in soils that are stable, well-structured and largely undisturbed.

This leads to an uncomfortable conclusion.

If the goal is genuine soil health, reducing soil disturbance should be the priority. Continual cultivation disrupts fungal networks, accelerates organic matter breakdown and diminishes many of the biological processes regenerative agriculture seeks to encourage.

For all the discussion around cover crops, biological products, carbon markets and input reduction, the reality is that maintaining living roots and minimising cultivation remain among the most powerful tools available.

The irony is that regenerative agriculture is not particularly complicated. It is not about eliminating inputs, buying the latest biological product or chasing fashionable sustainability claims. It is about building a system that returns carbon to the soil, supports nutrient cycling and creates the conditions in which soil biology can flourish.

Everything else is secondary.

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TOM MARTIN



There are years when farming feels like a carefully choreographed partnership between man, soil and weather. And then there are years when the weather appears to have obtained your address. This was one of those.

Harvest was not a disaster, exactly. Nothing caught fire. The combine remained broadly in one piece. Nobody was crushed beneath anything expensive. But our cereals were anything up to a third below their long-term averages, which is the sort of result that encourages you to spend rather longer than usual staring at the yield map in the hope that it might reconsider.

The obvious culprit was drought. We had remarkably little rain through the spring and early summer, and crops that had looked full of promise gradually acquired the pinched expression of someone discovering the hotel bar closed 10 minutes ago.

But drought wasn't acting alone. BYDV had a hand in proceedings too and provided us with one of those accidental farm trials that are generally rather more expensive than the deliberate ones. Our Group 1 milling wheat mixture contained no BYDV-tolerant varieties – we don't have any here in the UK. Alongside it, we grew mixtures of Group 2 and Group 4 wheats containing varieties with greater tolerance. The difference was about 1.5 tonnes per hectare; that rather concentrates the mind.

There are all sorts of caveats to an on-farm comparison like this. Different fields, different soils, different histories; farming provides enough variables to keep a statistician indoors for life. But when you are already harvesting disappointing wheat, and one set is another tonne and a half behind, you don't need a lab coat to become interested.

Which brings me to France. Across the Channel, RGT Sundeol is already registered as a bread-making wheat carrying Bdv2 partial resistance to BYDV. Here, after watching our Group 1s lose another 1.5 tonnes a hectare to the virus, such genetics



remain frustratingly out of reach.

Perhaps this wouldn't matter if climate, disease pressure and growing conditions remained obligingly where we had filed them. But they aren't. If our climate is attempting to become continental, then perhaps our variety lists may eventually have to do the same.

For years, the textbook description of continental weather has been cold, relatively dry winters followed by warmer, wetter springs. Our wetter winters and frequently parched springs aren't mimicking that, however; we'll have to look elsewhere for a comparator.

Increasingly, the bit that interests me is not whether Britain





is becoming "warmer" in some averaged-out, graph-on-the-news sense, but whether the reliability of the seasons is changing. On our heavy Cambridgeshire clay, the averages don't farm the land; rainfall timing does. Thirty millimetres of rain in June is not interchangeable with thirty millimetres in March. However neatly the annual total eventually balances, a crop cannot carry water backwards through time.

Our sunflowers demonstrated this rather beautifully. We grew a strip this year, partly to produce farm-saved seed. Sunflowers are, of course, supposed to look magnificent: great agricultural solar panels, turning their faces towards the heavens with all the confidence of a crop that has seen the brochure. Ours emerged and then did almost nothing. For months, I kept looking at them. They kept looking, insofar as a

sunflower can, back. And they did not die.

There was something rather admirable about this. Wheat was suffering, spring crops were nearly dead, and everything seemed to be waiting for rain, but the sunflowers simply sat there, neither flourishing nor surrendering. Then we got a drop of rain, and it was as if somebody pressed the switch. They took off.

Unfortunately, plants have no access to calendars. So instead of producing a conveniently ripe crop at the moment we had pencilled in for harvest, they carried on growing into late summer and early autumn with considerable enthusiasm. Harvest therefore came late, with enough green material remaining to pull moisture upwards and enough seed available to provide a September tasting menu for every pigeon and crow in Huntingdonshire. We may yet discover that sunflowers are a useful crop for a changing climate, and I follow former Farm Manager of the Year Edward Vipond with interest. We have certainly discovered that pigeons think so.

Meanwhile, we are experimenting with another form of crop protection: height.

Blackgrass continues to make herbicide programmes feel like an expensive way of washing leaves. So we're looking harder at crops that might physically compete with it, including rye and spelt. There is something pleasingly primitive about this. For decades we have become progressively more sophisticated in the ways we attempt to kill weeds: chemistry, timing, rates,



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sequences, stacks. And now one of the questions we're asking is: what if we simply grow something taller than them?

Rye, in particular, has an almost indecent enthusiasm for getting upwards. Watching it compete with blackgrass feels less like crop protection and more like hiring a nightclub bouncer.

Of course, the real blackgrass battle begins before the seed drill moves. Which brings us to October. On our clay soils, autumn drilling has become a game of agricultural blackjack. Drill too early, and you risk missing the main blackgrass flush. The wheat emerges beautifully, you admire your handiwork for perhaps a fortnight, and then the blackgrass appears between the rows in sufficient numbers to make clear that you have just spent a considerable amount of money establishing its winter accommodation. So you wait. You encourage another chit. You spray it off. You wait a little longer. And all the while you are watching the weather forecast. Because there comes a point when agronomic patience starts to look remarkably similar to recklessness.

This autumn, the additional spectre has been talk of a powerful El Niño-type weather pattern and the possibility of very wet weather arriving in the middle of October. By the time you read this, you will know whether that prediction was meteorology or theatre.

As I write, I don't. And that is the problem.

If the rain arrives before we drill, our clay can go from "probably wants another couple of days" to "see you in March" with impressive speed. On the flat, even with years of no-till giving us more carrying capacity through marginal times, you may eventually just about bully your way through. On the slopes, you simply can't. Heavy machinery, saturated clay and gravity are three parties I prefer not to introduce.

So, we wait for blackgrass, while simultaneously hoping the rain waits for us. This is farming's particular form of insanity: wanting it to rain desperately in June and regarding the same substance as a personal attack in late October.

Still, there have been moments of joy. Some of them, appropriately enough, came from those stubborn sunflowers. We opened the farm and invited local people to come and pick them, raising money for our village church. After months of looking at the crop primarily in terms of moisture, yield, seed and pigeons, it was rather wonderful to watch families walking through the fields, carrying armfuls of enormous



yellow flowers. There is probably a lesson there about the difference between agricultural value and actual value.

Then, more recently, we welcomed a metal-detecting group onto the farm for a weekend. I always enjoy visitors such as these because farming gives you an unusual relationship with history. We work the same land year after year, but only the top few inches are normally visible to us. Beneath them is an archive which nobody has catalogued. Coins emerge. Buckles. Buttons. Pieces of metal, which briefly cause great excitement before someone identifies them as part of a Victorian hinge.

This time, among the finds, were several tiny bells. They were livestock bells, apparently of the sort worn by sheep in the 1600s. Before GPS collars, electric fencing and WhatsApp groups, a shepherd's technology was rather more straightforward. A bell helped him know where his sheep were. He could hear one straying, caught in brambles or moving when it shouldn't be. And, perhaps more importantly in less law-abiding times, he might hear the sudden activity associated with someone attempting to make his flock smaller and theirs larger.

One of the bells was carefully cleaned. Then somebody rang it. It was a tiny sound. And for me it was the best thing we found all weekend. Because that sound had last rung across these fields perhaps four centuries ago. A shepherd would have heard it while standing somewhere I now stand. The hedges would have been different. The fields were probably smaller. There was no A1, no combine, no nitrogen fertiliser, no BYDV variety debate and certainly no five-day weather app being refreshed every 20 minutes. But there were crops to grow, sheep to find, weather to worry about and people wondering whether this year would be better than the last. For all the technology we pile onto farming, some things don't change very much.

We spend a lot of time now talking about resilience. Resilient soils. Resilient rotations. Resilient varieties. Resilient farm businesses. Perhaps resilience is less glamorous than we sometimes make it sound. Perhaps it is a sunflower sitting still through a dry spring, refusing to die until the rain eventually comes. Perhaps it is rye simply growing taller than the weed beside it. Perhaps it is waiting another week to drill wheat, while staring nervously at a black cloud over Northamptonshire. Or perhaps it is just a little bell, buried in a Cambridgeshire field for four hundred years, which – after everything that has happened above it – can still ring.





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HOW LEAFHOPPERS SPREAD WDV



Jason Pole explains how Wheat dwarf virus (WDV) spreads in cereals, the main symptoms and management options.

With increasing reports of WDV in UK cereals, there's a push to understand the true extent of the disease. The virus was first identified and classified in the 1980s, when disease incidence was increasing in several mainland European countries, especially in wheat and barley crops. The virus wasn't recorded in the UK until the early 2010s

Like many virus diseases, issues are often sporadic, highly localised and associated with a wide range of yield losses. For example, Sweden has been hit particularly hard, with average winter wheat yield losses ranging from 35% to 90%.

Disease vector

The disease is thought to be almost exclusively spread by the *Psammotettix alienus* leafhopper, which resides in grasslands and croplands. Although *P. provincialis* can also spread WDV, it has not been recorded in the UK.

Psammotettix is a large genus of similar species, which makes them difficult to identify (even by entomologists). The species was spotted at sites in Cambridgeshire in 2014. However, it is very likely to have been in the UK for many years before this. Like other leafhoppers, *P. alienus* adults are small (about 2 to 4 mm long), with adults of this species having elongated brownish-yellowish bodies.

In general, insect-transmitted viruses are benefiting from the warmer temperatures we are seeing more often because of climate change. Certainly, the leafhopper vector is increasing its range and is active for longer during the year.

Although we don't know the precise UK distribution, coordinated crop sampling and laboratory testing (by members of the Association of Independent Crop Consultants, AICC) confirmed the presence of WDV in 63 winter barley and 19 winter wheat crops suspected of having the virus in spring 2026. These crops were spread from Yorkshire to Berkshire (North to South)

and Norfolk to Oxfordshire (East to West). Most infected crops were in East Anglia.

During the 2026/27 cropping season, we are helping to fund further monitoring to understand the significance of this emerging disease threat.

Virus spread

WDV is caused by the virus *Mastrevirus hordei*. Cereal volunteers and grasses can act as virus reservoirs. The virus is taken up from infected plants by the leafhopper's salivary glands. It does not replicate inside the insect and can be passed on in a few minutes.

High leafhopper population densities can occur in September. Primary infection occurs when adults migrate into fields with newly emerging cereal plants in the autumn. Although there are WDV strains with strong host preferences for either wheat or barley, they can infect both crops. The virus has also been detected in other cereals (e.g. triticale and rye) and some grasses (e.g. perennial rye-grass). Oat dwarf virus (ODV) is now classified as a distinct species (*Mastrevirus avenae*). It isn't clear if oat also hosts WDV.

Cooler temperatures reduce leafhopper activity, even more than aphid activity, and cold temperatures, especially sustained frosts (less than -5°C), kill leafhopper adults, so the species only overwinters as eggs. As a result, primary infection is more significant than secondary infection, which contrasts to BYDV.

When temperatures warm, new nymphs and adults can cause secondary spread in the following year. Cereals are likely to be susceptible to WDV infections until stem elongation. Typically, one to two generations are recorded in the UK, although up to four may occur.

Symptoms

Cereal symptoms include:

- Poor rooting
- Severe dwarfing/stunting



Psammotettix alienus leafhopper (c) Dewar Crop Protection

- Tiller death and bushy growth
- Leaf streaking and yellowing, but also reddening in winter wheat
- Delayed ear emergence
- Plant death in extreme infections

As leafhoppers readily move between plants, symptoms often spread in small, peppered patches across the field. This sets it apart from other major cereal viral diseases, including BYDV, which often form in relatively large, distinct patches.

At the plant level, cereal viral diseases often look similar and mixed infections may also be common. WDV infections can also be mistaken for symptoms of drought and nutrient deficiency.

High-risk factors

- Cereals sown after hot, dry summers, which favour leafhoppers
- Presence of green bridges and nearby grassland
- Early sown cereals, which exposes vulnerable young plants to leafhoppers for longer



WDV in a seed crop of hybrid winter barley (c) AHDB

- Warm autumns, which promote longer feeding activity

Management

There are no UK plant protection products authorised to control the leafhopper vector. Highly-mobile leafhoppers are also hard to target. As a result, cultural control is critical, with many techniques similar to those used to manage BYDV:

- Avoid growing susceptible cereals in areas with a recent history of the disease
- Manage green bridges that transfer leafhoppers/virus to new crops
- Drill crops as late as possible
- Grow resistant/tolerant varieties, when available

Varietal tolerance

The identification of WDV-resistant germplasm in wheat and barley accessions has been a focus of plant breeding in mainland Europe for several decades. However, we have only recently started to unravel the genetic basis of reduced sensitivity.

The Recommended Lists for cereals and oilseeds (RL) includes information on resistance/tolerance to some viruses, including WDV. Such characteristics are based on breeders' claims, which are not verified in RL trials. Accepted claims are associated with clear genetic markers

that allow breeders to verify if a variety has inherited the trait.

In RL 2026/27, only one winter barley variety has this specialist trait for WDV: SY Kestrel, which was first listed in 2025. To date, only partial resistance has been identified in some winter wheat varieties in mainland Europe. The next RL edition (2027/28) will be published online on 30 November 2026.



BYDV symptoms (red tipping of upper leaves) in winter wheat (C) AHDB

The other virus (BYDV)

We also need to talk about BYDV. There were many reports of the disease in harvest 2026 crops. It has become more problematic for many reasons, such as:

- The withdrawal of neonicotinoid seed treatments in 2018
- Higher temperatures that favour aphid development and flights
- A relatively high number of aphids that carry BYDV, especially last autumn
- Sustainable Farming Incentive (SFI) payments that reward no insecticide use
- Pyrethroids slotted in with herbicides that target weeds, rather than aphids
- Moderate levels of resistance to pyrethroids in many grain aphids

In August, we launched our new BYDV tool, which was covered in the July edition of Direct Driller magazine (page 38). It considers many more risk factors than the T-sum tool, which measures aphid development, rather than BYDV directly.

The BYDV tool considers:

- Local temperatures, including historic, actual and forecast data
- The number of aphids flying
- The proportion that carries virus
- Local risk factors, such as surrounding land use
- The relationship between infection and yield and financial losses in susceptible varieties

The inclusion of aphid data is a major advance over the T-sum tool, which assumes that virus-carrying aphids are present at crop emergence or after a spray.

As it puts crop economics at its heart, you can make informed sowing-date and risk-based spray decisions for BYDV-susceptible varieties.

Our research shows that using it, alongside local knowledge, can reduce the number of insecticide applications and protect more yield than the T-sum tool when BYDV is present.

Access our resources on WDV, BYDV and other viruses of cereals and oilseeds at: ahdb.org.uk/crop-viruses

FARMER FOCUS

ANNA JACKSON



Lambing in January

I've started this article three times already because I'm at a slight loss for words as to how to summarise the last harvest year. Mainly because it's been a challenge (to say the least), with a mixture of extreme weather, very messy samples, and me personally expecting my own little lamb in January.

Just as in pregnancy, I thought that trimesters would be the best way to split up the year:

April – June:

This first trimester was lovely at the start, with great rainfall and plants thriving. We were very lucky to get a big dump of rain when many didn't. This was the moment when I thought I'd basically completed farming. Obviously, I was in for a shock realisation later on in the year. Last year we had a fair amount of wheat in the ground, grass for seed, a smattering of oats and SFI to mitigate financial risk.

July – Sept:

The second trimester was a challenge in many ways, bringing drought and worry. The weirdest moment was



harvesting grass when the seed was not registering correct moisture, but the grass itself was falling off the plant. We ended up harvesting anyway and having to dry it in the shed. Normally grass is a pretty simple crop to harvest, but this year has thrown many a curveball. I don't think we have lost money by drying, but it wasn't a cost I really wanted to pay.

Wheat was also a strange one. We managed to hit protein, which was my main goal for the year, and I'm pretty chuffed about that. However, our protein could potentially be too high. This has befuddled me because you can have a perfect crop all year, but as per usual, the weather dictates the outcome. The margins seem to be becoming smaller for the regen market, and this personally adds a lot of stress. I was so excited to receive the results back that we had achieved

protein, and then felt quickly deflated when it was "too high".

Oct – Dec:

The third trimester was/is proving to be limiting in many ways. I was happy overall with the yield on the wheat and oats, mainly because with the drought I thought it would be a lot worse. I'm also happy with the oat price this year, although it can always be higher. I really wanted to grow bread wheat for the first time on the farm since my grandpa was a farmer. However, it actually makes more financial sense to sell it for feed even though it has hit protein. It seems the infrastructure isn't there for selling bread wheat locally, and the feed wheat price might be too good to pass up. I need to remind myself there's always next year, a recurring theme around here.

I am also getting physically larger,



The crops ended up in the shed, and the baby is being born at the quietest time in the farming calendar – giving myself a pat on the back for that one.

We had an unexpected visitor: Stephen Morgan MP (the parliamentary under-secretary of state at Defra) visited the farm recently. We showed him the outdoor pigs, the herbal ley recently drilled and the self-shedding sheep, plus how the fencing grant has helped us reduce chemicals by grazing with sheep. I told him the pros and cons, but also the massive obstacles I've had to overcome. We then held a roundtable with farmers and gave him realistic feedback on the SFI, which has hopefully made a difference; there were lots of unhappy farmers in the room, as you can imagine. A more regular rollout of SFI money and the inheritance tax were mentioned – something I'll always have on my mind.

Dates tbc:

I think the fourth trimester (which is often not talked about) is going to be my most challenging yet: managing a farm and a baby. If anyone has any tips, it would be appreciated! I plan on two months' maternity leave (probably coming back earlier to check sheep if possible) and then I'll give spring drilling a go. It could all go horribly wrong, but you don't know if you don't try!

which is a limiting factor when working with the flock. For the last six years, I've tried to reduce chemicals each year, and so far I've been successful. I don't (touch wood) have foot issues anymore, after years of culling any that have, and my fly strike generally has been reducing, due to mixing in a self-shedding ram. But this year has thrown complications, including bluetongue and more fly cases than we've ever had. Usually, I would keep a close eye and not use CLiK where possible, but I cannot flip sheep at the moment, and the safety of the flock will always take precedence. So, treatment it was. We are yet to vaccinate against bluetongue, something that weighs heavily on my mind. I am hoping the weather will get colder and we can avoid it, but you just never know.

I am on the home stretch of pregnancy (the end is in sight!). I know that among the arable farming community, I am part of a small

collection of women who actually experience this; something which makes me feel really proud. I like to think that I've managed both growing a baby and acres of crops pretty well.



THE POWER OF BALANCED NUTRITION

WHY POLY4 IS GETTING HARDER TO IGNORE

A major global meta-analysis suggests that combining sulphur, potassium, magnesium and calcium can deliver consistent improvements in crop performance across diverse farming systems.

When a yield response shows up once, it is easy to brush it off: a good season, a good field, the right place at the right time. But when the same numbers keep appearing across different crops, soils and years, it becomes harder to ignore.

That is what growers and agronomists are reporting with POLY4, a naturally occurring granulated polyhalite fertiliser, found 1,800 metres under the North York Moors National Park.

Earlier this year, a large piece of scientific research was published, looking at how POLY4 performs across a wide range of conditions. The global meta-analysis was developed with independent statistical analysis and agronomic scrutiny from ADAS, one of the UK's leading independent agricultural research organisations.

Researchers brought together results from 921 field trials over 10 years, covering 47 different crops in 33 countries.

Fertiliser programmes including POLY4 improved crop performance compared with standard NPK approaches, with average yield responses in the three to five per cent range.

Across the trials, POLY4 fertiliser programmes outperformed conventional fertilisers, with average yield increases of 6.6 per cent over NP and 3.2 per cent over NPK controls. Where crops were responsive to



potassium and sulphur, the response rose to 12.2 per cent over NP and 4.8 per cent over NPK.

For farmer Clive Bailye, those findings reflect what he has seen in his own fields. He first trialled POLY4 three years ago and says the results quickly influenced his approach: "We've run a lot of trials here and tested a lot of products, and most tell you very little in a single season. POLY4 was different. The results in year one were so strong that we adopted it as standard practice across our combinable crop acreage the following season, and we've used it every year since."

He adds: "It suits our soils particularly well and spreads evenly at 36 metres. Most importantly, it has shown a clear margin over its cost. That is the test any input must pass here, and POLY4 passes it comfortably."

The significance lies not in one standout result, but in the repeated response across different farming systems and growing conditions. Large, long-term datasets are uncommon in crop nutrition, and the findings are prompting discussion well beyond academic circles. Agronomists, advisers

and growers are looking more closely at what the results mean for real farming systems, particularly those focused on improving efficiency rather than simply increasing inputs.

Scott Yarwood, UK sales manager for Anglo American Crop Nutrients, says the way growers are responding to POLY4 reflects the amount of evidence now available.

"Growers are under pressure to make every input work harder," he says. "The conversation is becoming less about pushing yield at any cost and more about understanding what genuinely improves efficiency and resilience within the system."

"When evidence comes from hundreds of trials across different soils and cropping systems, it gives people



the confidence to weigh it up and decide whether it's right for their own farm."

Scott says: "More of the conversations we're having now are about what is limiting crops, rather than what else can be added. Sulphur keeps emerging as one of the nutrients that quietly limits performance, particularly where systems are relying on lower disturbance systems and tighter nitrogen use."

"Growers are often doing the right things with nitrogen, but the response just isn't there. When you look closer, sulphur is frequently part of the picture."

Sulphur is essential for crops and is closely linked to how well nitrogen is utilised, but it is also easy to underestimate. What used to come quietly from the air no longer does. In lower disturbance systems, nutrient cycling and availability can behave very differently from conventional cultivation systems. Sulphur is highly mobile and may have leached over winter, or be present in the soil, but not always in a plant-available form.



For many farmers, nitrogen can look right on paper, but yield is lost quietly because the efficiency isn't happening.

This theme also runs through the recent Future of Fertiliser report, commissioned by Anglo American and compiled in 2025 from interviews with 74 industry experts. Its clearest message is that future gains are less likely to come from applying more, and more likely to come from improving balance, timing and nutrient use efficiency.

One reason polyhalite is generating interest is that it supplies several nutrients together, including sulphur, potassium, magnesium and calcium. It is not trying to fix one nutrient at a time; it is focused on balance. The large global



study suggests that this combination, rather than any single nutrient on its own, helps explain why the same yield response keeps showing up across very different conditions.

More recent research has also looked at polyhalite and nitrogen loss. When polyhalite was used alongside urea and a urease inhibitor, ammonia losses were reduced, particularly in alkaline soils where losses are usually higher. In practical terms, more nitrogen remained available to the crop rather than being lost to the atmosphere.

As interest in the research grows, the focus is increasingly on sharing what it means in practice.

"We continue to be present at key events as growers want to understand how POLY4 fits into their system, not just see the numbers. It's important that people can talk things through properly

and see what it might look like at their farm gate," adds Scott.

Taken together, the research points to more efficient nutrition programmes: better nutrient balance, stronger sulphur availability and fewer losses.

None of this removes the need for good agronomy; soil, weather and management still matter. But when the same results keep appearing across hundreds of trials and many different growing conditions, it is usually pointing to something fundamental.

For growers who have already addressed many of the larger changes, the next opportunity may lie in turning to the smaller efficiencies that influence resilience and nutrient use over time. This is where POLY4 could play a role, as part of a broader move towards more balanced and efficient fertiliser programmes.



AGRONOMIST IN FOCUS...



LISA HAMBLY

DROUGHT LESSONS: BUILDING BETTER FORAGE RESILIENCE FOR 2027

What the 2026 season has taught us about ley longevity, soil health and making every nutrient count

By Lisa Hambly

The 2026 growing season again exposed how vulnerable forage production is to extreme heat and limited moisture. After the drought of 2025, many farms hoped to rebuild stocks; instead, resilience has become an immediate priority.

The lessons go beyond rainfall. Ley condition, species choice, soil structure, nutrient balance and timing all influence how grassland withstands stress, and recovers.

The answer is not simply more inputs, but understanding each field, protecting soil function and using nutrients where they will deliver a return.

Start with the condition of the ley

Younger, productive leys have generally recovered faster after cutting, and used nutrients more effectively than older, tired swards. However, soil type,

rooting depth, drainage, species mix and management all affect performance.

A useful ley assessment should combine what can be seen above ground with what is happening below it. Look across the whole field rather than judging from the gateway. Note gaps, weed grasses, uneven growth and areas that recover slowly after cutting or grazing. Then, dig a few small inspection holes to check rooting, aggregation, worm activity, smell and moisture movement. A ley may look acceptable from the tractor cab, while shallow roots or a compacted layer are already limiting its ability to cope with dry weather.

Species choice matters. This season, perennial ryegrass and multispecies leys have generally coped better with extreme heat than short-term leys dominated by Italian ryegrass.

Italian ryegrass remains useful where



rapid establishment and high short-term output are priorities, particularly after maize or cereals. For longer-term leys, balance yield with persistence and recovery.

Multispecies mixtures can provide deeper roots, greater diversity and a wider spread of seasonal growth, but they must suit the soil, intended use and management.

Classify fields as retain, improve or renew. Before reseeding, identify and correct drainage, compaction, pH or nutrient problems so the new ley does not inherit the same constraint.

Renewal should therefore be a planned decision, not an automatic reaction to one difficult season. Where the base sward is sound, correcting pH, relieving a localised constraint or overseeding may restore production at lower cost and with less soil disturbance. Where desirable species have largely disappeared, weeds dominate or





structural problems are widespread, a full reseed may be justified. Matching the response to the cause protects both the budget and the soil.

Protect the soil before winter

Late grazing can add valuable dry matter, but poaching wet soils may reduce production well into the following year.

Focus on gateways, troughs, feed areas and busy routes. Use back-fencing, move temporary feed or water points and avoid grazing when soils cannot carry stock.

Small changes can protect vulnerable ground without ending the grazing season. Shorten grazing bouts, use larger breaks, provide several access points where possible and move stock before repeated treading turns the surface into mud. Sacrifice areas can be useful, but they should be chosen deliberately and repaired promptly. The aim is to harvest grass while preserving pore space, infiltration and rooting for the following season.

Where compaction is suspected, establish its depth and cause before acting. Slitting may help surface compaction in suitable conditions, but not severe compaction or poor drainage. Avoid remedial work when machinery would cause further damage.

Apply nutrition when the plant can respond

Nutrients need moisture to move through soil and enter roots. During drought, uptake and crop demand both

fall, so an application may give little return.

Plan nutrition around soil moisture, likely rainfall, active growth and expected response – not the calendar alone. Treat slurry with the same discipline: know its value, apply it accurately and target responsive fields.

This approach also improves operational flexibility. Rather than treating every field alike, prioritise those with moisture, leaf area and a realistic yield response. Delay or reduce applications where growth has stopped and reassess after rain, rather than assuming the original plan still fits. On variable farms, splitting applications can reduce risk and allow later decisions to reflect actual crop demand.

Identify the real limiting factor before adding fertiliser. Drought, compaction or poor drainage cannot be corrected with more nutrients. Autumn fresh-grass results have also shown high nitrogen where more was still being applied; in some cases, sulphur or another nutrient may have offered greater value. Soil analysis, supported where useful by SAP or tissue testing, helps target spend and avoid unnecessary inputs.

Account for every nutrient entering the farm

On livestock farms, repeated slurry and manure applications can supply substantial nutrients. Potassium may accumulate, encouraging luxury uptake and restricting magnesium and calcium utilisation, leaving forage mineral balance out of line.

Bought-in feeds, forage and mineral supplements also import phosphorus, potassium and other minerals. Include them in the whole-farm nutrient budget to avoid buying nutrients already in surplus. Regular slurry and manure analysis is central to this planning.

Resilience is built before the next drought

The starting point is a simple nutrient inventory: what enters the farm, where it is stored, which fields receive it, and what departs in milk, meat or crops. This does not need to become an academic exercise. It should highlight fields that repeatedly receive slurry, fields with rising indices and feeds that bring large

mineral loads. That information can then guide manure allocation, fertiliser purchases and forage planning.

Use soil analysis for field decisions, SAP or tissue testing to investigate crop uptake, and full silage mineral analysis to understand nutrient cycling through the farm.

Testing is most valuable when the results change a decision. Sample consistently, compare trends over time and discuss unusual results across the agronomy and nutrition teams. Linking soil, crop and forage information can reveal whether a problem begins in the field or later in storage and feeding. It also gives farmers a stronger basis for deciding where the next pound spent will produce the greatest benefit.

Five priorities for spring 2027 – and the work starts now

1. **Assess every ley.** Rate each field: red to renew, amber to improve or overseed, and green to retain.
2. **Protect soil structure.** Prevent poaching in high-traffic areas and address drainage or compaction when soil conditions are suitable.
3. **Choose the right ley for the job.** Match species and mixtures to soil type, intended use, length of rotation and management.
4. **Test before treating.** Use soil analysis to guide nutrient decisions, supported where useful by grass SAP, tissue, silage, slurry and manure analysis.
5. **Time nutrition to conditions.** Consider soil moisture, rainfall prospects and active plant growth. Account for slurry, manure, bought-in feed and forage so that every nutrient application has a clear purpose.

Resilient grassland management means keeping soils covered and functioning, maintaining living roots, improving nutrient cycling and acting on field evidence. These principles help protect output, control costs and speed recovery after dry weather.

WHY THE UK'S NEW FRAMEWORK DEMANDS A NEW APPROACH TO NATURE DATA

Written by Pippa Howard - Chief Nature Strategist, NatureMetrics

The UK government's Land Use Framework (LUF), published in 2026, is the most significant reshaping of land management policy in a generation. For the first time, the country has a strategy that explicitly asks land managers, developers and planners to balance multiple outcomes like food production, nature recovery, carbon capture, flood management and public wellbeing as interconnected and co-equal goals. For organisations that are working at the interface, the opportunity is significant, but a gap remains between the ambition of the LUF and the quality of ecological intelligence being used in practice.

What is the Land Use Framework

The principle at the heart of the LUF is multifunctionality; in other words, land must serve more than one purpose. How land is used depends on a deep understanding of local contexts, including ecological, social and economic factors. The framework is also explicit that land use choices must remain adaptable under uncertain futures, accounting for rising sea levels, shifting rainfall patterns, and overlapping pressures on floodplain management and food production. Designs should enable transitions like seasonal or rotational land uses, dynamic zoning, and nature-based solutions that can scale with risk.

The LUF recognises that ecological health is very important, whether in the context of farming, rural and urban development, nature recovery or other land uses. You can't plan for multiple outcomes on the same piece of land without first understanding what's already there. For example, a floodplain that also supports nature recovery and low-intensity farming is only possible if we know what lives there, how habitats are connected and what the ecosystem can sustain.



Pippa Howard - Chief Nature Strategist, NatureMetrics



This is a big shift from how nature has historically been treated in land use decisions, often looked at as a constraint to be managed or a box to be ticked. The UK's Nature Security Assessment, released in January 2026, provides an economic edge. It states that ecosystem degradation poses macroeconomic risks comparable to major financial crises, and the country's food, supply chain and infrastructure security all depend on nature remaining functional. The LUF and the Nature Security Assessment together make a very clear point: understanding and investing in ecological health is no longer optional.

The data gap

Acknowledging this challenge is necessary, but resolving it ultimately

requires robust data. The LUF explicitly acknowledges the need for better data generation, management and access strategies. It calls for integrated data platforms, standardised metrics and improved access for local decision-makers to evaluate trade-offs and monitor outcomes. In this, the LUF recognises that the datasets needed to plan and manage land effectively are currently scattered, often incomplete, and difficult to act on.

For nature specifically, this means moving beyond species lists and broad habitat classifications towards more granular biodiversity data that can actually inform planning decisions. Without this, ecological monitoring remains a nice-to-have rather than the evidence base on which the framework is built.

Closing the ecological data gap

The technology to close this data gap already exists. Technologies like environmental DNA (eDNA), which detects traces of genetic material left by organisms in water, soil and air, as well as geospatial monitoring or acoustic measurement of species, known as bioacoustics, are now capable of generating exactly this kind of insight. This can be done rapidly and in a cost-effective manner without the need for traditional ecological surveys. Companies like AgriSound, which specialises in bioacoustics, or NatureMetrics, which uses eDNA to assess nature-related risk, are working to make these tools readily available. This will enable businesses to assess the impacts of land interventions, habitat restoration and connectivity in a scalable and standardised way, while generating the biodiversity data that the LUF explicitly calls for and informing planning and land management decisions.

This matters not just for compliance, but for the emerging nature markets that the LUF aims to strengthen. Biodiversity Net Gain (BNG), already mandatory at a 10



per cent uplift, will be more strategically targeted as the Framework embeds it within Local Nature Recovery Strategies and national biodiversity priorities. For landowners, this brings clearer signals about where habitat creation is most valuable. For private investors, it reduces the spatial uncertainty that has historically constrained risk pricing and efficient capital allocation. For companies managing risk across multiple sites, portfolio-wide monitoring – combining eDNA-derived species data, geospatial data layers and AI modelling – will enable assessment of nature-related

risk exposure, tracking progress against goals and demonstrating compliance. But nature markets are only as strong as the evidence base that underpins them, and that evidence base starts with credible, robust understanding of the state of nature.

Putting the framework into action

The LUF sets a new expectation for how land is understood, planned and managed, and those expectations can only be met with the right data infrastructure behind them. Companies that invest early in tools like eDNA can make smarter, faster decisions to avoid harm, reduce environmental and reputational risk, avoid costly delays and unlock nature-positive outcomes. Whether you are a farmer, a developer, a local authority or a private investor, the framework does not need to feel like a burden. Investing in biodiversity monitoring that can meet these higher expectations can make for cleaner planning, better access to private finance, stronger alignment with regulatory requirements, and a demonstrable contribution to the nature recovery the country urgently needs.

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HORIZON

FARMER FOCUS

TIM PARTON



Well, with another challenging year for farming, our focus now turns to the year to come! The threat of a super El Niño is on everyone's lips, so what do we do to cope?

Give up farming? Maybe the easy option, but we farmers don't normally do that naturally, so we need to put plans in place to be able to survive these testing times. Staying in business must be the number one priority. On smaller farms this may mean simplifying things, to free up time to work off farm! Shock, horror, the looks that will be on some people's faces reading this, but needs must. We are in such uncertain times that hard decisions must be made to keep the wolf from the door. In a changing, technology-driven, political world, nothing is certain and it's foolish to doggedly keep going, believing things will get better one day. It certainly won't tackle the problems we are currently facing. I do believe that things will turn around, but we are far from that at this present time, so we need to put plans in place for a successful future.

Carbon and soil health will obviously be top of my list; look after your soil and in return it will look after you. The key factors remain the same: getting carbon back from cover crops, while roots and root exudates feed carbon directly into the soil; compost brings with it stabilised organic matter and microbial biodiversity; biochar gives you a long-term carbon structure that holds water and microbes but always needs charging with nutrients before use; rock dust remineralises soils while feeding biology and building humus.

The most important way of ensuring soil carbon is photosynthesis, which nature has been using to store carbon ever since she invented the enzyme rubisco. So why not use the most efficient system available to us to get



carbon back into our soils, and to help store more water for these difficult times? It's another reason for keeping soil covered and soil disturbance to a minimum. Having the right microbial community really increases carbon fixation on the front end of the system and reduces respiration losses on the back end – "simples!"

A lot of wheat has been drilled early, in fear of the weather changing and conditions becoming undrillable.





We are the premier organisation, dedicated to promoting independent, farmer-led, regenerative agricultural knowledge across the UK.

Our mission is to enhance soil health, increase biodiversity, and support businesses by embracing sustainable farming practices that benefit both farmers and the environment.

BE PART OF THE BASE-UK COMMUNITY

There's a lot happening across the BASE-UK community at the moment, and it's a great time to be part of a network that brings farmers, researchers and others from across agriculture together to share ideas, experiences and knowledge.

2027 BASE-UK ANNUAL CONFERENCE takes place on 10th and 11th February at the Delta Hotel by Marriott, Huntingdon, with the theme: **Farming in the Extremes – Making the Best of your Natural Resources.**

We have another great programme lined up, bringing together BASE-UK farmer members, researchers and speakers from across the UK and internationally.

This flagship event is unmissable and about much more than presentations. It's two days of discussion and knowledge sharing with like-minded people – farmers comparing experiences, researchers sharing their latest findings, and plenty of opportunity to ask questions and continue conversations over dinner.

We are delighted that Tees Law is once again supporting the event. Their continued sponsorship has enabled us to hold conference ticket prices at last year's rates.

If you're already part of BASE-UK, we hope you'll join us. If you haven't been to our conferences before, this is a great opportunity to come along and find out what BASE-UK is all about.

Details on www.base-uk.co.uk



CELEBRATING OUR MEMBERS

We were incredibly proud to see **two BASE-UK members recognised at the 2026 Farmers Weekly Awards.**

Colin Chappell was named **Environmental Champion of the Year**, and **Joe Cluley** was named **Arable Adviser of the Year.**

Congratulations to both Colin and Joe – we are very proud to have you as part of BASE-UK.

Their achievements are a great example of the knowledge, experience and innovation within our membership.

FINALISTS FOR THE BRITISH FARMING AWARDS

The **British Farming Awards** celebrate farmers, agricultural businesses and individuals making a difference across the industry.

Once again, the finalists for this prestigious event features BASE-UK members. **Russ McKenzie** and **Philip Rowbottom** for **Arable Farmer of the Year**; **David Wheatley** for **Content Creator of the Year.**

Congratulations, whatever the results. Enjoy the night!

Quarterly newsletter! - To subscribe, email rebecca@base-uk.co.uk or visit our website and follow the link.

WHY BE PART OF BASE-UK?

Being a BASE-UK member is about being part of a farmer-led network where knowledge is shared openly and conversations continue beyond the farm gate.

There is no one-size-fits-all approach to farming, and that's one of the things we value about BASE-UK. Our members farm in many different ways, but share a willingness to learn, question, experiment and share what they are finding.

If you're not yet a member, we'd love you to join us and become part of the conversation.

For more information about how to join visit our website
www.base-uk.co.uk or scan the QR code





Due to the dry conditions, much of the nitrogen has been carried over from the last crop. This will cause problems in many of the following crops, since they will take in all that nitrate and not have the balanced nutrition needed to convert excess nitrate and sugar into amino acids and on into proteins. Without the correct nutrition, this food source is perfect for the praying aphid. When the plant is not converting nitrogen fully, the “food” sits in the phloem,



accumulating free amino acids, which aphids detect from a distance. Ever wondered why one field gets attacked and a neighbouring field doesn't?

Weather can also affect the whole process (such as photosynthesis and a lack of sunshine), but nutrition is always my first go-to, as I have proved many times. As a society, we are always so eager to treat the symptom, rather than looking at the cause. At the time of writing, most of the country is still in a drought situation, with a lot of crops struggling with stress, causing problems that we can do little about without water! The perfect storm against farming continues.

On a brighter note, The Green Farm Collective, along with Eurostar Commodities, had a fantastic few days at our first British Regenerative Farming Week, something that we should all be celebrating and be proud of. The event brought farmers, bakers and consumers together to celebrate the achievements of regenerative farming, from improving soil health to putting nutrient-rich food on the plate of the consumer, along with all the other benefits it can bring for our wonderful planet. We had a great open day at Michael Kavanagh's farm, where we hosted many London bakers who were interested to see the benefits that regenerative farming can bring; they were very impressed with how good our RISE flour is! The flour will be used at the National Pizza Awards in London during November, and I look forward to tasting the winning pizza with pride. This is the real joy: following that wheat crop from seeding to the dinner plate, while being able to supply the whole story of production and why and how that flour was produced.



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WHY NOW IS THE TIME TO ESTABLISH YOUR **SOIL CARBON BASELINE**

There is plenty of discussion about carbon markets in farming, and understandably, farmers have questions about how the market works, whether it will last and what the opportunity really means for their businesses. But uncertainty about the market shouldn't stop farmers from taking one important step: establishing a robust soil carbon baseline.

As Matt Jordon, Chief Scientific Officer at Regenerate Outcomes, explains, a baseline gives farmers a starting point from which changes in soil carbon can be measured, while keeping future options open.

Regenerate Outcomes provides soil carbon baselining and measurement at no upfront cost, alongside mentoring to help farmers build soil health, improve performance and increase resilience and profitability.

Why establish a baseline now?

Carbon credit markets have existed since the 1990s, but they remain relatively new to many farmers. It is therefore understandable that there is uncertainty about the role agriculture can play and the opportunity available.

When it comes to soil carbon, however, the principle is straightforward.

If you are adopting practices designed to improve soil health and increase soil organic matter, establishing a baseline allows you to measure whether those changes are actually increasing the amount of carbon stored in your soil.

Without a reliable starting point, it becomes much harder to demonstrate what has changed over time.

This is particularly important because building soil carbon is a long-term process. The sooner a robust baseline is established, the sooner you can begin tracking changes and building a record of what is happening on your farm.

Importantly, establishing a baseline does not commit you to selling carbon credits or entering the carbon market.

Don't waste money on an inadequate baseline

Not all soil carbon measurements are the same.

If you are going to establish a baseline, it makes sense to ensure that the data is robust enough to remain useful as the

market develops.

A baseline that follows an internationally recognised methodology and is compatible with independent verification can help keep future options open. It also provides greater confidence that changes measured over time are real and can be properly accounted for.

This is why it is important to look beyond simply obtaining a soil carbon figure. Farmers should consider how the samples are taken, the depth measured, the methodology used and whether the approach is compatible with the standards likely to be required if carbon is eventually monetised.

Measuring carbon in soil

Soil organic matter is approximately 50% carbon by weight. So, as a simple illustration, soil containing 4% organic matter may contain around 2% soil organic carbon.

However, measuring a change in the percentage of carbon is only part of the picture. To understand how much carbon is being stored, measurements need to be converted into a carbon stock; changes in soil carbon stock over time are then used to assess carbon sequestration.

Carbon is converted into carbon dioxide equivalent (CO₂e). By weight, one tonne of carbon represents approximately 3.67 tonnes of CO₂.

This conversion is necessary because one carbon credit is equal to one tonne of carbon dioxide equivalent removed from the atmosphere.

Establishing a baseline at no upfront cost

A rigorous baseline is the starting point for demonstrating changes in soil carbon over time.

It may also become increasingly useful beyond carbon markets. As supply chains, regulation and environmental



reporting develop, farmers could face growing demand to quantify aspects of their environmental performance, including carbon.

At Regenerate Outcomes, we provide soil carbon baselining and measurement at no upfront cost.

Our soil health mentoring team works with farmers to develop practical management changes designed to improve soil health, productivity and resilience. Where those changes result in increases in soil carbon, the resulting data may also support the generation of carbon credits, subject to the relevant methodology and verification requirements.

We work with Agricarbon to measure soil carbon using physical soil samples taken to a depth of 60cm. This approach is designed to meet the requirements of higher-quality carbon verification schemes.

For farmers, the message is simple: you don't have to decide today what the carbon market will look like in five or ten years. But if you want to keep your options open, you need to know where you are starting from.

Establishing a robust soil carbon baseline now is essential if you want to be rewarded for increasing the carbon stored in your soil. Without one, you can't claim any future increases.

Register your interest in joining the Regenerate Outcomes programme by 20th November to get your baseline from spring 2027.

www.regenerateoutcomes.co.uk/baseline

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Where farming starts

FARMER FOCUS

HEATHER OLDFIELD



The farming year that never went to plan

"Indeed in 2016 US farm production accounted for 0.7% of the country's GDP (BEA2018) – but the economist argument is as illogical as it is infuriating. My suggestion: just let them live off output (whatever it might be) of the most important sector, which now accounts for more than 20% of GDP, the category labelled by the Bureau of Economic Analysis as 'finance, insurance, real estate, rental and leasing'. Bon appétit."

Vaclav Smil, Grand Transitions

That quote stopped me in my tracks when I first read it.

Food security is a phrase we hear repeatedly from government, politicians and industry leaders. It has become a regular feature of speeches, strategy documents and policy announcements. Yet standing in a field, looking at crops that have endured months of drought, repeated heatwaves and spring frosts, it is hard not to wonder whether we are confusing talking about food security with actually supporting it.

From the farm gate, the disconnect can feel stark.

While policymakers debate the future of farming, those of us on the ground continue with the practical reality of producing food. Crops still need drilling. Cattle still need feeding. Agronomic decisions still need making. The farming calendar continues, regardless of whether government policy keeps pace.

This year has been a perfect example.

On our arable and beef farm, the season never quite followed the script. Between 1 March and the first day of combining in July, we received roughly a third of our normal rainfall. Every weather forecast became an exercise in hope rather than prediction. Rain appeared on apps only to disappear again 24 hours later. Field walks became less about disease risk and more about assessing how crops were coping with the lack of moisture.

As the spring progressed, dry conditions tightened their grip. Crops hung on remarkably well in places, largely thanks to rooting built during previous seasons and what little moisture remained deeper in the profile, but there was a growing sense that everything was operating on borrowed time.

Adding to the challenge were three distinct heatwaves. Each brought fresh concerns. Would grain-fill suffer? Would spring crops continue to develop? How much further would grass growth slow? The colour seemed to disappear from fields almost overnight, and crop potential felt increasingly fragile.

Yet perhaps the most frustrating weather event came earlier in the season. After drilling spring crops into what appeared to be dry but favourable conditions, May delivered sub-zero temperatures just as many crops were emerging. Young plants that should have been pushing away confidently instead found themselves facing frost. As with so many challenges in



farming, there was little to do except wait, assess and hope that the growing point had escaped serious damage.

In many ways, that felt like a metaphor for farming itself in 2026. We plan, prepare and make the best decisions possible with the information available at the time, only to find circumstances beyond our control rewriting the plan entirely.

Farming doesn't pause for politics

Alongside the weather challenges sits another layer of uncertainty: policy.

The past few years have brought wave after wave of change. Support schemes have evolved, disappeared or been replaced. Environmental ambitions continue to grow, yet many farmers are still searching for clarity on how productive agriculture fits into the long-term vision.

Food security is discussed frequently, but meaningful actions that inspire confidence at farm level often feel harder to identify. Long-term investment decisions are difficult when the landscape around you appears to change every few months.

The challenge is that farming operates on timescales very different from politics. A policy announcement can be made in an afternoon. A rotation can take five or six years to play out. Decisions made today may not reveal their full consequences until several harvests from now.

While those debates continue, the day-to-day work carries on regardless.

Seed is ordered. Crops are monitored. Machinery is maintained. Cattle are checked daily. The practical business of producing food never stops to wait for certainty.

The background noise gets louder

What feels different today is not uncertainty itself. Farming

has always involved uncertainty. Weather, markets, pests and diseases have challenged farmers for generations.

What feels different is the volume.

Questions seem to be arriving faster than answers. What will future support look like? How will environmental objectives be balanced with food production? What level of domestic production does the country ultimately want?

Those questions form a constant background noise. Some days they are easy to ignore. Other days they are harder to tune out.

The year that never went to plan

Looking back, it is difficult to identify many parts of this season that unfolded exactly as expected.

The weather challenged crops from emergence to harvest. Plans changed repeatedly. Assumptions made in March looked very different by July.

Yet conversations with other farmers reveal a reassuring truth: very few farming businesses experienced the season they anticipated.

Perhaps adaptability is becoming one of the most valuable skills in modern agriculture. Success increasingly depends not on executing a perfect plan but on responding effectively when the original plan becomes impossible.

The quiet resilience of farming

Despite everything, there remains something remarkably resilient about British farming.

Every seed planted represents optimism. Every investment in soil, machinery, livestock or infrastructure represents confidence in the future. Every harvest, regardless of its challenges, creates an opportunity to start again.

That resilience is rarely recognised outside the industry, but it is visible every day on farms across the country.

Looking beyond the noise

This season has been shaped by drought, heat, frost and uncertainty. Yet combines still rolled. Cattle still thrived. Harvest was completed. Plans for next year are already underway.

That is the reality of farming.

We do not get the luxury of waiting for certainty before making decisions. The crop has to go in. The cattle have to be fed. Whatever political debates are taking place in the background, the rhythm of farming continues.

Vaclav Smil's words resonate because they remind us of a simple truth: food production may account for a relatively small proportion of economic statistics, but it remains the foundation upon which every other sector ultimately depends.

After a year like this one, that feels worth remembering.



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AGRONOMIST IN FOCUS...



LOUISE PENN

LOOKING AHEAD AFTER A SEASON OF EXTREMES

Written by Louise Penn, agronomist at Ceres Rural and farmer's daughter in Northamptonshire

If there is one thing we can agree on this autumn, it is that 2026 is unlikely to be remembered fondly.

After several years of weather extremes, many hoped for a more settled and productive season. Instead, for many businesses across the region, this year has delivered disappointing crop performances, mounting financial pressure and some difficult decisions as we look ahead to 2027.

The latest Ceres Rural Yield Survey highlights the scale of the challenge. Across 275 farms, average winter wheat yield came in at 7.33t/ha, below what many growers would have expected at the beginning of the season. Spring crops performed particularly poorly, with spring wheat averaging less than 3t/ha, spring barley just under 5t/ha and spring oats falling short of 4t/ha.

Break crops have been something of a mixed picture. Oilseed rape continues its gradual resurgence, with cropping area increasing for the fourth consecutive year and average yields reaching 3.71t/ha across 107 farms. In contrast, winter beans averaged just 2.36t/ha, while spring beans struggled even further at just over 2t/ha.

Behind these figures lies a common theme: weather.

Unlike many difficult seasons that are characterised by prolonged wet periods, 2026 has been defined by a lack of moisture. The critical growing period through June and July saw many crops lose yield potential at a point when much of the season's expenditure had already been committed. Fertiliser had been applied, fungicide programmes completed and crops generally looked promising. Unfortunately, the weather had other ideas.

This creates a difficult challenge for growers and agronomists alike. Traditionally, spending decisions are



linked closely to yield potential. The aim is to invest appropriately in a crop that has the capability to deliver a return. However, when that yield potential is effectively removed by weather, after the key spending decisions have been made, it inevitably raises questions about risk management and future investment.

As we move into the 2027 season, cost control is undoubtedly under greater scrutiny than at any point in my career. Most farm businesses are carefully examining every expenditure line and asking whether there is an opportunity to trim costs without compromising performance.

The difficulty is that some costs

simply cannot be avoided.

Grassweed control remains a prime example. Although dry conditions have reduced seed return in many situations, blackgrass and ryegrass have not disappeared. The temptation after a disappointing harvest is to reduce autumn herbicide investment, but history teaches us that allowing grassweed populations to rebuild is a false economy.

That said, this autumn presents its own challenges. Many of the conditions associated with poor pre-emergence herbicide performance have aligned simultaneously. Soil temperatures remain high, seedbeds are dry, rainfall is limited and establishment conditions are variable. In many situations, a more measured approach to pre-emergence spending, then using your better residual chemistry at post-emergence applications when conditions improve, may prove to be the most effective strategy.

Drilling decisions have also become increasingly difficult.

Many growers, myself included, entered the autumn favouring earlier drilling where conditions allowed. The rationale was straightforward: following another dry spring and with continued uncertainty around seasonal weather patterns, stronger rooting and earlier establishment appeared sensible.

However, the lack of moisture has challenged even that thinking. I have visited fields drilled in late September that took almost two weeks to emerge, simply because there was insufficient moisture for

germination. Across Bedfordshire and the surrounding counties, drilling dates that would normally be considered ideal have delivered frustratingly slow establishment.

BYDV has probably been the issue that has challenged my thinking most this year. I've always been a strong supporter of reducing insecticide use wherever possible and helping clients move towards more integrated pest management. I genuinely dislike recommending insecticides, and most of my clients dislike using them.

But after seeing the level of BYDV on some farms this season, I've lost confidence in drilling early and relying on good fortune. If we're going to reduce insecticide use, I increasingly believe the answer lies in drilling later or growing resistant varieties. What I no longer feel comfortable with is drilling early and taking no action; the risk simply feels too great.

We're starting drilling at home today on the family farm. I'd actually wanted Dad to drill a couple of weeks ago, but it felt pointless when there was no rain on the forecast. We managed to catch about 20mm over the last seven days, which is more than many of our neighbours have seen, so we finally have enough moisture to work with.

We've got oilseed rape in the ground, and I'm hoping that rain has arrived in time to pick it up. There are some thinner patches, and we'd been considering spinning on a bit more seed, but there simply wasn't any moisture there to get it going. This afternoon, I'll be out walking it and making that difficult decision about whether it's worth keeping. It's a conversation I'm having on plenty of farms at the moment, not just our own.

In many ways, that sums up the season. There haven't been many straightforward decisions and there certainly haven't been many easy answers.

It would be easy to end on a negative note, because for many farms, 2026 has been a genuinely disappointing year. However, we do have crops in the ground and, unlike a couple of years ago, we are not looking out of the window at waterlogged fields wondering if we'll get anything drilled at all. Wheat prices have finally pushed back above £200/t, which offers some



encouragement, and there are at least a few reasons to be optimistic.

If there is one lesson I've taken from this season, it's that difficult years make every decision count. In a kind season, a less-than-perfect seedbed, slight herbicide damage or small establishment issues can often be hidden by good growing conditions. When moisture is limiting and crops are under pressure, those same issues can have a much bigger impact on the final result.

We can't control what the weather does. What we can control is the attention to detail that goes into every crop and every decision. As agronomists and farmers, we have to keep focusing on the things within our control and avoid chasing solutions to things we can't influence.

Going into 2027, I think most of us are hoping for a more forgiving season. Farm cash flows need it, confidence needs it, and after the yields we've seen this year, many businesses deserve it. Farming has never been easy, but it does feel like the challenges are becoming greater and the margin for error is becoming smaller.

Despite that, one thing I've always admired about the industry is its ability to keep moving forward. We adapt, we learn from difficult years and we start again. Let's just hope that this time next year we're reflecting on a season that has given us a little more to smile about.

Follow my agronomy updates on Instagram: [@louisepennagronomy_](https://www.instagram.com/louisepennagronomy_)



FARMER FOCUS

PHIL ROWBOTTOM



Farmer Focus: A dry year and a necessary reset

Phil Rowbottom, Woolley, West Yorkshire

As we come to the back end of 2026, I can sum the season up in a few words: exceptional farming and growing conditions, exceptionally dry and exceptionally quick. It has been one of those years when the weather makes you question the normal rules. Harvest was so straightforward that, after two days of combining on Thursday and Friday, the combine driver and I stopped for the weekend. There was nothing in the forecast, the crop was ready, and there seemed little point in flogging ourselves through Saturday and Sunday. We came back on Monday morning and finished it. I cannot remember harvest ever feeling quite like that.

That does not mean it was a record-breaking year across the board. The farm wheat average came in at 7.6t/ha, only a few kilos ahead of the previous season. Yet there were sizeable patches where the combine was showing 11t/ha, even on our lighter land. Equally, a poor patch can soon pull an average down. My feeling is that the wheat hung on better than it



might have done in such a dry season. Keeping roots in the ground, retaining straw and building organic matter have all helped the soil hold together when moisture became scarce.

The spring oats were another encouraging part of the year. They yielded around 1.5t/acre, or a little over 3.4t/ha, made milling specification and found a home in Crewe. Traditionally, spring cropping on this ground has not been an easy option, so two reasonable oat crops have made me think more seriously about where they fit. The decision for next season is whether to grow all spring barley, all spring oats or split the acreage. At the moment, a half-and-half approach feels the sensible route.

The bigger lesson from 2026, though, is that a rotation needs to work on more than one level. When flea beetle finished our patience with oilseed rape three years ago, we moved into spring oats as a break crop. Oats have done a job, but they have not provided a true break in the way we need. They are still a cereal, which means we have not had the different chemistry required to stay on top of grass weeds. Over the past two years, the grass has become steadily more of an issue. As my agronomist John put

it, we have to stop it.

That is why, by this autumn, there will be no winter wheat drilled on the farm for the coming crop. What had been spring oats is going into winter beans, while grassier ground is earmarked for spring barley. It is a deliberate reset rather than a rejection of wheat. I expect it to be the only year without it: beans will give us a proper break and wheat can return afterwards. It is a reminder that direct drilling does not remove the need for hard decisions. The drill may make establishment faster and cheaper, but it does not make grass weeds disappear.





The direct-drill system itself is still doing what we hoped it would. This is our sixth year with the drill, and I still like what I see when we open the ground up. The tilth is different and the soil we drilled in this autumn was, frankly, “out of this world”. We are leaving the soil structure alone, holding on to residues and using plants to do more of the work. That

matters in a dry year, but it matters just as much when the weather turns wet.

Cover crops are now central to that approach. This autumn, virtually every acre is carrying a cover. The mix includes black oats, buckwheat, radish, vetch and phacelia. It established surprisingly well after an August drilling, given how dry it had been. We increased the buckwheat share and radish rate this year: the radish is there for its big root, while the buckwheat has an added practical advantage. From a hectare grown for seed after the 2025 harvest, we saved 1,300kg of buckwheat, more than we expected, and that has taken some cost out of the 2026 mix.

There is also evidence that the system is delivering beyond the crop. “The whole farm is growing cover crop, literally every square inch,” and we are seeing more wildlife as a result. Before the shooting season, we had three coveys of wild grey partridges, each close to 20 birds. In a season defined by dryness and speed, that is worth noticing. The job now is to use

the lessons of 2026—especially on rotation and grass control—without losing the soil resilience and life we have worked hard to build.



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SPRING PULSES

A PROFITABLE ROTATION CHOICE IN A CHANGING POLICY LANDSCAPE

The Sustainable Farming Incentive (SFI) changes announced in September 2026 have left many growers reassessing their cropping plans. With growers looking for practical alternatives that maintain productivity while continuing to deliver environmental benefits, spring pulse crops offer an increasingly attractive option.

At the same time, the introduction of the Carbon Border Adjustment Mechanism (CBAM) from January 2027 is expected to renew focus on fertiliser use efficiency and the carbon footprint of crop production. For many businesses, these twin pressures create an opportunity to revisit the role of pulses within the rotation.

For growers seeking a break crop that can contribute agronomically, environmentally and financially, Limagrain's spring bean and combining pea portfolio offers a proven route to greater rotational resilience.

Productive farming rather than land out of production

Spring pulses provide growers with the opportunity to keep every hectare working. Unlike many environmental options, peas and beans deliver both a harvested crop and significant rotational benefits, including nitrogen fixation, improved soil structure, enhanced biodiversity and opportunities for grassweed control.

As support schemes continue to evolve, crops that combine profitability with sustainability are becoming increasingly important. Pulses allow farm businesses to maintain productive acreage while continuing to demonstrate the environmental outcomes that are increasingly expected throughout the food supply chain.

A valuable tool ahead of CBAM

Manufactured nitrogen fertiliser remains one of the largest input costs and carbon contributors within farming systems. As CBAM begins to influence



Winter beans

fertiliser markets, crops that reduce dependence on applied nitrogen are likely to become increasingly valuable.

By fixing atmospheric nitrogen, spring beans and peas help reduce fertiliser requirements and leave a valuable legacy for following crops. Many farmers continue to see stronger first wheats following pulses, benefiting from reduced nitrogen requirements and improved rotational performance.

Heather Oldfield, Cereals and Pulses Product Manager for Limagrain UK, comments: "We know that a first wheat following a pea crop has a saving of approximately 70kg nitrogen/ha, and following beans, 40kg nitrogen/ha. At today's fertiliser costs, this represents a saving of £98/ha for peas and £56/ha for beans."

These figures are increasingly reflected in commercial farming practice. North Yorkshire farmer Richard Barker of Lingy Moor Farm

has already begun adjusting nitrogen applications to crops following beans, as confidence in the rotational benefits grows.

"Yes, I'm going at it tentatively, but we're reducing by around 40kg nitrogen/ha following beans."

Supporting the demand for homegrown protein

Demand for homegrown protein continues to grow as livestock supply chains look to reduce reliance on imported soya. Beans and peas offer a traceable, sustainable protein source that can be produced within existing UK arable rotations.

As more processors, livestock producers and end markets focus on carbon reduction and supply chain resilience, opportunities for high-quality pulse production are expected to strengthen further.

With increasing focus on fertiliser



Heather Oldfield, Cereals and Pulses Product Manager for Limagrain UK

use efficiency and carbon footprint, Richard sees pulses as a real solution.

“For both nitrogen use efficiency and carbon footprint, pulses are important, but also for feed too. I’m trying to be self-sufficient with my cattle feed. It’s not just about replacing a bought-in protein; it’s also about giving the cattle health and performance benefits. We’re not replacing like-for-like, and the cattle are definitely performing better.”

Pulses deliver more than a break crop

The real value of pulses is often seen across the rotation. Spring cropping creates opportunities to tackle grassweed pressure, while the break from cereals can help reduce disease pressure and support more diverse and resilient rotations.

Their rooting characteristics can assist soil structure, while flowering crops contribute to biodiversity by providing an important food source for pollinating insects.

For Richard, these rotational benefits were a key factor behind introducing pulses as an alternative break crop to oilseed rape.

“I’ve seen improvements in soil health and good following cereal crops. My ultimate hope is to improve soil health and improve resilience during wet weather and heavy droughts. Hopefully, in the long term, it will then look after me.”

Limagrain varieties built for modern rotations

“As the industry digests the impact of SFI September 2026 and prepares for the introduction of CBAM, reducing reliance on manufactured nitrogen is becoming an increasingly important consideration,” says Heather. “Well-bred pulse varieties can play a valuable role in helping farmers improve nitrogen use efficiency across the rotation, while also meeting growing demand for sustainable, homegrown protein. At Limagrain, our investment in pulse breeding is focused on delivering varieties that provide both strong agronomic performance and long-term rotational value.”

Farm experience highlights the potential

For Richard Barker, pulses have become an increasingly important component within the rotation,

delivering agronomic, environmental and financial benefits across the farming business. While pulse crops are often assessed on their individual gross margin, Richard believes their wider contribution should not be overlooked.

“It’s very important that a crop delivers both environmental and financial benefit. I see it as money in two banks. Pulses need to be assessed on their whole rotation value, not just the crop margin alone.”

His experience reflects the wider role pulses can play in helping farmers improve resilience, reduce reliance on manufactured fertiliser and maintain productivity while contributing to evolving sustainability objectives.

While it can be difficult for an arable farmer to quantify the benefits of pulses as part of the whole rotation, Robert Nickols of DE Nickols & Sons in Little Hale Fen in Lincolnshire has always recognised the benefits.

“Beans are a key part of our rotation. In harvest 2026 we saw the value again, with two fields of LG Defiance – one following oilseed rape yielding 10.2 t/ha, but the next-door field on the same soil type, treated in the same way but following beans, yielded 11.4 t/ha. We would put the result down to the pre-cropping.”

Looking ahead

As growers plan rotations for 2027 and beyond, the combination of changing SFI arrangements and the impending impact of CBAM is encouraging a fresh look at crops capable of delivering multiple benefits.

Winter and spring pulses provide a marketable crop, reduce reliance on manufactured nitrogen, support soil health, help manage grassweeds, contribute to biodiversity objectives and align with growing demand for sustainable homegrown protein.

In this changing environment, Limagrain pulse varieties offer far more than simply another break crop; they provide growers with a practical, profitable and sustainable option that can strengthen rotations, improve resilience and help future-proof farm businesses.



Robert Nickols of DE Nickols & Sons

WHAT'S YOUR **LINSEED** **STRAW** REALLY WORTH?

By Hannah Foxall from Premium Crops

Harvest 2026 has been very mixed.

Winter crops were drilled into ideal conditions, and seedbeds were generally very good. OSR had very little CSFB pressure and got away well, with slugs and pigeons being more of an issue. Rain came later in the season, which made later-applied pesticides more challenging, but due to the favourable establishment, most crops were competitive against weeds, pests and disease. Yields held steady on the winter crops, with winter linseed holding at 2.5t/ha and OSR doing well, which, considering how dry grain setting was, is a pleasant surprise.

A new EAMU for Emerger for use on linseed wasn't approved until the end of September, which was frustrating, but we are excited to use it for harvest 2027 to provide a valuable addition for pre-emergence broadleaf weed and grass weed control. In addition to Katamaran, we also now have Legion on an EAMU. While they contain the same actives, it does give growers more buying choice.

The newer winter linseed variety Atilla has a much greater standing power than its predecessor, Alpaga. Crops raced away in the autumn, using up the high soil nitrogen reserves due to the dry previous season. Early nitrogen applications were removed or reduced, as crops clearly weren't hungry come the spring, and we were all surprised how early they were growing away. Despite crops growing away fast in spring, most winter linseed was combined with no issues. Of more concern was the temperature of harvested crops (over 30°C) and extremely low moisture content of the seed (<6%).

The nutrient content of linseed

straw is often not considered, and I'm not sure I've ever been asked about it on farm. According to Linseed Law from the 1980s, straw is 1.2% N, 0.2% P205 & 1.1% K and seed is 3.7% N, 1.4% P205 & 1% K. Linseed Law assumes a linseed crop yields 2.5t/ha of seed and 6.5t/ha straw. This means that the take-off from the field can be 150kg/ha N, 42kg/ha P (as P205) and 86 kg/ha K (as K2O). In straw alone, removing it costs you 70kg/ha N, 12kg/ha P & 64kg/ha K. Finding the nutritional content of straw is tricky, and unfortunately these figures may be outdated (straw yields will likely be a lot less than this, for instance), but it is food for thought. Do we all know the monetary value of our straw on farm and cost of replacement (in soil condition and money)?

Spring crops and their performance

The rain stopped, and it was challenging. Spring linseed drilling has been moved forward to try and account for soil moisture vanishing earlier. Traditionally, spring linseed

would be drilled in April, but now, if conditions are right in March, it is encouraged to sow. With spring crops, establishment is everything. Drilling in the right conditions trumps sowing date. Earlier-sown spring linseed tends to escape the flax flea beetle and can take stress better. Seedbeds are often better too, which means the establishment tends to be more even, leaving fewer patches for weeds to escape through, while pre-em herbicides have a better chance of working if there is moisture present. Moisture conservation of the seedbed for spring crops is king! Earlier sown spring linseed crops seemed to cope with the weather better than later sown crops, and establishment was pretty good. The harvest was very early, like all crops, and again all seed came in dry.

Borage as a crop has grown on me. It is a low-input, tough crop, which appeals to any agronomist. Borage requires insects for pollination, and it is always full of hundreds of honeybees, bumblebees and many other beneficials.



Winter linseed, flowering and harvest



Borage flower [first pic] and spring linseed, sown end March

Post-emergence herbicide application was challenging, but on the whole crops were pretty clean. Most spring linseed was not desiccated and was combined straight. Premium Crops have worked with the breeders to produce earlier and shorter linseed varieties to make combining easier, and we continue to run variety trials and look to constantly push performance. Borage was swathed and, due to the heat, dried well in the swath, which meant it could be picked up in good conditions.

Shows

The Cereals site at Diddy Squat Farm this year was challenging due to the soil type. The soil pit showed the profile of the soil to be somewhat stony and not overly moisture retentive. The winter linseed established and got away, while the spring crop plots had a more difficult time, but still looked well on the day (despite the rain on day two). The show was a lot of fun, and a new venue always gives fresh perspectives.

Looking forward

Sustainable farming and environmental practices

The Sustainable Farming Incentives (SFI) 2026 is a thorny issue, and I shall stay well away from it. I know at harvest many were trying to understand the implications on their past agreements that might be ending. It will doubtless influence some farming decisions for



the coming season.

Premium Crops are keen to assist farmers in other areas of SFI application, particularly SAM2/CASM2 over-winter cover crops (tailored to increase following spring crop performance), IPM3/CIPM3 companion cropping and IPM4/CIPM4 “no use of insecticide” schemes. Winter linseed and canary seed’s lack of pests are perfect for those applying to IPM4 schemes.

ADOPT funding and trials

ADOPT funding has provided opportunities, and we have an exciting



Cereals set-up day and soil pit

linseed project that will hopefully add value to the supply chain on linseed straw. We are also going to run some agronomy trials looking at winter linseed’s biomass and how the shape of the crop through the season impacts yields.

Measuring plant population and crop height, we have started seeing if, like oilseed rape, canopy management at flowering will lead to better yield. It will take time to build up the database, and early measurements are encouraging. We have invested in dedicated trial plots this season with a range of different sowing rates, varying PGR applications and fertiliser usage. The aim is to identify key factors influencing yield. Premium Crops have also finished two funded PhDs into the linseed crop, and we hope the trial information will feed into this. Minor crops, having smaller markets, are often left out of mainstream funding, and advancements in crop agronomy are few and far between. This means advancements are not as great as for major crops, which means they stay minor crops – it’s a vicious circle. Premium Crops are determined to buck the trend, so we invest significantly in our minor crops to provide our growers with the best, evidence-based agronomy advice we possibly can - watch this space!





HARVEST WITHOUT THE DESICCANT

Written by Chris Fellows from Direct Driller Magazine

In the last issue, I looked at the EU reset and what it could mean for glyphosate. Since then, an American regen group has told its own regulator, in some detail, how farmers can get a crop in without a desiccant. I've read the lot, and some of the numbers are worth a look

In the last issue, writing up the Bayer day at Hinton, I touched on the EU reset. Bayer were increasingly confident CRD would mirror the EU's 10-year renewal of glyphosate but expected us to lose it as a pre-harvest desiccant. Since then, things have moved on a bit. Or rather, they haven't.

GB approval runs out on 15 December. HSE promised a 60-day public consultation for the summer and, as I write, it still hasn't opened. Answering a written question on 5 October, minister Sir Stephen Timms said HSE is considering extending the approval beyond December on its

current terms, and Farmers Weekly reckons a one-year rollover is now the most likely outcome.

The reason for the delay isn't hard to spot. The government wants the SPS agreement in force by around mid-2027, and the plan is dynamic alignment, which means GB would mirror future EU decisions on active substances and MRLs. Negotiations are still going, and nothing is final. But if we end up following Brussels, it's hard to see pre-harvest glyphosate surviving for long.

So the useful question isn't really whether we lose it; it's what we do instead.

The Americans are asking the same question

Here's the bit I didn't expect. The US, which most of us think of as glyphosate's spiritual home, is now looking for ways to farm without desiccants. The Environmental Protection Agency has launched a \$30 million Innovation Challenge to find practical, affordable alternatives to spraying crops off before harvest.

One of the groups that responded is American Regeneration, a regenerative farming charity. Their submission went in on 30 September, and it's not a campaign leaflet; it's

built on peer-reviewed trials from the US, Canada and Australia, plus conversations with growers, buyers and certifiers.

The first thing that jumped out was the scale. Nobody in the US actually knows how much land gets desiccated because the federal surveys don't record it separately. Estimates run from about 3 per cent of wheat nationally to as much as 80 per cent of small grains and oilseeds in places like North Dakota. In other words, it's a cool, wet, short-season habit. Where crops dry down naturally in the field, farmers mostly don't bother.

Sound familiar? That's the same split we'd see between a Cambridgeshire wheat crop and spring barley in the north of Scotland.

Back to the swather

The main alternative they put forward is one plenty of us will remember: swathing. And the numbers they quote for it are better than I expected.

In a Canadian canola trial by the Prairie Agricultural Machinery Institute, four harvest methods were compared. Swathing had the lowest seed loss, at 1.1 bushels an acre against up to 2.8 for the desiccated straight-cut treatments. Roughly, that's 60kg/ha on the floor versus 160kg/ha. It was also the cheapest, at \$25.73 an acre all in, against \$38.97 to \$42.56 for the chemical options. So about a third cheaper, and less seed left behind.

It's the same story in lentils. University of Saskatchewan work found that in a cool, wet harvest, early desiccation knocked milling efficiency below 70 per cent, while early swathing kept it above 85 per cent. In Australia, mungbean growers worried about being shut out of export markets ran commercial-scale trials and found windrowed crops dried down quicker and graded better.

Now, I'm not daft. The Canadian prairies in August are not Aberdeenshire in a wet September, and swaths sitting in the rain for a fortnight is exactly why a lot of people gave up on it. The report admits as much: it needs an extra pass, extra kit and someone who still knows how to set a swather up. That skill has drained away as desiccants took over.

Varieties and drilling dates

The other big lever is breeding and timing. Even maturity and shatter tolerance come up again and again. Canadian researchers found that early-sown, even oilseed crops with pod-shatter resistance could skip desiccation altogether, whether they were swathed or straight-cut. Most of us are already growing pod-shatter-resistant rape, so that one's closer than it sounds.

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Earlier drilling gives crops more time to ripen and dry naturally before the weather turns. They also mention intercropping, chickpeas with linseed in their case, as a way of evening up a crop in a decent year.

We've done this before

The potato section is the one UK growers can probably speak to best. University of Wisconsin trials found flailing then flaming the haulm did as well as two sprays of diquat, on yield and on skin set. We lost diquat over here in 2020, and potato growers have had to work this out the hard way since.

There's also a useful snippet a bit closer to home. At the Scottish Government's Pesticides Stakeholder Group in June, Teagasc reported that losing glyphosate for desiccation in Ireland was having minimal impact so far. SRUC has been asked to look at what aligning with the EU would mean for Scottish crops. Others round the table were far less relaxed about it, and I'd want to see the SRUC work before drawing any conclusions.

The buyers may get there first

What struck me most is that the report doesn't really pin its hopes on the regulator; it points at the buyers.

Richardson International, Canada's biggest agribusiness, stopped taking desiccated oats back in 2020. The American Malting Barley Association won't have pre-harvest desiccant-treated barley at all, because of what it does to malting quality. And a "Glyphosate Residue Free" certification scheme in the US, carrying brands like Oatly and Chobani, was worth \$778 million in sales by 2022.

I'd be surprised if our own maltsters and oat millers weren't watching that closely. Interestingly, NatureScot asked at that same Scottish meeting whether the Scotch Whisky Association would help research malting barley varieties suited to growing with little or no glyphosate.

Money with a market attached

The part of the submission I like best is what they want done with the \$30 million. Rather than pour it into new chemistry or gadgets that can't yet keep up with a combine, they want most of it spent scaling up what already works:

- Shared swathers and training, run through co-ops and farmer groups, so a small or mixed farm isn't buying a machine it uses for three weeks a year
- Farmer-to-farmer networks and demo farms in the areas that rely on desiccants most
- Conventional breeding for even-ripening and determinate varieties
- A 10% cap for newer kit like electrical weeding and bioherbicides

And crucially, they want every award tied to a food brand signing a binding, multi-year contract to buy desiccant-free crop, ideally with a premium. That's the bit our own policymakers should copy. A ban with no market behind it is just another cost dumped on the farm. A ban with a buyer queuing up for the grain is a different conversation.

What it means for direct drillers

For this magazine's readers, the important thing to keep hold of is that the EU rule is about desiccation, not the pre-drilling spray to kill off cover crops and stale seedbeds. That's the use most no-till and regen systems actually depend on.

It's worth being clear about what the EU actually banned, because it isn't a window of time. The regulation says uses "to control the time point of harvest or to optimise threshing" can't be authorised. Spraying before harvest to control weeds is still allowed, as long as it fits integrated pest management rules. The days-before-harvest interval stays on each product label. Here, Roundup ProActive XL can go on up to 7 days before harvest on wheat and barley, and 14 days on oilseed rape. The

EU didn't push that out to 30 or 60 days; it just stopped anyone calling it desiccation.

The timing matters too. The government wants the SPS deal in force by mid-2027. If alignment comes in as a hard cut-off rather than with a transition, desiccation could be gone in time for harvest 2027. In which case, I suspect we'll all discover an awful lot of weeds in our crops next July that urgently need killing seven days before the combine goes in. Either that, or we pray for another proper summer harvest and plenty of sunshine.

The Glyphosate Renewal Group, the manufacturers backing renewal in GB, argue that glyphosate is essential to regenerative farming because it lets us control weeds without moving soil. They're right about that. But they're also arguing for an exception to keep desiccation in any SPS deal, and my worry is the two get lumped together. If we spend all our energy defending the pre-harvest spray, the bit we really can't do without risks getting caught in the crossfire.

Regen growers are better placed than most here. We already think in rotations, cover crops and soil biology, and the report makes the point that healthier soils and more diverse rotations cut the need for inputs generally. Plenty of you will have dropped routine desiccation years ago and found harvest wasn't nearly as bad as you feared. Others will have been pushed that way by the price. When glyphosate became scarce and costly during Covid, a lot of us looked hard at whether that pre-harvest pass was really earning its keep. Prices have roughly halved since, but they're still about 50% above pre-Covid levels.

So I'd like to hear from you. Who's still swathing, or has gone back to it? Who's harvested without a desiccant through a properly wet year, and what did it cost you? Did the Covid price spike change your habits for good? If we're going to lose it, I'd rather we wrote the guide ourselves than waited for Brussels or the HSE to write it for us.

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PHILIP BRADSHAW



Regular readers will know that after 37 years of farming, Jayne and I have recently retired from our Cambridgeshire farm. Watching our machinery go under the hammer took me back to the auction where we bought our very first tractor.

It was a sunny October day in 1989, at a farm auction near Thorney on the A47, and I remember it well. I had joined the bidding at £1,900 for the David Brown tractor, and I was now in a two-horse race, bidding in £100 increments against a local machinery dealer. But as he bid £2,500, I was aware that I was on my cash flow-imposed limit. However, a cheeky extra £50 bid from me secured our first tractor!



Jayne and I had just gained our first tenancy on 34 hectares of light, drought-prone land in the Fens on the Cambridgeshire/Lincolnshire border, and now we had machinery! Our first autumn was not no-till, and I ploughed almost everything with a Ransomes reversible plough bought for £50. Cash flow was tight, and we both worked off farm, Jayne full time, and I helped other farmers, and sold advertising space.

This concept of challenging cash flow and hard work carried on through most of the next 37 years, with happily more good years than bad. We expanded rapidly, with a move 15 miles east to a larger rented farm at Whittlesey with better land. I picked up some contracting, and in 1994 won the competition for the best-run farm on the Cambridgeshire County Farms estate. As a newish young tenant, the farming press got interested, and it was a turning point for us.

We now had a growing reputation, banks courted our business, and we found ourselves taking on extra land on various agreements. We built a reservoir, started growing more potatoes, and took on my father's small, owned farm

when he retired. Unfortunately, we had some bad years with the potatoes and scaled production down, and as some of the short-term land was reducing in area, I started doing some off-farm consultancy roles to bring in extra revenue.

In 2016, inspired initially by a desire to spend less time in a tractor, we got a LEADER-funded grant for a new direct drill. The Weaving GD 3m disc drill arrived and was another turning point for us. While our small area of heavier land was initially challenging in a no-till system, most of our land responded well, and in 2022 we had the best wheat yields in our farming career, with reduced costs and considerable time saved.

Sadly, this year, with the very hot summer and mostly light land, I must report our lowest wheat yields in our farming career... I think we just scraped 7.5t/ha, although at least it was with Group 1 milling quality. Happily, it was an early harvest; finished in July, and all delivered to a central store straight off farm. This allowed us to get on with the massive clear-up and preparation for leaving the farm.

We are delighted that our landlords have let the farm to a young local couple who were on a smaller farm on the estate. The changeover has been very smooth, and they have established some excellent direct-drilled cover crops after wheat and are direct drilling wheat after our SFI pollinator crops.

The machinery auction preparation got very stressful and busy. We found some sentimental pieces, but also a lot of stuff to get rid of; we had a whole articulated lorryload of tyres taken away for recycling, and lots of oils and paints to deal with, both from my father's farm and our own. I'm very grateful to the friends and family who helped us get ready for the big day, and the auctioneers from Brown&Co who were very industrious and did a fantastic job.

The big day dawned on Thursday 24 September, with a misty start followed by a beautiful sunny day. We were





delighted to see the car park filling up, and the auctioneers also had 150 online bidders registered. It was an interesting few hours watching our stuff being sold. There were a few individual disappointments, but also some pleasant prices achieved, and the total was above expectations, so we were very happy with the outcome.

We then had a busy week loading machinery for collection, with many low loaders heading off on great distances, but also some lots staying local. I hope all our buyers were happy with their purchases. As a rule, all our gear was in good condition and well looked after. It was good to finish as we started, with a good old machinery auction!

We would like to wish good luck to the new tenants. We hope the farm is as good to them and their young family as it was to us and ours. I also need to thank our neighbours, and everyone we have met and dealt with over the years. We have made many friends and will keep in touch.

Indeed, I hope to maintain my agricultural connection going forward, and I am up for more after-dinner speaking, and plan to continue my writing and occasional consultancy sideline.



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DOUBLE THE INFILTRATION, 63% MORE HAY: ONE HUMIC PASS **IN A RECORD DROUGHT**

A single application on a 60-acre organic meadow in the North East has turned in some numbers worth a closer look. This case study from High Hill Farm is upfront about what it can't prove, which is half the reason to read it.

Most of us have read enough product trials to know how they usually go: small plot, good year, big percentage, no control worth the name. So, it's worth saying straight away that the High Hill Farm trial is one field, one treated strip and one control, with no replication. But it is a field with a long, steady record, and a trial result that sits well outside it.

SoilPoint featured back in issue 32, when it was bringing its Soil Booster to the UK. For the past 18 months they have been putting in the work and running trials around the UK, including some at TWB Farms this autumn that Clive will be telling you more about. This is some of the first solid harvest data to come back from that work.

The field

Sixty acres of permanent pasture in the North East, organic, kept for hay and farmed by Callum Jones. No muck, no slurry and no bagged fertiliser at any point in the recorded period. One cut a year, taken at the same point every season.

Over 12 years of records, the whole field has produced between 450 and 510 bales. That's 7.5 to 8.5 bales an acre, averaging 8.0. For a rain-fed meadow with nothing going on it, that's a tight range, and it's what makes the site useful; when something moves, you notice.

In June 2025, the field was split roughly 30 acres each side. The line runs up and down the slope rather than across it, so both halves share the same height, aspect and drainage, and each half picked up one of the field's two weaker patches. SoilPoint Soil Booster went on once, as a liquid, undiluted,



The treated (test) and untreated (control) halves of the hay field at High Hill Farm during the 2026 drought

at 5 l/ha ahead of the 2025 cut. The product used analysed at 85 per cent humic and 5 per cent fulvic acid. Nothing has been applied since. Stock came off both halves for the two trial years.

The result

The Met Office recorded England's driest July since its series began in 1836, just 6.5 mm or about a tenth of normal. The South East was worst hit, at around 1 per cent of average rainfall, and the 9 mm the North East received on average wasn't far behind. National grass growth was running more than 40 per cent below the recent average right through July.

The control half made 7.2 bales an acre; that's below the worst year in the field's 12-year record, which is about what you'd expect from a second dry summer with nothing put back. The treated strip made 11.75 bales an acre.

Bale weights were within 3 per cent of each other, 245 kg against 252 kg

across 12 bales weighed on each side, so the count is a fair proxy for yield. In fresh weight, that's 7,317 kg/ha against 4,359 kg/ha, up 68 per cent.

The 63 per cent gain over the control is the headline, but SoilPoint and Callum lean on a more modest number. Against the best year in twelve, 8.5 bales, the treated ground was still 38 per cent ahead. This wasn't just a good field having a good year.

Water is the story

For arable readers, the figure that matters is infiltration. Using the Beerkan ring method, three replicates per plot, the control took water in at 31.1 mm/hr. The treated ground took it in at 68.3 mm/hr – more than double.

Around 31 mm/hr is what you'd expect from compacted or tired loam. Above about 40 is generally reckoned to be well-structured soil. The treated side sat comfortably in that range, and the control didn't.

In a dry year, that's the whole game.



The dividing line between treated and control ground. Taken from drone footage of the trial field

On hard-set ground, a light shower or a heavy dew sits on top and goes back where it came from. If it gets in, the roots get it.

Soil biology moved too. Microbial biomass was 3,924 mg/kg on the treated ground against 932 on the control, and soil respiration 177 against 41, both around four times higher. They're single bulked samples that travelled in hot weather, so don't lean on the absolute figures, but both lots

travelled together, so the gap means something.

The dividing line between treated and control ground. Taken from drone footage of the trial field

The bit that makes you think

After the 2025 haylage cut, regrowth on the treated plot ran at 39 kg/ha/day against 28 on the control. Same cut, same 24 days, same plate meter, same

reading date. This year, post-harvest regrowth was 63.4 kg/ha/day against 37.6, a 69 per cent gap.

That's the wrong way round for a feed. Anything that works by feeding the crop gives its biggest kick in the year it goes on and then fades. This got bigger in year two with nothing applied in between.

Humic substances act as binding agents in soil, and better aggregation means more pore space for water to get in. A physical change to structure would hang about in a way a nutrient wouldn't, which fits an effect that grew over two seasons. That's where the evidence points, though nothing in this trial tests it directly.

Try it on your own ground

One field doesn't prove anything on its own. But a stable field, a fair split, a brutal season and a gap far bigger than 12 years of variation is a decent reason to look harder. For anyone direct drilling heavy or slumped ground and watching it crack open every July, the infiltration result is the one worth following.

SoilPoint is keen to hear from arable and grassland farmers who want to run a split-field trial on their own ground, and will help set it up.

Contact SoilPoint

Sam Worthy

Email: sales@soilpoint.earth

What humus does in the soil

- Holds the equivalent of 80-90% of its own weight in moisture
- Sticky, gum-like mucilages bind soil particles into crumb structure and let air in
- Raises cation exchange capacity, so nutrients are held against leaching
- Buffers soils that are too acidic or too alkaline
- Feeds soil microbes and helps keep their numbers up
- Its dark colour helps cold soils warm up in spring

Source: SoilPoint, soilpoint.earth/what-is-humus



High Hill Farm, north-east England

Farm Facts: High Hill Farm

- Location: North-east England
- Farmed by: Callum Jones, the third generation to farm here in 50 years
- Size: 60 ha, organic
- Land: Permanent pasture with mixed herbal leys and clover-rich swards
- Stock: Formerly 160 head of pedigree Aberdeen Angus; now rearing calves under a Gamechanger contract and hosting roaming herds of continental steers and sheep
- Trial field: A 60-acre hay meadow with no muck, slurry or fertiliser, and 12 years of bale records



THE BENEFITS OF INTERCROPPING

Jerry Alford reports on the many encouraging results from the three-year LEGUMINOSE trials that explored the value of intercropping cereals and pulses

The Horizon Europe LEGUMINOSE project has been investigating intercropping of cereals and pulses over the past three years and has now completed the field trials phase. The UK farmer-led trial was designed as a Soil Association Innovative Farmers Field Lab. The only requirements were that the intercrop constituents grown together were cereals and pulses and that each trial site included neighbouring strips of intercrops and a strip each of the two monocrops, allowing close comparisons to be made of the effect of intercrops on soil and crop.

Although not an organic trial, most of the 25 trial plots did not use fertiliser or agrochemicals. As a consequence, some interpretation of results for organic farmers is possible through comparisons between those that had inputs and those that did not.

In general, over three years of trials, the intercrop plots were 20-30% more productive than the monocrops using the Land Equivalent Ratio (LER) as a measure. LER is the area of land that would be needed to grow an equivalent quantity of total crop as the

intercropped area, and this accounts for the lower relative yield of pulses than cereals. Generally, values of 1.2 to 1.3 are common and, although the dry 2025 did show a lower value, it was above 1 across the trial plots.

Yield effects of intercropping

Yield of crops is key to profitability, and one of the benefits of intercrops is the way that the components respond to

weather. 2024 was a wet year suiting pulses, while 2025 was very dry, less suitable for pulses though cereals were less affected. Comparing crop yields directly between monocrop and intercropped plots is easier if we compare the cereal or pulse yield of the half hectare proportion of the intercrop with the half hectare yield of monocrop.

The graph (Figure 1) shows that cereal yields were similar between mono and intercrops in 2024, and

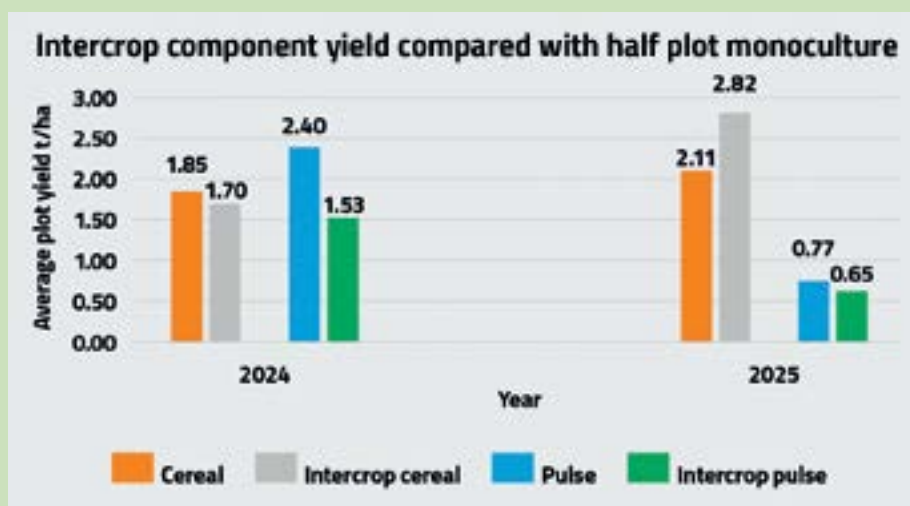


Figure 1: Comparison of intercrop component yield on equivalent area of monocrop

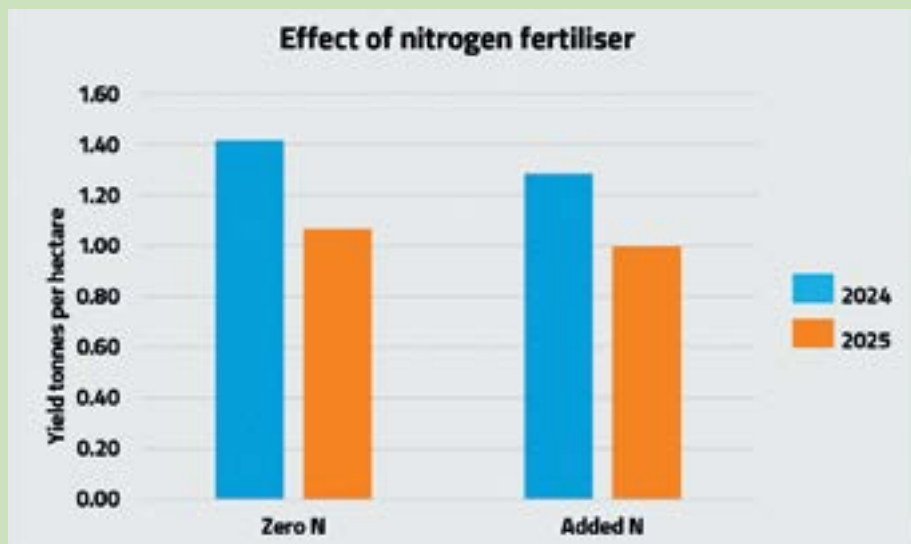


Figure 2: Effect of nitrogen fertiliser on Land Equivalent Ratio

monocrop pulses did well. However, in 2025, intercrop cereals out-performed monocrop cereals with the pulse yield being slightly lower. As an example of the additional resilience, in one trial area, yield of beans at one end of the field was very poor while oats did well. However at the other field end, the opposite situation occurred, meaning that there was a crop to harvest in all parts of the field. This might not have been the case with a monocrop.

Effect of intercrops on grain protein

One additional effect of intercropping was seen in grain protein levels. Intercrops were found to have around 1% more grain protein than monocrops across all the crop mixes in the European project. The UK plots saw slight increases, but the samples were from a farm that had used artificial fertiliser.

Whether this is due to lower cereal plant densities, different availability of nitrogen late in the season, direct interaction between cereal and legume, or differences in nutrient availability in an intercrop is not clear. But there is evidence that in legume-cereal systems, cereals are typically more competitive for soil nitrogen sources, causing the legume component to compensate by increasing symbiotic atmospheric nitrogen fixation, leading to improved nitrogen use efficiency. The trial has demonstrated that in the absence of additional nitrogen fertiliser, grain protein is higher in intercrops than in neighbouring monocrop cereals.

Effect of nitrogen fertiliser

Some non-organic farms used artificial nitrogen, at half the standard rate for monocrop cereals, to increase cereal yield. The consequence was a reduction in the LER, from 1.4 to 1.29 in 2024 and 1.07 to 1 in 2025 (Figure 2, top right). Similar results were found in field trials at Reading University run as part of the LEGUMINOSE project. They found that increasing amounts of nitrogen reduced the grain protein increase, lessening the benefit of intercropping.

Effect of sowing system

The farmer-led nature of the project meant that trialists were free to experiment within their own plots. So it was possible to compare between sowing both crops in separate or mixed rows, and so investigate the effect of

intercrop competition and interrow competition. 2025 was not a good year for pulses but the competition for water within rows appeared to penalise the mixed crop, with yields of pulses being only around 5% of total in the mixed rows but around 20% in alternate rows.

In a normal UK summer, the ratio was closer to 50:50 in a mixed row trial. This difference was shown by an increased LER for the alternate row crop despite lower plot yields (Figure 3, middle right). Drills capable of drilling separate rows are expensive but in an organic system, where beans could be ploughed in followed by a cultivator drill to plant the cereal, the effect of interrow and intra-row plants could be a hybrid approach.

Plough-based vs min-till

Many farmers prefer to plant beans using a plough-based system to ensure they are deep enough, and ploughing is common in organic systems to bury overwinter covers and as part of the weed control strategy.

Corvid predation, particularly rooks on shallow planted beans, was an issue throughout the trial, especially when bean seed was drilled to the same depth as the cereal. In one trial, part of a wider trial comparing regenerative systems and conventional approaches to a whole rotation, a diverse crop system using an intercrop of oats and beans was compared with monocrop beans drilled into ploughed or min-tilled ground. The results from one year show an increased yield from intercropping and also from ploughing, with the intercrop bean yield exceeding the half hectare direct-drilled

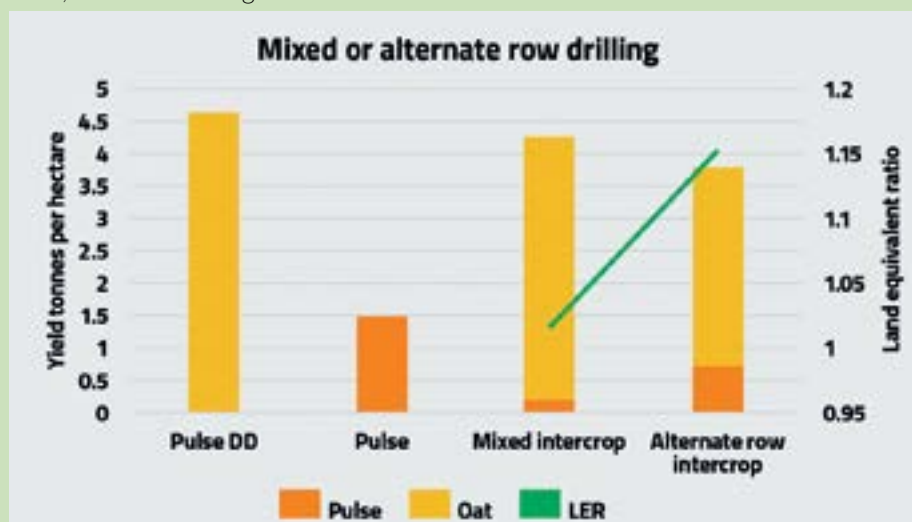


Figure 3: Effect of alternate row sowing

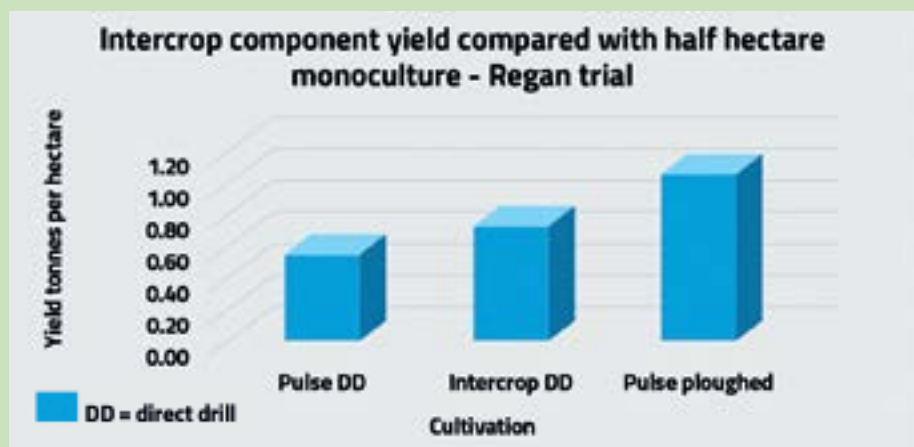


Figure 4: Comparison of cultivation and intercrop effects on bean yield

bean yield (Figure 4, see page 27). The intercrop produced a similar yield of oats.

Pest disease and weed control

One other perceived benefit of intercrops is a reduction in pest and diseases, because of either disruption of movement through the mixed crops or through an increase in beneficial predators.

No trialists used any insecticides or fungicides and only one reported any issues with crop disease but, as part of the trial, plots on two farms were visited three times during the growing season and assessed for plant disease (net blotch in barley), pests

(cereal weevil – *Oulema* species) and beneficial hoverfly eggs and larvae (*Syrphid* species). Using canes to mark test sites, the same locations were assessed each time and results shown as heat maps.

UK results will be reported separately

but in 2024, Czech Republic trials found that net blotch severity was more severe in the monocrop with greater than 58% of crops showing severe infection on the top three leaves but with a significantly less severe infection in the intercrop. Severe infection was also more localised in the intercrop.

Cereal weevil damage was found on 20.5% of the upper three leaves in monocrop barley but only 14.5% of cereal plants in the intercrop.

The hoverfly analysis showed a higher level of hoverfly eggs and larvae per plant in the pea monocrop. Since predator populations are linked to availability of food this means that there was more food

(aphids) present in the monocrop than in the intercrop and, looking at the ratio of pests to beneficials, this can be factored into the analysis. With pea aphids affecting plants directly through feeding on sap and carrying viruses, intercrops are therefore a means of keeping aphid populations down below

the threshold where control is required.

Protein production

One key role for intercrops is in production of animal feed as a higher protein whole crop. However, analysis of crop yields from the trials did show that the intercrop, even if harvested at maturity, together produced more protein per hectare than an equivalent area of monocrop pulse (Figure 5, above)

Across all the plots in 2025, the combined samples were calculated to have an average of 15% crude protein, although they peaked in individual plots at 20%. If milling facilities are available, a mixed cereal/pulse blend could be used to produce a whole livestock feed for youngstock and, with suitable balancing for essential amino acids with high quality protein, a ration for dairy cows, pigs or poultry.

Conclusions

Intercropping has commonly been used organically as a crop late in the rotation to help hold fertility levels and provide weed control. The higher crop yields, indicated by LER values and also the higher half-hectare plot yields indicate an economic reason as well. With protein for livestock feed increasingly dependent on imported products, intercropping does provide a more resilient method to produce UK protein with some reduction of risk. There are still areas that need resolution – such as marketing – but, for on-farm use, the benefits are clear.

The results demonstrate that intercrops work better in a zero-nitrogen system such as organic, but there are still benefits if small amounts of fertiliser are used. Furthermore, the aspects of pest and disease control are relevant across all systems, and intercropping has a role in integrated pest management (IPM) through reducing the need for chemical control products or to reduce risk when no chemical use is possible.

Economically, there are extra costs from planting two species – in terms of extra seed, time and possible separation. But if growing for on-farm use as animal feed rather than buying in concentrate feeds, intercropping does provide more on-farm resilience and self-sufficiency.

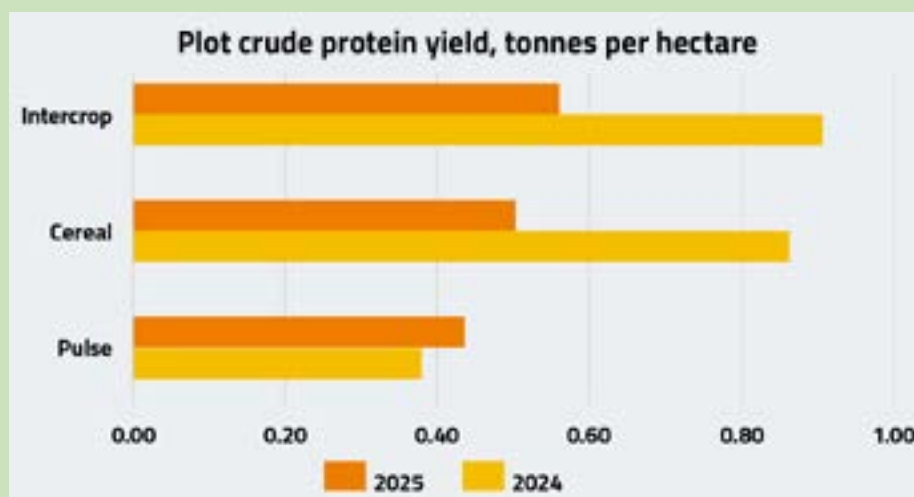


Figure 5: Average crude protein production from trial plots

DIRECT DRILL GUIDE

2025



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MATCHING YOUR DRILL TO THE SEASON

Dry growing seasons put the relationship between soil movement, seed placement and reconsolidation under scrutiny. Choosing a drill that makes good use of available moisture can also help you reduce the work and cost involved in getting crops established.

A field can be fit to travel on and still be too dry to establish a crop well. The Met Office recorded the UK's driest spring since 1974 in 2025, bringing a reminder of how quickly the seedbed can dry out. In those conditions, a drilling window can close even when there is no rain forecast to interrupt fieldwork.

This has a bearing on how you assess a drill. Working width and hopper capacity tell you something about potential output, but the amount of soil moved and the way it is firmed around the seed influence whether that output produces an even crop. An extra cultivation may improve the appearance of the seedbed while exposing more moist soil to drying. It needs to achieve something that justifies the moisture loss as well as the fuel and time involved.

There is plenty of choice in the drill and implement market to address this. Narrow tine openers, cutting discs that work only ahead of the seed row, and separate metering of



The Cayena 6001-C working in stubble, with the rear Matrix tyre packer reconsolidating only the seed rows after placement

seed and other materials allow establishment to be tailored more closely to the job. The useful comparison is how these arrangements work in your soils and rotation.

Soil movement and seed placement

On the 6m Cayena, the narrow TineTeC coulter opens a seed furrow with relatively little soil movement. Its positive penetrating action helps it enter hard ground, while sowing depth is adjusted mechanically using two turnbuckles. This gives you a straightforward arrangement for placing seed into moisture without cultivating the full soil surface.

The coulters are staggered across three rows to provide clearance for soil and crop residues, despite the relatively close 16.6 cm row spacing. Optional front cutting discs cut through residues ahead of the tines. Their purpose is to improve residue throughput and pre-cut the soil, reducing the disturbance needed as the coulter follows through.

What happens behind the coulter is equally relevant. The Exact harrow covers the seed furrow before the wedge ring roller, with its Matrix tyre profile, firms the soil in line with the seed rows. That targeted reconsolidation brings soil into contact with the seed. A seed sitting among loose clods can struggle to take up water even where moisture is present further down the profile.

Dig across the drill width, including behind the tractor wheels, to check seed depth, coverage and soil contact. Repeat these checks when soil conditions change. Good penetration alone does not tell you whether it is covered



Optional cutting discs ahead of the Cayena's tine coulters help manage surface residue and improve passage through the drill

The power of versatility

The Cayena tine coultter seed drill

AMAZONE Cayena 6001

Hopper capacities of
3,600l or 4,000l split tank

The Amazone Cayena trailed tine coultter seed drill delivers reliable sowing across a wide range of conditions – from direct drilling to cultivated seedbeds. With a generous hopper and narrow TineTeC coultters, it maintains high work rates while minimising water loss, helping operators cover more ground efficiently.

- ✓ **Fast operation** - Up to 15 km/h for high daily output.
- ✓ **Accurate placement** - TineTeC coultters ensure consistent seed depth with minimal soil disturbance.
- ✓ **Versatile** - Optional front cutting discs for excellent residue handling.
- ✓ **Flexible sowing** - Multi-chamber hopper handles different seeds or seed and fertiliser together.





A Cirrus working in green cover illustrates the range of establishment conditions a drill may encounter across the rotation

and consolidated adequately. Neither can greater drilling depth solve every moisture shortage; the seed still has to emerge successfully, particularly with small-seeded crops.

Residue management also affects the result. Straw and chaff need spreading evenly at harvest so that the drill is not continually moving between clear ground and concentrated bands of material. Where a cover crop precedes spring drilling, the timing of its destruction needs to take account of its continued water use. A growing cover uses water, which can help in a wet spring but leave less for the following crop in a dry one. Its residue can also reduce surface evaporation, so check soil moisture beneath the canopy.

The dry-season assessment should also extend below sowing depth. If roots meet a compacted layer later in the spring, moisture deeper in the profile may be difficult to reach. A drill cannot put that right simply by producing an even surface finish. Any remedial work needs to follow a soil profile inspection and be carried out in suitable conditions.

Flexibility across the rotation

The same farm may need several approaches to establishment. Cayena can work directly into stubble or follow cultivation, giving you scope to vary cultivation across the rotation. Its narrow tines keep the pulling requirement relatively low, although the tractor needed will depend on soil conditions, terrain and the load being carried.

For farms using a cultivator drill, the Cirrus with Minimum TillDisc offers another way of reducing soil movement. The cutting discs work strips ahead of the sowing coulters, replacing the more intensive action of the conventional cultivation disc unit. Where a wider tine drill is required, the Condor 02 combines ConTeC pro coulters with 8m or 9m working widths and a compact chassis.

Flexibility also extends to what goes through the drill. Cayena 6001 has a 3,600-litre hopper, whereas the 6001-C has a 4,000-litre hopper divided 60:40, with separate metering for each chamber. This allows two materials, such as seed and fertiliser or different seeds, to be metered

independently and delivered together into the seed furrow. Independent metering gives you control of each rate, but a shared outlet means the materials must be suitable for placement together at the same depth. This is where machines such as the double-shoot Cirrus or Cirrus Grand with either baffle plate seed delivery or secondary FerTeC disc coulters allow two different placement depths.

Keeping the drill working

Easy filling and well-planned seed deliveries help you make the most of a drilling window. A 6m drill at 10km/h has a theoretical output of 6ha/hour. Six hours of uninterrupted full-width drilling gives 36ha; another hour gives 42ha at the same speed. Having seed and loading equipment ready can make that difference without asking the coulters to work faster. With the Cayena 6001-C, the 4,000-litre hopper minimises the number of refills per day.

Changing crops or seed lots also brings calibration into the day's work. Cayena's optional TwinTerminal is positioned at the machine, allowing you to carry out calibration without repeated trips to the cab. Accessible metering equipment makes it easier to check the rate properly when seed size or flow characteristics change.

Recent developments in distribution systems address a different source of waste. MultiSwitch on the Condor 02 and Cirrus 04 series controls individual rows. With compatible GPS section control, rows shut off progressively at angled headlands, reducing overlap to below 1 per cent. This makes seed requirements easier to plan; using the field area and chosen seed rate, you can fill the hopper with almost exactly the quantity needed for the job. As well as saving seed, this reduces the amount left to empty out before changing crops or varieties.

When you return after emergence, plant counts and the evenness of the crop will help you judge the result. Keep those observations alongside your drilling conditions, machine settings and establishment costs, including any preceding cultivations. You then have something useful to compare next season: the full cost of establishing the field and the crop that followed.



The Condor 9002-2TC working in stubble, with its individually guided coulters following the soil surface

DRILL MANUFACTURERS IN FOCUS...



NOW IS A GOOD TIME TO PLAN YOUR FUTURE
FARMING STRATEGY



The Claydon farm's 6m Evolution one-pass drill and double front hopper combination establishing a cover crop.

The question most farming businesses are asking right now is how they can remain viable in an extremely challenging environment. In his latest article for Direct Driller farmer and agricultural engineer Jeff Claydon reflects on the 2026 harvest and outlines the measures he has been taking to set the family arable farm in Suffolk on sound financial and agronomic footings for the future.

14 September 2026

Are we now seeing the green shoots of recovery in the farming sector? I do hope so, because when I drafted my last article for Direct Driller back in May there was nothing for the industry to be positive about.

The poor harvest in 2025 was compounded by a long period when the wheat price remained stagnant at around £170/t. Then the potential of crops that was evident this spring failed to fully materialise due to the extended drought from then on, increasing concerns going into harvest as it remained dry.

On the Claydon farm we had just 3mm of rain from March until the first week of June when 50mm fell, then nothing through to the end of July. Fortunately, after 23 years' of using the Opti-Till® System, our clay soils are in excellent

condition, with no signs of compaction (even in the absence of a subsoiler) so crops could get their roots down to find moisture at depth. They remained healthy and grew happily to maturity.

Combined with our low-cost method of establishing crops,



This 15m Straw Harrow is at the heart of the Claydon farm's stubble management approach. It evenly distributes/breaks down chopped straw and creates a 2cm to 3cm micro-tilth which encourages weeds seeds and volunteers to germinate so that they can be raked out later with another pass. In a normal season worms would quickly rise to the surface after harvest and take almost all the straw down, but this year they remained underground until the first rains.

using Opti-Till® put us in a good position going into harvest, which was early, easy and inexpensive. We could harvest at will, often starting early in the morning when the moisture meter showed 12% and stopping as the grain became too dry to measure.

There wasn't quite as much to gather in as I'd hoped for back in the spring and ultimately our average wheat yield came in below the farm's long-term average, at between 7.5-9t/ha. Nevertheless, that was a pleasant surprise given the complete lack of moisture and highlighted the benefits of ongoing work to improve our soils.

Considering that our spring oats had no rain from the time they were drilled in March, then in the first week of June 50mm I was pleased with 5t/ha. Unfortunately, as many experienced, a lot of spring crops drilled into cultivated soil never really got out of the starting blocks and some were a write-off.

Reading and listening to the rubbish that passes for journalism in the mainstream media you would think that food is no longer needed and farming has ended. In a country which is only 60% self-sufficient in food and where consumers have become used to seeing shelves laden with cheap food that's just crazy. Yet the fear and very real danger of a complete meltdown of the farming industry and countryside is a situation which I have not seen in my 60-plus years in this sector.

In the strange world and strange times that we are all experiencing at present it would be easy to become depressed and demotivated by serious declines in crop yields, massive increases in input costs, low commodity prices, complicated support grants and the removal of IACS payments, compounded by extreme weather.

The risk to survival has become intense and very real for many farmers at all levels. We have even seen very large farm management operations restructuring and many small units which individually are unviable continue by farming collectively or leaving the industry altogether, taking valuable skills with them.

The passion of farmers to farm is unrivalled and so important to the UK's food security that one wonders why



With just 20mm of rain in August and 8mm in September the soil was still rock hard below 30mm on 9 September

our industry is so undervalued. The challenge we all face is how to remain profitable so that we can continue to operate in the future. Notably, it's not only farms that are being squeezed financially but also the support industries which work to help us produce food to the high standards that the public expects in today's world.

Looking Forward

Finishing harvest so early could have presented a wonderful opportunity to establish cover crops during the first week of August to secure SFI payments. But with continuing high temperatures and only 1mm of rain on 1 August our Hanslope Series soil was still bone dry, so we held back.

As farmers it is in our nature to always be 'doing something'; 'doing nothing' after such an early harvest was difficult. Patience is key and the time could be better spent undertaking infrastructure projects around the farm than engaging in unnecessary and expensive 'recreational tillage', largely for cosmetic reasons.

Cultivating dry soil will only make it drier. There is the danger that instead of weed seeds/volunteers germinating so that they can then be taken out by mechanical and/or chemical means they will be buried, preserved and emerge in the growing crop, making control more expensive and difficult.

Within a week of finishing harvest, we had covered all the land with our Claydon Straw Harrow, on a diagonal to the direction of combining. The ground was so dry that this often-underestimated implement created what looked like a Sahara Desert dust storm moving across the fields, but it did a wonderful job. The 2cm to 3cm of fine tilth which it created, combined with levelling chopped straw to act as an insulation blanket, helped absorb heat, prevent sunlight baking the soil out and minimise evaporation losses.

On a small area of contract-farmed land not under SFI we also had the opportunity to carry out a second pass with the Straw Harrow to break off the growing shoots of volunteers / weeds, further reducing their numbers.



This cover crop, established after winter wheat, was showing through nicely in mid-September

To ensure that cover crops would germinate quickly when rain did arrive, we one-pass drilled half our planned area, running the leading tines on our 6m Claydon Evolution much shallower than normal to avoid bringing up clods. As a trial we broadcast seed on the remaining area with a Kuhn Aero pneumatic spreader.

Both areas were Straw Harrowed again to evenly distribute the straw and cover the seed, then we used our 15m Claydon Cambridge Rolls to break down any surface clods and consolidate the soil. The seed sat there for a few days until the first measurable rain in months fell in the last week of August to start the germination process and these cover crops will be sprayed off, providing a clean base point for drilling the winter wheat in mid-October. The spring cropping area will be drilled with winter cover crops which come free of volunteers and weeds and will provide an ideal entry for spring oats.

For Harvest 2027 two thirds of the farm will be winter wheat, mainly Elsoms Bamford which has served us well for several years, with small areas of three new soft wheat varieties as a trial to see how they compare. The remainder will go into spring oats.

I have never seen our soil this dry in September. The 20mm of rain in the last half of August was followed by 8mm at the start of September, much of which evaporated quickly because of the high temperatures. The original plan was to spray off our summer cover crops and volunteers/weeds during the third week of September and direct drill winter wheat before mid-October with the 6m Claydon Evolution.

The hardest thing now is to be patient and leave the dry soil, which suffered no damage from harvest traffic and will be in perfect condition when the time is right to drill it. As I write this in the second week of September our cover crops are at the cotyledon stage and volunteers/weeds are germinating strongly, but with little rain forecast everything could be delayed.

Recently I have seen numerous posts on social media by those who are trying to bully their soils into a seedbed but obviously struggling using conventional methods. I wonder why they are doing so when you can achieve excellent results



After spring oats had been harvested a cover crop was established and emerged strongly despite dry conditions



Straw Harrow created 2cm to 3cm of tilth

in much less time, with minimal diesel use, no breakages and very little wear and tear on machinery. Keeping our bank balance intact is much better than being busy!

Rather than 'chasing clods' I have been watching the markets and sold half of our wheat for pre-Christmas delivery, at an average of £200/t. This is pleasing after seeing the price stuck at £170/t for so long, but I'm still hoping that prices will increase further post-Christmas and prove that I was wrong to sell at that level!

Reducing Risk

Farming is all about managing risk, making judgements and not over-committing by stretching labour and machinery too thinly. Conditions this year were so dry that given the very high output of our machinery we could have coped with three times our farmed area, but in a wet year taking that approach could be disastrous. Many people remember that 1976 was another exceptionally dry year but most forget that it began raining in October and didn't stop until the following spring. We don't want to fall into that trap.

I see numerous farming business who are looking to expand paying high rents in the quest to achieve economies of scale, but one must ask why. Bigger doesn't always mean better and expansion brings greater risk, be it from increasing geopolitical threats, rising interest rates, unforeseen upward moves in input costs, greater depreciation, adverse weather, or any number of other factors. Ultimately, the best way forward could be to operate more efficiently, at lower cost and reduce risk.

More than ever farming businesses need to look at where money is being spent, what benefits it brings and where they can risk not spending. In my experience unnecessary operations to establish crops are one area to target and I hope that what I have said about the benefits of the Opti-Till® System will resonate. When planning for next season perhaps take a look at our online cost calculator at <https://claydondrill.com/calculator/> to research how much time and money you could save by changing your approach to establishing crops, with the bonus of higher yields, improved timeliness, much-reduced risk and far less stress.

DRILLS ON THE FARM

WHAT MAKERS HAVE BEEN UP TO

Written by Mark Hatton and Chris Fellows

We've been through the launches and the show stands of the drill makers in this issue to see what's new for autumn 2026. Here's what we found, from show launches, product news and what they've been posting from the field, so you know what's worth going to look at.



Weaving Machinery

Weaving had the biggest drill of the year at Cereals: a 12m-trailed Sabre, two years in development and the first 12m machine the Evesham firm has built. It runs 48 tine coulters at 250mm (or 60 at 200mm), a 6,200-litre pressurised steel hopper split three ways, and metering units Weaving now makes itself from stainless plate. It's £148,800, and Simon Weaving says a 12m GD disc drill follows in 2027. The first one has been out drilling in South Warwickshire this month.

Further down the range there's a trailing kit for the Fenix disc drill so a 100hp tractor can run it, a grain-and-fert Fenix that mixes both through one head, and an updated 3m Lynx entry-level direct drill in 32-row or 24-row form. Weaving was also on the demo field at Agrii's Appleton Roebuck direct drilling day on 30 September, and the home farm at Chadbury, back in hand after 15 years of veg and biogas cropping, is putting the Sabre and GD through a remedial rotation of wheat and double cover crops, with open days to follow.

OPICO

OPICO's drill line-up has changed shape. Sky went back to its French owner at the end of 2024, and in its place OPICO took on the Simtech range late last year, building the T-slot coulters to order and putting spares on its MyOPICO web shop. At Groundswell, it showed the 3m TJG300 with a 1,000-litre Stocks steel hopper, which also carries it over the line for FETF funding, and Glenn Bootman had the 4.8m TS-480AP pneumatic drill

working at Agrii's Appleton Roebuck day near York in September.

For grassland and cover crops, there's the HE-VA G-Drill, a disc drill for stitching grass, cereals and pulses into leys and stubbles on 400mm Vector discs with hydraulic weight transfer. It had its first working demo at ScotGrass in May, now with a 1,000-litre hopper option and twin electric fans good for 300kg/ha, and OPICO's been out this autumn putting a herbal mix straight into permanent pasture with it. It qualified for the last FETF round at up to £15,067.

Väderstad

Väderstad used LAMMA in January to launch the next-generation Spirit 400-900 and the 12m Inspire 1200, both on the new TriForce II coulters suspension that holds coulter pressure over rough ground, with a new following harrow and hydraulic depth adjustment from the cab. Since June, the Generation II row unit for Tempo and Proceed has been available: a narrower furrow, depth and closing-wheel pressure set



Väderstad factory tour



used to pile up in storage. Some of the welding robots have been running for 20 to 25 years and only get replaced when spares run out, not because they're worn. The Tempo hall is building the new Generation II row units, and a 12m Tempo L was going down the line while they watched. Machines leave either tractor-ready or knocked down for a container, and Crister told the group the next push is South America, with Brazil the big one.

The second video is the field day, and it's David Jones, 30 years on Väderstad kit, who does the talking. He's run TopDowns for nearly 25 years, has a 2014 and a 2019 on the farm, and reckons the two of them will clear 250 to 300 acres a day at a steady 10 to 11kph when the season's tight. He runs a 50mm Marathon point with an 80mm shin for mixing chopped straw. The new E-Services version sets discs, tines, levellers and packers independently from the iPad, with four presets and the option to run depth off a prescription map, so headlands and heavy patches get worked deeper without anyone leaving the cab. Also on show was the

from the seat, and it retrofits to existing machines. On the cultivation side, the Carrier XL, XT and 925 gained a third disc axle front tool, putting 50% more discs in the ground for ultra-shallow work.

For a look behind the curtain, Joe Seels of Future Farmers went out to Väderstad in June with a bus of UK farmers and was the first person allowed to film inside the factory, with Crister Stark himself doing the tour. Building started there in 1972, and it's now close to 100,000 square metres under roof, nearly 10ha, with about 1,050 people on site. The thing Crister is proudest of

is the tube line: Väderstad is the biggest user of square tube in Sweden, all of it cut by laser straight from the CAD file, one shift ahead of when it's needed, with two staff per shift keeping three or four lasers fed. The steel isn't Swedish, mind; most of it comes from Finland. "Swedish steel bites," Crister says, but nobody in Sweden makes square tube anymore.

The welding is done by pairs of robots, one holding the part and one welding, which does away with the fixtures that



Scan to watch Joe's videos

Factory tour with Crister Stark



Field day with David Jones



new Tempo T, a six or seven-row planter on a telescopic frame that changes row spacing, with GPS tramlining that lifts the row units instead of marking a line.

Virkar, from Samagri

Virkar, imported by Samagri in Hampshire, has had a busy year back home in Spain. The Dynamic range (4.5 to 7m, 5,300-litre hopper, on-the-move coulter pressure up to 270kg, with tine, disc or disc-and-coulter options) is now joined by the Lite D&C, a lightweight disc-and-coulter drill where the disc row can be lifted out to run the tines alone. It's built to pair with the new Vaken front hopper: 2,300 litres, pressurised, two products, ISOBUS. At FIMA in February, Virkar showed the Tactic, the next step on from the big Ocean drills, and it picked up an innovation award at the Sant Josep fair in March. It's worth asking Samagri which of these are heading for the UK.

Horizon Agriculture

Horizon's Gen 3 DSX row units are 20kg lighter and about 40mm narrower than the old ones, so they'll now go down to 150mm centres where the straw's been baled. The range has filled out at both ends: new 3m and 4m rigid-frame trailed drills for 105 to 140hp tractors, good for up to 2.5ha an hour, and 7.5m, 8m and 9m versions of both the trailed



DSX and mounted MDSX at the top.

At Cereals, the Sutton St James firm showed its RotorFlex peristaltic pump for liquid fertiliser through the drill. A rotor squeezes a hose so the liquid only ever touches the inside of it: no valves, seals or filters, 12 to 24 outlets, up to 240 litres a minute, hoses swapped in the field in minutes, and it retrofits to any make of drill. The business behind it has grown fast: over 400 machines sold, two-thirds of them DSX, turnover heading for £12m, nearly 50 staff, a 26-acre site bought for a new factory by 2028, and sales into more than 35 countries. Closer to home, Russells had a 6m Gen 3 DSX on 18cm rows drilling

winter wheat at 240kg/ha near Lincoln in mid-October.

Dale Drills

Dale Drills took the LAMMA 2026 Arable Establishment Innovation Gold Award for its E Drill-Control system, an electro-hydraulic set-up developed by engineer Tom Crosbie with UK suppliers. It puts every hydraulic function of the Eco drills on a screen and joystick in the cab, so tine down-pressure can be changed on the move as the ground changes across a field, instead of stopping to reset it.

Two more things worth knowing. In June, Dale became the only source of a tine holder for Bourgault's VOS opener range, so an Eco can swap its standard 12mm tungsten tine for 12mm or 19mm narrow points, or 50, 75 and 100mm band openers, mainly for those on 25cm rows who want to band sow. And the Scorpion drilling assembly puts a single narrow tine, a single or double seed boot and twin Güttler closing wheels on 25cm centres for anyone planning to inter-row hoe, factory-fitted or retrofitted.

The pitch behind the advert is horsepower. At 20hp/m, a 6m Eco M runs on 150hp where a strip-till drill wants 300 to 350, and Dale reckons the £169,000 gap between those two tractors costs about £22,300 a year in finance and depreciation before you've drilled an acre. Tom Dale will be talking through 30 years of CTF and soil health at Harper Adams' Soil and Water Conference on 9 December.

Vredo, from Campey

Campey Agriculture brought the new





CULTI 5-row tined drill to Agrii's Appleton Roebuck day with local dealer Peacock & Binnington, so it's been seen working in Yorkshire stubbles this autumn.

On grassland, the 6m GreenMaster 600 Compact, developed with Güttler for the UK, has gained hydraulic adjustment of tine angle and roller from the seat. Geoffrey Wox's case for the SuperMaxx is simple: a 5m machine on a 120hp tractor at around 5 litres/ha of diesel, whether it's cultivating or drilling, for a fraction of the price of a dedicated drill.

Go and kick the tyres

If you're weighing up a change for next autumn, most of these will be in the halls at LAMMA on 20 and 21 January, alongside CropTec at the NEC.

Vredo DZ5 Agri Overseeder to LAMMA and Cereals. It's the first Vredo that does both jobs: 7.5cm rows for overseeding grass, switching hydraulically to 15cm for direct drilling into arable ground or bare land, with three separate metering systems so grass, herbs and legumes go in together in one pass. The DZ5 can also take front tools to scalp or clear residue ahead of the discs.

The 329 Agri now comes with a 1,050-litre hopper as standard, which meets the direct drill grant spec, and Vredo still quotes 96% germination from its double-disc slot.

WOX Agri Services

Wox marked 20 years in business with its first Wox Fest open day at its Northumberland base this year. On the drilling side, the Güttler SuperMaxx tine cultivator now has a proper tine-

drill version using a coulter boot Wox designed itself, fed from any front tank at 12.5cm spacing, with the seeding kit coming off again when it's back to cultivating. Wox took the SuperMaxx



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MICRONUTRIENT BOOST TO OSR CANOPIES MAY UNLOCK SPRING NITROGEN SAVINGS

Growers are being urged not to overlook the importance of micronutrients in oilseed rape (OSR) this autumn, to give crops the strongest possible start next spring and potentially unlock nitrogen savings.

With a reported increase in OSR in the ground this season, the focus now should be on getting crops into the best possible condition before winter.

"Growers should be focusing on appropriate micronutrient management this autumn if they want to help build a robust crop which is capable of utilising available nitrogen efficiently," says Agrii's Bios, Micronutrition and Adjuvants Business Manager, Dr Mark Glover.

That means monitoring crop development through the autumn, using tissue analysis to identify potential deficiencies and paying particular attention to molybdenum and boron, alongside the major nutrients.

Micronutrients can influence how effectively a crop converts applied nitrogen into biomass and, ultimately, yield. As a result, nutrient decisions made during establishment can have a significant bearing on canopy size in February and the amount of nitrogen required to achieve target yields.

Highlighting the potential spring



OSR plants in Autumn

nitrogen savings associated with a larger canopy, Mark explains: "For a 3.5t/ha OSR crop, a GAI of 0.5 can require around 183kg/ha of spring nitrogen, compared with about 100kg/ha where GAI is 1.5."

That represents a difference of more than £100/ha in nitrogen cost (34.5% N @ ~£400/t), with the lower-GAI crop requiring around £249/ha of nitrogen compared with approximately £136/ha for the crop with a GAI of 1.5.

The figures highlight the value of establishing a robust canopy and root structure ahead of spring, rather than trying to bring a weaker crop back later.

"There is nothing worse than getting to February and trying to recover a

crop rather than optimise it," says Mark.

"A GAI of 0.5 is okay and manageable, but the cost of getting a 3.5t/ha yield from that is substantial with bagged nitrogen."

He encourages an integrated approach to nutrition, beginning with soil testing and supported by tissue analysis during the season.

"If we don't measure it, we can't manage it properly," he says.

Molybdenum

Molybdenum is a key nutrient that requires particular attention in autumn and spring, especially when trying to optimise use of applied nitrogen in any form, says Mark.



Dr Mark Glover, Agrii's Bios, Micronutrition and Adjuvants Business Manager

Sulphur is also critical to nitrogen-use efficiency and should not be sacrificed. However, sulphur application has the potential to restrict molybdenum uptake within the plant, even where soil molybdenum levels appear adequate.

"That comes back to tissue analysis," he says.

Low molybdenum can often be easily remedied with a foliar micronutrient application, making it a nutrient worth monitoring as the crop develops.

Rooting

Developing a strong root system is another important part of building a robust OSR crop.

Many studies have highlighted the relationship between rooting and yield, which is particularly relevant in seasons when crops need to use available water and nutrients more efficiently.

Boron is needed for good root development in OSR, making autumn boron status another key

consideration alongside molybdenum.

However, Mark stresses that when it comes to boron, growers should consider the boron formulation when a requirement has been identified.

This is because boron is relatively immobile in OSR as it produces limited quantities of polyols, compounds involved in the movement of certain nutrients within the plant. Mark says boron formulations associated with polyols improve nutrient mobility because they are transported via the phloem rather than remaining in the xylem.

Agrii trials comparing boron formulations found that conventional boron showed limited movement into younger leaves, while its PolyactivB formulation resulted in significantly more boron detected in younger, developing leaves.

Stress

While more applicable in spring and summer, nutrient management also helps OSR cope with environmental

stress, including drought and heat. Mark highlights magnesium and potash as particularly important nutrients in this context.

Potassium plays a major role in water and nutrient regulation and plant respiration, while adequate magnesium is important for maintaining photosynthetic activity.

There are concerns over low potassium carryover from last season, he adds, making K availability something growers should monitor, particularly where straw has been removed.

Finally, growers should also think about the form of nitrogen applied during autumn establishment, particularly where the crop is already under stress.

Mark says: "Be conscious of what form of nitrogen you apply to a crop at that early stage. If we do apply ammonium nitrate to get a crop going, it has to use a lot of its energy to then convert it into something that a plant can utilise."



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The LAMMA logo is displayed in white capital letters within a white rounded rectangular box. The background of the entire poster is a photograph of an agricultural exhibition with various machinery and people, overlaid with a semi-transparent purple filter.

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