Agrii Journal

Autumn 2025

Agri intelligence

Don't miss our round-up of iFarms and the Scottish Agricultural Awards on the back page!

RHIZA: MAKING DIGITAL FARMING WORK FOR YOU. FROM FARM COMPLIANCE TO VARIABLE RATE PLANNING

What's inside?

02 Sustainability leader Amy Hardwick wins 2024 Barrie Orme Shield

07 RHIZA: making digital farming work for you

10 Live from Groundswell: a Plain English policy update with AIC, AHDB and Agrii

12 Introducing Ympact – a new biostimulant seed treatment

13 Lessons from the Italian ryegrass frontlines

15 Soil treatment saves up to 40kg P/ha

19 Meet the fruit team

20 BASIS insight: examining cherry fungicide programmes

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AGRII INVESTS £1 MILLION IN APPLIED CROP SCIENCE R&D INFRASTRUCTURE

This summer, Agrii celebrated the expansion of its research and development capabilities with the completion of a 480m² glasshouse at Origin Enterprises' Technology Centre in Throws Farm, Essex.

The £1 million research and development facility is equipped with the latest technologies and will provide Agrii with evidence-based insights at the forefront of applied crop research in the UK and further afield.

With enhanced control and year-round trial capabilities, the facility will accelerate product testing across crop protection, bio-stimulants, adjuvants, and microbials, soil nutrition, seed treatment and delivery, and environmental conditions like pest and water management.This allows Agrii to bring cutting-edge innovations to field trials faster, helping farmers, growers and amenity professionals stay ahead with evidence-based crop research they can trust.

Ronan Hughes, Managing Director of Agrii, commented: "This facility will attract research investment from across the agriculture, horticulture and amenity sectors, where supporting data for products is often limited or focused on niche crops. What makes this investment so exciting is the ability to explore broader applications and test 'what if' scenarios across a range of crops and growing conditions, which is essential for addressing future regulatory and climate challenges."

Dr Ruth Mann, Agrii's Head of Integrated Crop Technologies, added: "This investment elevates our research capacity, setting a new benchmark and transforming how we approach crop science. The glasshouse's highly controlled environment enables us to extend trial seasons, accelerate learning through a rapid 'fail/fast' approach and gather year-round data on emerging products and technologies.

This is especially critical for biological crop protection products, where performance is often shaped by environmental and application factors rarely captured in conventional trials. With advanced technologies like subsurface sensors, hyperspectral imaging and precision application systems, we can deliver precise, high-quality insights that drive effective, sustainable crop management."

Glasshouse trials in action

Don Pendergrast provides an update on the trials they have conducted using the glasshouse so far.

Don Pendergrast

How to get the best out of biostimulants for drought-stressed sugar beet crops

We have set up a trial examining biostimulants that have proven effective in field trials, and how we can best use these in drought situations. We want to know, when there is a moisture deficit, what are the best products to use?

The key to the moisture trial is to determine the optimal time to apply the biostimulant for the best effect. There are two ways of alleviating moisture stress in plants using biostimulants. The first is a primer, which is applied before the stress, and the second is by applying during stress to rescue it.

We would naturally see amino acid products as being better at rescuing crops. In contrast, humic acid-type products that encourage rooting to tolerate stresses are an example of a biostimulant best suited to an early 'primer' application. The results will help us to recommend these products in the right situation if this summer's conditions recur.

The benefits of humic substances in carrot and onion crops

We have seen some great results in the field using humic substances in crops like onions; last year, we saw a notable increase in yield. In fact, in root crops generally, we have seen good results from humic substances when they are applied pre-emergence.

If you want to apply it to the soil, then the logical thing to do is to use it with pre-emergence or early post-emergence herbicides. Therefore, we are seeking to find out if they can be used effectively in combination with herbicides and if they help reduce any crop effects from the herbicide.

We are examining humic substances in combination with both safe herbicides and herbicides known to have some issues with crop safety. We have learned that they can be used in conjunction with pre-emergence herbicides, but they don't have safening properties.

Improving lettuce vigour to reduce the days to harvest

We are investigating how biostimulants can increase the vigour of lettuce crops to potentially reduce the time to market specification. When we previously conducted a similar trial, we only measured the yield, but we found that early vigour differences translated into increased yield.

In the last trial, all the biostimulants improved vigour and yield. The product that showed the most significant effect at the start was also the one that gave the best results, and this was statistically significant. We hypothesised that the vigour increase would equate to a reduction in the time to harvest of seven days for this product.

This year's glasshouse trial is a rerun of that trial, but instead of measuring the yield of the crop, we are analysing the time it takes to get plants to a specific growth stage.

SUSTAINABILITY LEADER AMY HARDWICK WINS 2024 BARRIE ORME SHIELD

BASIS has named Amy Hardwick, Sustainability and Environmental Services Manager at Agrii, as the winner of the 2024 Barrie Orme Shield, sponsored by BASF. She was awarded for her exceptional performance during her BASIS Certificate in Crop Protection (Agriculture) examination and trained with Debbie Wedge with Vale Training as course providers.

Raised on a livestock farm in Mid Wales, Mrs Hardwick developed a strong connection to farming and the countryside from an early age. She went on to study Geography and Environmental Management at Harper Adams University before joining Agrii, where she progressed from a Sustainability Assistant to her current leadership role. In her work, Amy supports farmers in adopting practices that protect the environment while also making good business sense.

Mrs Hardwick took the BASIS Certificate in Crop Protection (Agriculture) to broaden her technical understanding of crop production, particularly integrated pest management (IPM). This has helped her to develop practical tools like IPM recording templates and support projects that encourage sustainable farming.

Reflecting on her learning journey, Amy said:

"I undertook BASIS Crop Protection to ensure I'm fully informed of the challenges and opportunities in growing food, so I can tailor sustainability solutions that work alongside them, not against them."

Paul Haynes, Field Sales Manager at BASF, said:

"I'm grateful for the opportunity to have been involved with the 2024 Barrie Orme Shield award. After 15 years supporting BASIS examinations, it's always heartening to see such enthusiasm from candidates like Amy Watkins, who is a worthy winner of this year's Shield. At BASF, we're passionate about supporting the future of agriculture, and it's encouraging to see Amy's commitment to environmental stewardship and best practice in crop production. Congratulations, Amy, and all the best for your future."

The runners-up for the Barrie Orme Shield 2024 were Christina Dutton, an Agronomist at Agrii, and Dr Andrew Gladman, a Senior Research Entomologist at ADAS.

> *"I undertook BASIS Crop Protection to ensure I'm fully informed of the challenges and opportunities in growing food, so I can tailor sustainability solutions that work alongside them, not against them.*

NEW FERTILISER DEVELOPMENTS REWRITING THE RULE BOOK

Developments in fertiliser technology continue apace with the latest of these promising reduced application rates from more efficient use of nutrients and significant reductions in carbon footprint across the food supply chain.

While essential to delivering consistent high outputs of top-quality food, fertilisers have increasingly come under the spotlight in recent years by both an industry keen to reduce carbon footprints of production and growers desperate to manage input costs.

But the availability of new low carbon fertilisers combined with innovative technologies able to improve utilisation of both macro and micronutrients is set to be a game changer, believes Agrii national fertiliser manager Tom Land.

"We're at a point where not only can we make fertilisers in a far more sustainable way than ever before, but we're also able to combine these with exciting new products that can ensure more precise delivery and better uptake of nutrients," he says.

"At the forefront of this revolution is undoubtedly the introduction of cost-effective low carbon fertilisers that could cut the carbon footprint of traditional fertiliser manufacture by up to 50% and this is a true game changer."

The energy used in fertiliser production is only half of the equation though and advances made in improving nitrogen use efficiency (NUE) on-farm to increase nutrient uptake and reduce potential losses to the environment are also accelerating, he says.

"As well as new high efficiency nitrogen fertiliser products, such as late applied foliar nitrogen, we're learning how to increase NUE from greater knowledge of the soil processes involved, greater attention to application timing plus better overall management."

New bespoke fertiliser technology

But there is a whole raft of new products and technologies coming through that can really supercharge overall nutrient use, Tom Land says.

"What we are able to do now is formulate other types of fertilisers with different release profiles to combine quick release and slow release of nutrients, but that also come with a potentially lower carbon footprint.

"We are also able to increase the biological availability of those nutrients by different coatings on the fertiliser to stimulate biological activity in the soil around where the fertiliser is placed.

"The acids in BioPHOS technology, for example, are extracted from Leonardite by physical rather than chemical extraction, which maintains their natural acidity without the addition of synthetic acids.

"Humates stimulate microbial activity for soil health and plant hormones for optimum establishment and this ensure plants are in the best physiological state possible to use nitrogen applications as efficiently as possible as the season progresses."

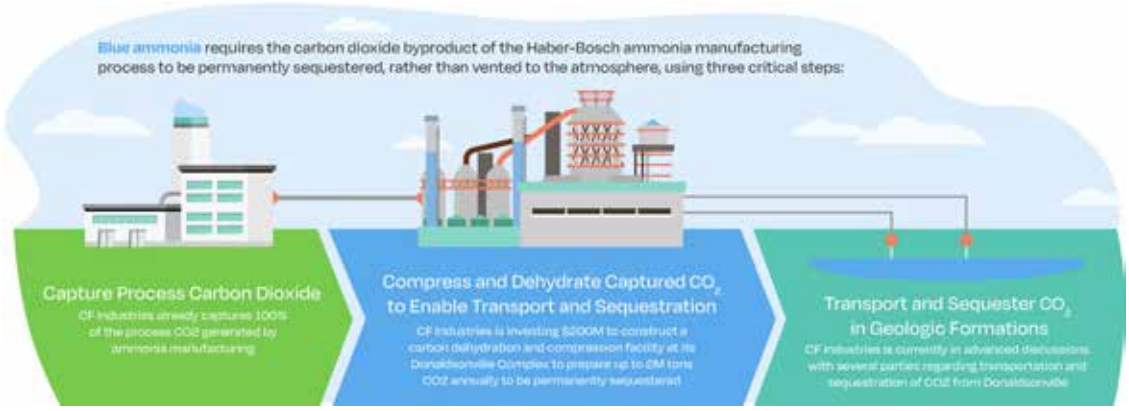
Micro-Match micronutrient technology is another example of high-tech fertiliser development, he says.

"This works in conjunction with existing fertiliser products and is also proving invaluable in filling the early season 'hunger gap'.

"Farmers can buy their traditional fertiliser as usual, for example, but if they have a specific nutrient deficiency that is a challenge for them they can get fertiliser that is coated with a specific Micro-Match formulation.

"We can vary the P and K but we can also include a combination of micronutrients that could be specific to an individual field or crop as identified by soil and grain testing. This can be applied to either the base fertiliser or top-dressing fertilisers.

"We can now make fertilisers bespoke to individual farm requirements so every grower can have a product that is specifically designed for their own situation, farming system and soil type."



The blue ammonia process: capturing and permanently storing CO_2 emissions from fertiliser production to cut the industry's carbon footprint. Image credit, CF Fertilisers.

AGRII 2025 TRIALS SHOW WIDESPREAD FALL IN YELLOW RUST RESISTANCE

Latest Agrii trials are showing marked drops in yellow rust resistance scores for some of the UK's most popular winter wheats in 2025 compared to 2024.

The results follow the identification of a new strain of yellow rust experienced across the country in 2025, with 80% of varieties showing a fall in resistance averaging over 1.7 points across the 31 varieties assessed across 14 sites, says the company's John Miles.

"The reductions are widespread, with some of the highest-yielding varieties growers have come to rely on being the most affected. Growers need to keep these and other results in perspective when choosing varieties for next year, but equally, the severity of the changes should be appreciated this autumn to avoid significant challenges next spring.

"We're seeing some scores that were 9.0 last year, the highest in our ratings, drop to 3.0 and less, and while that sounds drastic, we're urging all growers to look at varieties in the round and balance yellow rust susceptibility with other key traits.

"As we have been saying at our summer events and open days, many of the varieties affected still have value. For many farmers, yellow rust was a non-event this year, but next spring could be more challenging, and we all need to remain vigilant."

Some of the most vulnerable varieties appear to be established names that previously had the highest level of resistance to yellow rust, he points out.

"Group 4 seems to have been the hardest hit, with five varieties above 8.0 in 2024 falling to as low as 2.1 in 2025.

"Popular high-yielding hard wheat varieties like LG Typhoon have gone from a 9.0 in 2024 to 3.5 in 2025. KWS Dawsum slipped from a 9.0 to 3.9, LG Beowulf from 7.7 to 3.1, and DSV Champion from 8.1 to 2.1.

"Of the soft wheats, LG Tapestry and Blackstone have suffered the most, going from a 9.0 to a 4.7 and 8.4 to 3.5, respectively, and whilst Group 2 has fared the best of all, with an average fall in score of around 0.5, Mayflower has gone from 9.0 to 4.8. In Group 1, new addition KWS Vibe has been largely unaffected, going from 8.6 to 7.9, while SY Cheer has fallen from 9.0 to 5.7."

Agrii sees varieties falling into three 'pots' and has been urging its customers to evaluate risk and management based on these, John Miles explains.

"Pot 1has succumbed to yellow rust, but in the wider scheme of things, they still offer much, but they have lost their full immunity, while pot 2 varieties were immune but are quite badly affected, dropping to a medium level of resistance.

"This middle group captures some big varieties like KWS Dawsum and LG Typhoon, which still have real value, either because of septoria resistance, as with Typhoon, or the tried and tested performance demonstrated by Dawsum.

"Pot 3 is the new high input group; these may still have some really positive traits or the highest yield, but need considerable care. We can think of these as the new Oakleys."

The Agrii scores do tend to identify the 'worst case' scenarios by their calculation method, John Miles stresses, but this in turn identifies which the most susceptible varieties are.

"Our scores are based only on those sites where we have seen the problem. So, if we have ten sites and only five show yellow rust, the average will be based on those five, not the whole ten," he explains.

"We believe this approach gives a better indication of varietal resistance when significant levels of pathogen are present. Just because a pathogen is not in one area in one year, it does not mean it will not be there the next.

"If a new race is seen across a good number of sites, and considering rust is wind-blown, it has the potential to reach every corner of our small island the next season.

"Growers need to talk to their agronomist and build strategic yellow rust control into their fungicide strategies when planning for next year, particularly if they are growing one of the popular varieties that have suffered the most this year.

"Yield, suitability to the location and rotations, overall resilience, lodging and other key disease resistance scores, particularly for Septoria, should all be factored in before dismissing varieties on their yellow rust score alone.

"*Septoria tritici* and lodging are arguably much more challenging and expensive to control than yellow rust. We still have tebuconazole and strobilurins, which are well priced, but they are not persistent, and spray intervals can be small if pressure is high.

"All growers should remain vigilant next year, as the exact nature of the new strain of yellow rust and its effect on all varieties in the future is still largely unknown.

"We need to focus on regional risk for yellow rust and be mindful of basics such as sprayer capacity, timeliness and quality of applications to ensure control is as effective as possible. 'Prepare for the worst, hope for the best' is perhaps the best summary.

"For our part, we will be monitoring the situation on an ongoing basis and bringing as much science-backed data as we can to the debate to help advisors and growers.

"We will also be continuing our 'tussock' trials across 16 UK sites to evaluate what races of yellow rust are prevalent across the years, the heritage varieties with most resistance to these and how we can use this information to identify solutions for the future."

Key points

- **High yielding Group 4s affected the most**
- **Many of those with the best scores to date show the biggest falls**
- **Nearly 80% of all popular RL varieties show a decrease in YR resistance**

If you'd like more information on variety disease score ratings, view our yearbook microsite via the QR code or contact your local Agrii Agronomist: agrii.co.uk/contact

GROSS MARGIN ANALYSIS FROM AGRII

Our new service helps you understand your business and plan ahead with confidence.

Know your margins – plan the season with eyes open

Costs move faster than crop values. Inputs are often paid months before grain is sold, creating pressure on working capital and leaving little room for error. Gross margin analysis gives a straight answer to a simple question: which crops are paying, and which aren't after variable costs?

Three questions every grower should be able to answer

Which crops are comfortably covering their variable costs, and which are marginal?

What happens if fertiliser moves, yield slips, or prices change by £10/t?

Where are the cashflow pinch points across the year, and how can they be bridged?

If you don't have those answers to hand, our new service will get you there.

How it works

Working with your Agrii advisor, we will:

+ Collect accurate farm-specific data on yields, costs and prices
+ Produce tailored enterprise and whole-farm gross margins
+ Test "what if" scenarios for changes in inputs, yields or crop mix
+ Map spend against sales to highlight cashflow risks

What this means for you

+ Clear view of where money is going
+ Better targeting of nutrition and inputs
+ Greater confidence in rotations and new crops
+ Benchmarking against peers and industry averages
+ Evidence to support business planning and loan applications

Plan ahead with confidence

Knowing your gross margins is essential. Speak to your Agrii Agronomist or Environmental Advisor to find out more.

PULSES UNLOCK 25% NITROGEN REDUCTION POTENTIAL

Trials conducted by Agrii as part of the NCS project are shedding light on how to optimise nitrogen fertiliser use in winter wheat crops following winter beans.

Small plot trial results have shown nitrogen applied to winter wheat could be reduced by 25% if following a winter bean crop, with little effect on yield and an uplift in gross margin.

The trial is one of several by partner organisations in the NCS – Nitrogen Efficient Plants for Climate Smart Arable Cropping Systems – project, looking at the potential for pulses in the arable rotation and livestock diet. NCS is a four-year £5.9M Defra-funded research programme involving 200 UK farms and 17 industry partners.

The project aims to show the potential to reduce emissions from agriculture by 3.4Mt CO_2e per annum through increasing pulse and legume cropping in arable rotations to 20% across the UK and replacing 50% of imported soya meal used in livestock feed rations with home-grown legumes.

In the 2023/24 season, Agrii ran small plot nitrogen trials at Cornish Hall End in Essex and Sharnbrook in Bedfordshire, comparing different nitrogen rates and application strategies. Starting from the RB209 recommendation of 190kg N/ha for winter wheat after winter beans (for the deep clay and medium soil at the two sites), the trials tested rates above (at 125% of RB209 i.e. 238kg/ha) and below this level (at 75% or 142kg and 50% or 96kg/ha).

They also compared two-split and three-split nitrogen application programmes, with the three-split approach including an early application around growth stage 25.

Lucy Cottingham, Agrii's Digital Agronomy Development Manager, explains: "Our starting point was the RB209 recommendation, but the focus has been whether we can reduce that without too much yield penalty.

"We did soil mineral nitrogen testing in the autumn, which was then followed up in February," she continues. "We found that at both sites – particularly at 30-60cm depths – the nitrogen retention was greatest".

Drone imagery using NDVI measurements showed that – as expected – early nitrogen application increased biomass early in the season, while the end-of-season difference between two and three-split programs wasn't always visually obvious.

PlentySense nitrogen blades were used to monitor nitrate in soil solution at different depths at key points in the season. While there is not enough data yet to draw conclusions, they proved useful for understanding where the concentrations of nitrate were in the soil profile and how well the crop could capture this in relation to rooting development.

With the Essex trials, a nitrogen rate of 142kg N/ha (75% of the RB209 recommendation) achieved yields of 9.42t/ha. This was very comparable to those of the 190kg N/ha rate (9.48t/ha), suggesting that significant nitrogen reductions are possible without sacrificing yield.

In the same trial, a three-split nitrogen programme out-yielded the two-split plots, giving 0.3t/ha more overall, suggesting that splitting nitrogen applications at this site improved nitrogen uptake. "It could be that the early nitrogen provided the biomass advantage and therefore extra yield, and the higher winter rainfall meant less residual nitrogen was present," adds Lucy.

Ear counts were very similar across the 142kg, 190kg and 238kg application plots, but grain protein and grain nitrogen both increased with nitrogen rate, with the highest figures coming from the two-split programmes compared with the three-split.

Economic analysis then revealed that the three-split regime resulted in the best gross margin across all the application rates, with the 142kg N/ha rate performing better than the 190kg N plots.

The trial in Bedfordshire showed similar trends, with 142kg N/ha performing well, yielding 7.88t/ha, compared to 7.95t/ha for the 190kg N/ha plots. It was noted that the heavier soil types at both trial sites likely contributed to nitrogen retention. As several of the Bedfordshire plots reached the 13% grain protein required for milling premium, this led to the highest gross margins.

The carbon footprint of the 190kg plots was 646kg CO_2 equivalent (e) per hectare, compared to 482.8kg/ha CO_2e for the 142kg plots. By reducing the nitrogen rate from 190 to 142, we achieve a 163.2kg/ha CO_2e reduction, indicating a lower environmental impact without compromising yield or return on investment.

"Overall, what was really positive was that the 142kg and 190kg plots were very close in terms of yield but benefitted from a higher gross margin. It suggests that we can reduce nitrogen by 25% with little effect on yield and get a better return on investment."

For the 2024-25 season, Agrii have drilled small plot trials of winter wheat at our Stow Longa Technology Centre in Cambridgeshire. These wheat plots are drilled over the top of where different pulse blocks were last season, comprising winter and spring beans, combining peas, chickpeas, lupins and haricot beans.

The winter wheat plots have had four rates of nitrogen this spring: 145, 160, 175 and 190kg N/ha applied in a three-split programme. We are also looking at two nitrogen products: one with a stabiliser and one without.

Summary of Agrii's initial findings:

- **Reducing nitrogen rate to around 142kg N/ha (75% of RB209) is possible for winter wheat after winter beans, especially on heavier soils.**
- **Three-split nitrogen application programmes could improve nitrogen uptake and yield.**
- **Tools like nitrogen blades that monitor the soil's nitrogen status may help fine-tune application timings.**
- **Soil type should always be considered. or example, lighter, sandier soils may require different nitrogen management strategies.**

RHIZA: MAKING DIGITAL FARMING WORK FOR YOU

From farm compliance and field scouting to variable rate planning and FMS integration, RHIZA has the tools to help you better manage your business now and in the future.

RHIZA, the UK's leading digital agronomy and precision agriculture service, has announced exciting new enhancements to its market-leading platform, Contour, addressing two major farmer challenges: SFI and the upcoming changes in the Farm Management Software (FMS) arena.

TELUS Agriculture, the UK and global leader for Farm Management Software, is rolling out its 'tool of the future', TELUS Crop Management (TCM), which will be fully integrated with Contour.

With new SFI-compliant Integrated Pest Management (IPM) and Soil Management Planning (SMP) features, planned integration with TCM, and major usability improvements, RHIZA is fast becoming the complete digital farming solution. From soil mapping and precision applications to next-generation satellite imagery and disease forecasting, RHIZA transforms data into actionable insights.

With over 15 years of experience and a dedicated team of 40 experts, RHIZA has evolved from offering soil analysis to delivering a comprehensive suite of digital land management tools. Backed by Agrii's industry-leading research covering 40,000 trial plots and a national network of Digital Technology Farms, its solutions are tested, trusted, and proven.

Soil mapping remains a cornerstone for many RHIZA customers entering precision farming. Each year, RHIZA's 16 field operators map and sample more than 120,000 hectares, recording soil texture, nutrient levels, organic matter, and pH. All data is accessible via Contour, which offers tools for variable-rate application of seed, fertiliser, and lime.

In recent years, RHIZA and its sister company, Origin Digital, have transformed Contour into far more than a mapping tool. In close collaboration with farmers and agronomists, the development team has delivered practical tools driven by user needs and continuously refined through feedback.

More than a compliance tool

The Contour platform features best-in-class planning tools, including nutrient management, livestock compliance, variable rate applications and manure management.

The smartphone app, Contour Mobile, has undergone a complete overhaul to give users a quick, intuitive scouting tool. This enables users to not only scout crops utilising layers such as satellite imagery and soil maps, but also tag observations or attach PDF documents, pictures and other relevant material which can be used to demonstrate compliance with environmental schemes. These observations and attached files can be shared with others when needed. Users can also download stored data directly to the smartphone app for offline use, and changes will then be uploaded to Contour when next connected to Wi-Fi or 4G.

Other recent additions include IPM and SMP tools. As with other elements of the platform, the process is designed to be intuitive, walking users through each step. Where information has already been entered, such as in other tools within Contour, the platform will use this to prepopulate the relevant fields, reducing the time involved in creating new plans.

The cropping module in Contour has been fully redesigned and rebuilt. It now has the capacity to be as flexible as modern farming businesses require. From sequencing multiple crops in the same season, as is often the case with silage leys or when forage maize is undersown with grass, to boundary changes to reflect game cover strips and environmental areas or split field cropping.

A soon-to-be-launched land management module will allow planning of all land usage within a business. This means that rather than assessing the value of environmental measures in isolation, these can be compared with crop performance on any given parcel of land.

As processors and end-users introduce sustainability schemes of their own, RHIZA has the tools to help land managers identify how and where to integrate these measures without compromising output.

TELUS Agriculture integration

From summer 2026, the Contour platform will offer full integration with TCM, previously known as Farmplan Gatekeeper and Muddy Boots Greenlight Grower Management, to make sharing field information and plans a seamless experience.

By integrating the new TCM platform with Contour, users can enjoy the benefits of seamless data transfer, allowing them to use whichever platform they prefer. TELUS Agriculture and RHIZA are committed to making operations as efficient as possible to remove the need for data to be entered multiple times across both platforms.

Plans can be made in Contour and then easily sent into TCM to be managed, which, when completed, will be passed back to Contour. By working with TELUS Agriculture, RHIZA can offer users the best of both worlds: confidence in compliance, data insights and oversight of farm operations alongside industry-leading digital and planning tools.

Listen to our podcast!

To find out more

Call 03300 949 150, email info@rhizadigital.co.uk, visit rhizadigital.co.uk

We are proud to be recognised as a Farm Data Safe certified organisation – demonstrating our commitment to secure, transparent, and responsible farm data practices.

FARM DATA SAFE

What do agronomists say about RHIZA and Contour?

Roy Willis

Uses RHIZA and Contour for:

+ Soil zone analysis for variable rate P and K applications
+ Soil scan data for variable rate drilling
+ NDVI or GCVI imagery for variable rate nitrogen applications
+ Adjusting plans in the platform based on his experience and that of the farmers

"My focus with growers is always based on understanding the crop potential or any in-season limitations. I aim to lift the areas that may have less potential, whilst pushing the areas with more yield potential.

"I believe precision agronomy tools should go hand-in-hand with my in-field decision-making. RHIZA and Contour provide the tools to do this."

Justin Wycherley

Uses RHIZA and Contour for:

+ Creating nitrogen, P and K plans
+ Collating soil nutrient analysis alongside organic matter
+ Zonal liming applications
+ Completing compliance work

"The system and the Contour Mobile app are visual and easy to use, so information is quick to access and easy to extract. Where compatible, plans can be sent straight to the tractor, which saves time for both the agronomist and farmer.

"Most importantly, we get fantastic support from RHIZA staff, particularly the RHIZA Crop Input Specialists – they are always available to lend a hand and give advice."

Luke Mills

Uses RHIZA and Contour for:

+ Examining satellite imagery, cropping and soil information using the mobile app on the go
+ Checking pest risks using the local weather and temperature data

"Having access to field history, information about soil type and texture and nutrient indices in fields I haven't walked before, helps me predict what I might see visually in the crop, such as a phosphate deficiency or an area of blackgrass that can be expected on certain soil types.

"In large fields, which can be up to 50 ha in size, the NDVI imagery is a great help; lighter coloured NDVI zones indicate specific areas to check as part of covering the field to see if there is a particular pest or disease problem or a nutrient deficiency.

"Both the RHIZA Contour dashboard and mobile app are very easy and intuitive to use, and they save me lots of time whilst reducing the amount of paperwork I need to take around with me."

SMALL INPUTS, BIG IMPACT: UNLOCKING THE POWER OF MICRO-NUTRITION


Tom Perrott,
Crop Inputs Specialist

Micro-nutrition plays a key role in how crops develop throughout the season. At Agrii, we've always worked to understand what that demand looks like. Regular foliar testing during the season gives growers unique insights into crop progress and the effects their nutrition strategies are having.

Over the years, we've been developing ways to integrate micro-nutrition alongside macro inputs – those NPKS fertilisers at the heart of your nutrient management plan for the coming rotation.
In modern agriculture, every input needs to work as efficiently as possible, so it makes sense that when you spread or place fertiliser, you deliver a homogenous mix of both micro and macro elements.

That's where Micro-Match comes in. This innovative product allows micronutrients to be accurately added to straights and blends. It looks like a simple powder, but it punches well above its weight. Micro-Match is a static-charged powder that coats fertiliser granules, presenting micronutrients to the plant in both sulphate and carbonate forms. This means some are available immediately, while others are released progressively over time.

A common question we hear is: "Does it affect the quality of the fertiliser?" In fact, we often find that it improves uniformity. The powder's static charge helps to bind any fines that might be present, producing a cleaner, more consistent product.

How does this fit into your farming system?

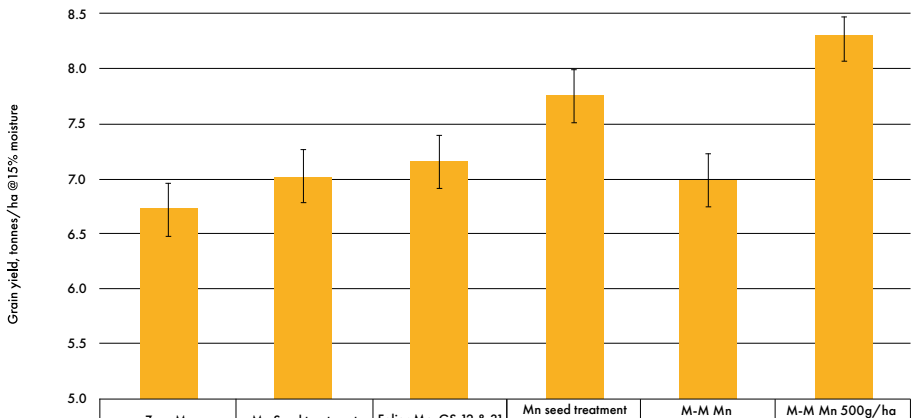
If you see recurring deficiencies in certain fields across rotations, this approach lets you address them before they develop the so-called "hidden hunger" gap. By the time a deficiency is visible, the plant's performance may already have been compromised. With Micro-Match, micronutrient support starts from day one, strengthening plant growth and resilience so crops can better fulfil their genetic potential, no matter what conditions the season brings.

The graph below shows how stacking micro-nutrition from the start of the crop's life can deliver yield benefits. The final bar on the right demonstrates the combined effect of Manganese applied via Micro-Match and foliar Manganese applied throughout the growing season.


Treated on the left
Untreated on the right

There's a wide range of options that can be added to almost any fertiliser (excluding ammonium nitrate). This year, for example, we've been trialling Agrii-Start Pulses treated with Cobalt and Molybdenum in spring beans. So far, results show improved pod retention, nodulation, and root mass compared with untreated samples.

We've also tested Zinc and Manganese in Agrii-Start Nourish, an NKS blend for spring oats. While we're still waiting for the combine's verdict, we've already seen positive biomass responses and a higher head count – 146 heads/m² in treated areas versus 114 heads/m² in untreated plots.



	Zero Mn	Mn Seed treatment	Foliar Mn, GS 12 & 31	Mn seed treatment ('f/b') foliar	M-M Mn @ 500g/ha	M-M Mn 500g/ha ('f/b') 2 x foliar Mn
Grain yield, t/ha	6.73	7.02	7.16	7.75	6.99	8.31

Key: GS – Growth Stage Mn – Manganese M-M – Micro-Match

Curious to see the difference Agrii Nutrition can make? Watch our video via the QR code or get in touch with your local team: agrii.co.uk/contact

LIVE FROM GROUNDSWELL: A PLAIN ENGLISH POLICY UPDATE WITH AIC, AHDB AND AGRII

Farming is under pressure – and policy change is coming thick and fast. In this live Tramlines podcast, recorded at Groundswell, Tony Smith was joined by Ed Barker and Vicky Robinson (AIC), Mike Gooding (AHDB) and Agrii agronomist Neil Harper to unpick what's on the horizon for farmers and what it means for decision-making on farm.

With UK agriculture now fully shaped by Westminster, policy moves more quickly – and can feel less predictable. The panel discussed the reality of operating in shorter political cycles and how schemes like SFI have shifted rapidly with little warning.

Ed Barker, head of policy and external affairs at AIC, said: "On our family farm, we have an 11-year rotation. In the past 11 years, we have had eight Secretaries of State in DEFRA... when you have that lack of continuity, it filters down into the decision-making."

There's also a growing need to track sustainability data and carbon, not just for compliance but to maintain access to markets and processors with their own targets to hit.

"Some of the policies coming in are around sustainability reporting. Although it might not be farming businesses themselves that will have to do the reporting, they will be within the scope of other businesses' reporting. There could be more requests for information [for farmers]," said Vicky Robinson.

The message is clear: farmers must understand where their business is heading and tell their story. That means knowing how policy change – whether on fertiliser, active substances, or new sustainability demands – could affect you. It also means identifying where support can help, rather than hinder, long-term profitability and soil health.

The panel's top tips for farm businesses navigating the changing landscape:

- **Mike Gooding:** "Be clear about what you are trying to achieve."
- **Neil Harper:** "Don't be scared about what's coming; embrace it to get the best out of it."
- **Vicky Robinson:** "Identify where your business wants to go, how you are going to get there, the gaps in your knowledge and how you are going to fill them."
- **Ed Barker:** "Farmers have got to tell their story. Now we can decide so much more here in the UK, things won't change unless farmers say how things will change them positively or negatively."

Scan the QR code to listen in full or watch the live recording

In part two: a five-step guide to building crop resilience

Tony headed into the soil pit with Tom Perrott and Libby Richards for practical tips on building crop resilience. Their advice?

1. Dig a Hole – and Look Closely

Get out with a spade and check your soil. Look at the structure, compaction, and how easily roots and water can move through. You don't need to dig deep to spot problems.

2. Test Your Soil pH

This is the foundation of good nutrition. If the pH is wrong, your crop can't take up nutrients efficiently. Get this right before spending money on fertiliser.

3. Map and Monitor

Instead of doing soil tests as a box-ticking exercise, use the results. Map your fields, spot differences in texture, organic matter or nutrient levels, and tailor your inputs.

4. Build Organic Matter Gradually

Use muck, cover crops or digestate to build structure and improve resilience – but be realistic. Organic matter takes time to improve, so set long-term targets.

5. Use Digital Tools – but Keep It Simple

Satellite imagery and zonal testing can help you manage variability, but don't get bogged down in data. Focus on what helps decision-making.

PROVEN PERFORMANCE
OF FARM SAVED SEED

Farm saved seed accounts for around 50% of the cereal seed that is sown in the UK each year. There are several key benefits for saving your own seed, including:

+ Known provenance of your seed
+ Cost savings and cash flow
+ Timeliness and availability
+ Flexibility around quantities and treatments
+ Ability to improve thousand grain weights (TGWs)

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4	Roy Jefford 07545 207970	9	Matt Carlton 07885 253450
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Discover more about our Farm Saved Seed Services

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INTRODUCING YMPACT: A NEW BIOSTIMULANT SEED TREATMENT

David Leaper, Agrii's Seed Treatment Specialist, shares his thoughts on Ympact, Agrii's latest biostimulant seed treatment.

Ympact is a new soil-resilience biostimulant based on a combination of humic and fulvic acids, along with key micronutrients. Bio-stimulants have always been an essential part of Agrii's seed treatment offer. We've tested hundreds of them at Throws Farm over the past 30 years and, to be honest, very few make the grade. As a result, we have focused primarily on Take Off, a phosphite-based treatment, over the past 12 years, and more recently, Vibrance Duo, a sedaxane-based treatment that has found favour with wheat growers in particular.

Wheat tends to be drilled later nowadays due to concerns about grass weeds, but this often coincides with cooling weather and deteriorating soil conditions. As a result, biostimulants are increasingly used to bolster establishment and produce a more robust crop.

There is also an increasing demand for bio-solutions driven by regenerative farming practices. Unfortunately, many of the biological products we have tested rely on optimal growing conditions to be effective. It is for this reason that we have chosen the humic and fulvic acids, as they have a direct bio-chemical effect on the root cell walls and a positive impact on cation exchange around the roots.

The inclusion of zinc, copper and manganese in Ympact is also based on very sound evidence. These specific micronutrients are known to be crucial early in the crop's life cycle. Indeed, Agrii has offered each of these as high load seed treatments over the past eight years: Zax, Agnition and iMan, respectively. While the concentration in Ympact is much lower, these nutrients still help to cover that all-important 'hunger-gap', the period before the crop can access sufficient nutrients from the surrounding soil.

We began testing Ympact in 2022, conducting a series of five winter wheat trials, where it demonstrated equivalent performance to both Vibrance Duo and Nuello iN. More recently, we have tested it out in our new glasshouse facility at Throws Farm, where it showed a significant increase in root biomass compared with untreated, Beret Gold and Take Off + Zax treatments. These results, of course, supplement the trials that have been carried out over several years by Corteva.

All in all, we are delighted with the performance of Ympact and we see it as a welcome addition to our portfolio. It is widely compatible with our other seed treatments. While we are focusing on its use in winter wheat, it can also be used across all winter and spring cereal crops, as well as peas.

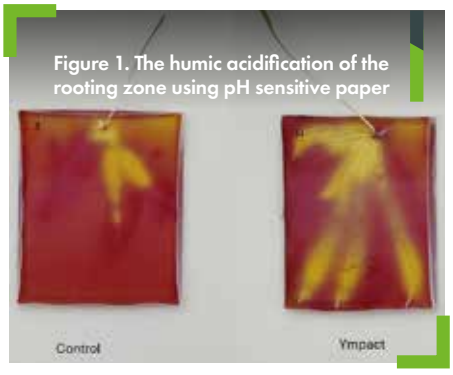

Figure 1. The humic acidification of the rooting zone using pH sensitive paper

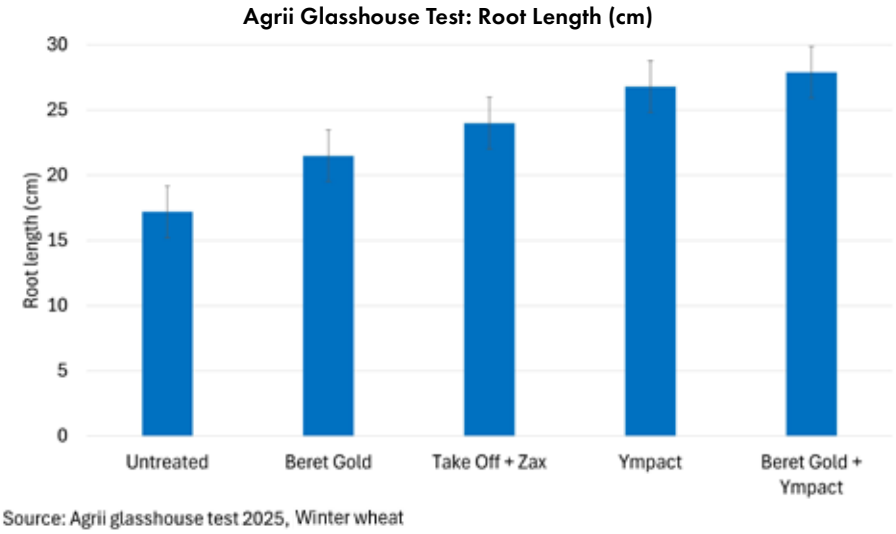

Figure 2. The effect of Ympact on root length, Agrii glasshouse tests

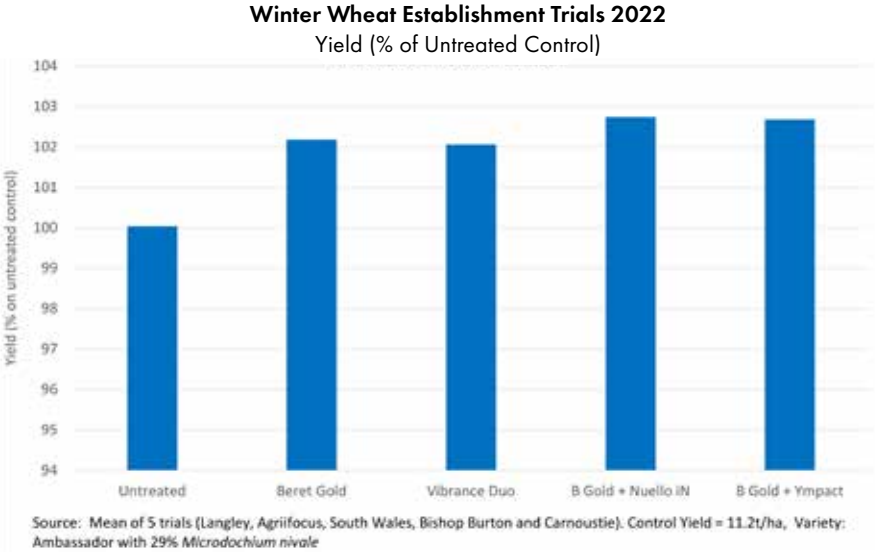

Figure 3. The yield response of Ympact in Agrii field trials

RYEGRASS REALITY CHECK: INSIGHTS FROM THE AGRII TRIALS THAT COULD CHANGE YOUR CROPPING STRATEGY

Working with host farmer Roger Mills, the Agrii Olde Appleton Italian ryegrass trials centre in Yorkshire provides farmers with practical guidance on how to manage an increasingly resistant, prevalent and problematic grassweed. Farmers Guardian attended an open day to find out more.

The Olde Appleton trials centre began in 2019, when Agrii was seeking a ryegrass site to help understand the best strategies for its control, building on the lessons the team had learned combating blackgrass at its Stow Longa site. The background population in the field was 400-500 ears/m^2, which was effectively wiping out the crop, says Agrii trials manager Steve Corbett.

"We've been talking about blackgrass for many years, but in my opinion, ryegrass is a bigger issue. It's a beast," says host farmer Roger Mills.

"My advice to anybody seeing a few ryegrass plants on the farm is, for goodness' sake, take them out. Pull them, glyphosate them or plough them down, but don't let them become established."

The field Roger dedicated to the Agrii demonstration site has varying levels of ryegrass, and is exceptionally high where herbicide comparisons were made. "I am astounded by what herbicides have achieved in the trials, given the level of ryegrass there," he adds.

However, Roger says it is the cultural techniques that Agrii transposed from its Stow Longa blackgrass site that have had the most profound impact on how he manages ryegrass on his farm. From the first conversation with Steve Corbett, Roger realised that his preconceptions about how best to establish cereals on his silty soils may have been hindering his efforts to control ryegrass.

It quickly became apparent to Roger that the ability of North Hall Farm to implement the cultural controls used at the demo site across the rest of his farm was heavily influenced by soil health. In particular, soil organic matter.

"Our soil organic matter is too low. The easy answer is to say 'throw some farmyard manure on it,' but the problem is that if I'm using muck that has ryegrass in it, I'm putting that back into fields that have been cleaned up.

"We're looking at how else we can do it, including cover cropping and companion cropping."

Top tips for managing Italian ryegrass

- Utilise the full suite of cultural controls: delayed drilling, spring cropping, cover cropping, and reset ploughing.
- Focus on reducing or eliminating seed return to stay on top of the problem and limit any herbicide resistance issues.
- Use a programmed approach to herbicides and avoid repeat applications of glyphosate.
- Maximise the effectiveness of herbicides byapplying them at a water volume of 200 L/ha, and consider using adjuvants.

If you'd like more information on companion crops, view our brochure via the QR code or contact your local Agrii Agronomist: agrii.co.uk/contact

Cultural controls

In a high grassweed situation, the best place to begin is by ploughing to reset the problem, according to Justin Burton, "Then, don't be afraid to go back-to-back spring cropping, because one year may not do a good enough job," he says. "It's all about giving your main cash crop the best possible chance, which for most farmers is a first wheat."

Where farmers grow cover crops in tandem with spring cropping, Steve Corbett believes that destruction timing and reducing compaction using low-disturbance subsoilers are key to effective cover crop management in moisture-retentive soils.

This year's work compared spraying off the cover crops on 30th December versus 28th February. The ability of the cover crop to retain moisture and prevent the land from drying out ahead of spring drilling meant that delaying cover crop destruction significantly compromised the establishment of the following spring barley crop, which in turn reduced crop competitiveness.

"The ryegrass is winning in that situation because it's very happy growing at two inches deep and in waterlogged soils," says Steve.

Herbicide performance

The discovery of the first glyphosate-resistant ryegrass in Kent last year is concerning but unsurprising, says Jodie Littleford, technical manager for combinable crop trials at Agrii.

"Ryegrass has developed glyphosate resistance in other parts of the world," she explains. "The situation where the resistant ryegrass was found was a no-till system, where repeated doses of glyphosate were applied to surviving plants.

"It's a wake-up call that we need to think a bit more about what we're doing with glyphosate and apply more attention to detail with its application."

Glyphosate resistance adds to the complex picture of wider ryegrass herbicide resistance. Post-emergence contact acting products have a mixed effect on UK populations, and there is also widespread loss of sensitivity to popular residual options like flufenacet. Jodie says this raises the importance of having a programmed approach to combat the weed.

"When it comes to trying to stop resistance spreading, it comes down to stopping surviving plants from setting seed so they can't pass on those genetic mutations.

"An additional 3% control on a programme delivering 90% control may not seem a lot, but it equates to a 30% reduction in seed return, when each surviving ryegrass plant sheds 100 seeds."

The trial plots were drilled on 4th October, with a standard pre-emergence programme of cinmethylin, pendimethalin and picolinafen sprayed on 8th October. This provided decent levels of control, with moist seedbeds and lower-than-usual autumn temperatures aiding activity for pre-emergence programmes last season.

"We recommend using cinmethylin first in a programme if possible. It has stronger activity on emerging roots and shoots; as soon as the ryegrass starts to emerge and develop, we get less activity."

Jodie Littleford, Agrii technical manager for combinable crop trials

The focus was on comparing follow-up 'peri-emergence' treatments, which were sprayed on 30th October. The new herbicide bixlazone, mixed with beflubutamid, was the standout follow-up treatment of those in the trial, as Jodie explains:

"Bixlazone is a new mode of action for cereals. It has activity against blackgrass, but it is stronger on ryegrass. As a single product, it isn't strong enough on its own, but it works well when used in combination with other herbicides."

Jodie sees building robust herbicide programmes as an investment in the future of that field, rather than just focusing on a single crop in a year.

"It's all about trying to get the seed return number as low as possible, using all of our cultural controls on top of that to ensure we're setting ourselves up for success in the next crop, and once again, allowing our herbicides to do the best job they can."

Gary Lander, Agrii field operations specialist

Getting the best from residuals

Results from the Olde Appleton trials in 2024 revealed startling differences in pre-emergence herbicide performance depending on adjuvants, nozzle choice and water volume. 200 L/ha and 120 L/ha water volumes were compared alongside drift reduction and flat fan nozzles with and without the adjuvant Backrow Max.

At 200 L/ha, there was little difference in performance between the two nozzles, giving farmers confidence that they can comply with drift reduction buffers on product labels without compromising efficacy, says Gary Lander, field operations specialist for Agrii.

"When we put the Backrow Max in, we go from 30 heads/m^2 to 10 heads/m^2. You could visually see the line where it was treated in the field," he adds.

There was a drastic reduction in performance when the water volume was reduced to 120 L/ha, with ryegrass counts ranging from 80 to 90 heads/m^2, regardless of whether an adjuvant was included.

"Adjuvants are not a get-out-of-jail option. You can't drop the water volume because you are in a hurry and expect an adjuvant to make up the difference. 200 L/ha is the benchmark to aim for; otherwise, you start to compromise the herbicides," says Gary.

SOIL TREATMENT TRIALS IN POTATOES SHOW SIGNIFICANT PHOSPHATE SAVINGS

A single application of Agrii-Start Release could save up to 40kg/ha of phosphate, equivalent to saving upwards of £120/ha in DAP.

Potato growers could cut phosphate applications by up to 40kg/ha through the simple use of a soil complexing agent that releases reserves held in the soil, according to trials by Agrii.

Phosphorus is an essential macronutrient, but often occurs at low concentrations in solution, even when applied as a soluble fertiliser, due to its fixation by positively charged minerals in soil. These positively charged minerals, known as cations, bind with the phosphorus particles, rendering them immobile and unavailable to the plant.

A complexing agent, such as that in Agrii-Start Release, is specifically formulated to free the phosphorus particles from their entanglement with the major cations, typically calcium (Ca), magnesium (Mg) and potassium (K), and thereby make them available to the crop.

The use of complexing agents in agriculture is not new. Many water conditioners employ the same technology to treat hard water and support the performance of susceptible herbicides, such as glyphosate and clethodim.

Potato trials

Across three seasons and variable soil textures, crops that received Agrii-Start Release pre-emergence delivered a positive yield response, explains Tom Land, Agrii national fertiliser manager.

"Phosphorus take-up is often influenced by a range of factors such as the soil's calcium content, pH and temperature. Regardless of these, the use of Agrii-Start Release was overwhelmingly positive with increases to the marketable fraction and tuber bulking," Tom says.

The result builds on experience seen in earlier trials with field vegetables and salads where the use of Agrii Start-Release delivered yield increases in a range of crops including spinach, onion, leek, carrot and cabbage.

Agrii's trials intentionally targeted sites with both high and low pH levels because pH affects different ions, but the effect on phosphate availability is the same. In high pH soils, calcium and magnesium have been shown to interfere with phosphorus availability, while in low pH soils, it is aluminium and iron ions. Even without any applied phosphate, crops that received Agrii-Start Release delivered a significant yield increase, demonstrating its capacity to increase the crop available portion.

"Across variable seasons and soil textures and at sites with varying soil reserves, Agrii-Start Release delivered yield increases of 17-30% and improvements in tuber bulking. We conservatively estimate an average saving of 30-40kg/ha of phosphate from a 4 L/ha application of Agrii-Start Release," Tom says.

"The savings in fertiliser costs, estimated at as much as £123.60/ha for DAP purchased at May 2025 prices of £618/t, alone justify its use while any improvement in the marketable yield fraction arising from increased soil availability will further support the gross margin," Tom adds.

To avoid having to make a standalone spray application, Agrii has investigated the tank-mix compatibility of Agrii-Start Release with a range of other products typically applied at this timing.

"It can be applied in-furrow with *Rhizoctonia solani* treatments such as azoxystrobin or fluxapyroxad or across the ridges with either pre- or post-emergence herbicides or liquid fertilisers. A single application will be active for about 60 days," explains Tom.

Agrii Start-Release more than helps satisfy crop phosphorus needs

Treatment	MARKETABLE Yield (t/ha >35mm)	TOTAL Yield (t/ha)	Cost (£/ha)	Gross output @ £250/t (£/ha)	MOIC (£/ha)	Nutrients (Kg/ha)
'CONTROL' N7 P20 700 l/ha	63.2	2.3	563.26	18,075.00	17,511.75	60N 170P
Opti-Yield Consortium Plus	63.1	69.3	65.00	17,325.00	17,260.00	
Agrii-Start Release 4.0 L/ha in-furrow	65.6	76.6	27.00	19,150.00	19,123.00	0
Agrii-Start Release 6.0 L/ ha in-furrow	63.3	72.6	40.50	18,150.00	18,109.50	0
Agrii-Start Release 8.0 L/ ha in-furrow	71.6	79.6	54.00	19,900.00	19,846.00	0
Agrii-Start Release 8.0 L/ha + SP058 0.1 L/ha post-planting	68.9	76	54.00	19,000.00	18,946.00	0
Flex fert 60.0 L/ha	64.7	72		18,000.00	18,000.00	
Agrii-Start Release 8.0 L/ha+ Flex fert 60 L/ ha in-furrow	62.3	73.9	54.00	18,475.00	18,421.00	

Reference: The Potato Partnership, 2024

RELEASING LOCKED UP SOIL PHOSPHATE IN WINTER WHEAT SHOWN TO HAVE MAJOR YIELD AND ROI GAINS

Application of a simple liquid complexing agent this autumn could release 40kg/ha of locked up phosphate from the soil, reducing fertiliser expenditure and increasing resulting winter wheat yields by up to 1.0t/ha, according to Agrii R&D.

The vital early-season nutrient boosting technology in Agrii-Start Release encourages better establishment through stronger root formation and could prove invaluable this coming year, believes Agrii National Fertiliser Manager Tom Land.

"Soil health and fertility have taken a hammering in recent months across most parts of the country," he explains.

"If you are on high pH soils, growing a second wheat or maybe drilling later in the year, releasing P from the soil is a super-efficient way to kickstart crops, but it's got advantages for all wheat growers.

"That's particularly the case if you are farming on land with inherently low P indices or have deliberately chosen to take a P and K holiday because of costs in recent years.

"There are signs that such a strategy is not only reducing yields and soil fertility but we are also starting to see declining P levels in grain now and this is directly linked to low N levels in the grain too, so grain quality is starting to suffer.

"We would hope to see grain P levels around 0.32% but 0.25% is increasingly common and where grain P levels are below optimum, this could result in yield loss due to insufficient use of soil P."

Mobilising phosphate

Getting soil phosphate mobilised and absorbed by crops is increasingly important, therefore, but the issue is the majority of P in the soil is in essentially insoluble forms and unavailable to plants, he points out.

"A large proportion of UK agricultural soils are over chalk or limestone and these have high levels of Ca which in turn means they generally have a very high pH and the P contained within them is largely locked up.

"Agrii-Start Release is soil applied and works on cations in the soil to displace the phosphate that is locked up, with not only Calcium but also Aluminium and Iron, and keeps this in plant available forms for uptake by plant roots.

"We also know that largest amounts of P are held in the topsoil, typically in the 0-30cm rooting zone, so what we really want to do is increase plant available P at this depth during establishment.

"Agrii-Start Release helps to keep P in a water soluble form that roots can easily access and makes this available for anything up to 120 days, so plants have this vital nutrient early in the growing cycle at a time when they really need it. (See page 15 on Agrii Start-Release)

"Once those roots have been formed, the plant is in the ideal position to make as much use of future nutrient applications and gives it real resilience to cope with future abiotic stresses and challenging weather conditions.

"Agrii-Start Release also has great relevance to farmers in high P areas who for environmental reasons cannot apply any extra nutrients. The approach can release P from the soils to satisfy crop needs without the need for any applied fertiliser and also helps to manage P levels longer term."

Compelling trial results

Agrii-Start Release has been shown to replace up to 40kg/ha P from applied fertiliser and, depending on pH and the existing P index of the soil, yield responses range from 0.5t/ha to 0.9t/ha in winter wheat, Tom Land explains.

"In high P soils at index 4.1 and a relatively neutral pH of 6.9 we've seen yield responses as high as 0.7t/ha and in lower P soils at index 1.1 and a higher pH at 7.9 we've seen yield increases of 0.6t/ha, so that seems to be the range.

"In two years of trials with wheat set at a current price of £180/tonne, the improvements in margin range from around £60/ha to over 120/ha giving a return on investment of £36/ha to £81/ha.

"Plus, don't forget the saving you will be making on applied fertilisers in any one give year and the environmental gains by ensuring P is taken up by crops and not left sitting in soils from where it can potentially leave the system."

For autumn use in winter wheat, the product can be applied at drilling or emergence at a rate of 4.0l/ha with a water volume of 150 to 200l/ha and can be used effectively with glyphosate and pre-emergence herbicides, Tom Land advises.

"While Agrii-Start Release is best applied during the establishment phase and just prior to a period of active crop growth when seedling and young plant phosphate demand is at its height, spring applications have proved beneficial in late drilled crops."

Autumn Guidance for Agrii Start Release

P index 0-1: Use bagged phosphate or combination of Agrii-Start Release and bagged phosphate.

P index 1.0-2.0: Use Agrii-Start Release or combination of Release and bagged phosphate.

P index 2+: Consider P holiday but use Agrii-Start Release on high pH soils where P lock up likely.

P index 3+: No actual OP recommendation but use Agrii-Start Release on high pH soils where P lock up likely.

Tom Land, Agrii National Fertiliser Manager

Learn more on how to unlock your soil's hidden phosphate potential: agrii.co.uk/our-services/fertiliser/agrii-start/release

POTATO GROWERS, ADVISORS AND INDUSTRY PARTNERS GET THE LATEST PCN INSIGHTS

The potato industry was well represented in Suffolk this July to hear about the latest potato cyst nematode trials, which The Potato Partnership (TPP) is conducting this season.

Integrated control measures for potato cyst nematode (PCN) were once again on display at the TPP East demo site. With a background pressure of 9-116 eggs of *Globodera pallida* per gram of soil, it was a tough test for the varieties, nematicides and biological control solutions on trial.

To achieve a fair comparison, the field is separated into blocks according to the PCN pressure, and the treatments are stratified across low, medium and high classifications, said Graham Tomalin, of VCS Potatoes.

"We're trying to even out the pressure; it's not perfect because it's PCN," he said.

Examining variety tolerance and resistance

The variety trial aims to examine existing and upcoming varieties for PCN tolerance and resistance. Leaf ground cover and yield are compared against two control varieties. Cara is the non-resistant, high-tolerance control, and Marfona is the non-resistant but low-tolerance control.

Selecting the varieties to test has been led by interest from parties within TPP, as well as what the seed houses would like to enter into trial. They tend to only look at them in TPP trials once they have been named and are close to market. However, some coded varieties in the trial are of interest to the group.

"We're in the game of continuing to look at things that are interesting that might work," said James Wrinch. "It doesn't mean it is the best, but you have to keep looking, otherwise you don't learn."

Graham added: "It's much better to know a variety that has a particular trait in a small plot than when you're growing 20 or 30 hectares."

PCN treatment options

If the variety trial was a tough test, then the PCN treatment options can be considered even more so. Maris Peer was used as the variety, which has a resistance score of two, and is known for poor tolerance, added to the high background pressure and stressful conditions for the crop this season.

"In this year's trial, we have focused on the treatments that are currently available to us:

Nemathorin (fosthiazate) and Velum Prime (fluopyram)," said Don Pendergrast, technical manager for non-combinable crops at Agrii. "We have also looked at a completely new biological product, a potentially completely new synthetic product that might be available in the future, and investigated how we might partner with Velum Prime several products that have previously looked promising."

Last year, the best-performing treatment, in terms of efficacy, was a programme of Velum Prime at full rate combined with Nemathorin at half rate and a silicone wetter. However, the full-rate Nemathorin has looked better this year.

"We have looked at Velum plus SP058, which is a silicone wetter. We have examined it in trials almost every year, consistently observing benefits in both canopy cover and overall yield.

"It works by improving the distribution of Velum in the soil profile, to get it to the PCN," explained Don.

The biologicals tested, notably the Nemguard liquid formulation, showed a benefit to the untreated, but were noticeably behind the synthetic options. Don said that the initial control looked in line with Velum Prime, then after six weeks, the performance dropped away.

"It is great that some biological options are coming through, but we really have to look again at utilising them slightly differently, either by stacking them with synthetic chemistry or finding ways to use them later in the season," concluded Don.

Steering group member Don Pendergrast from Agrii, presenting at the East Field Meeting in Waldringfield, Suffolk this year

Steering group member Graham Tomalin, from VCS Potatoes

The difference between tolerance and resistance to PCN

"Resistance is a measure of how much a variety will multiply PCN. If it's completely resistant, there will be no multiplication of larvae which attach to the plant's roots," according to Graham Tomlin. However there will always be a few eggs within cysts which remain where the stimulus to hatch from the growing plants fails to reach.

This can become complicated depending on the pathotype of *G. Pallida* present, which in the UK to date is within PA2/3. Graham cites the example of Lanorma, which has varying levels of resistance in different parts of the country which is likely to be a result of the individual field population within the wide PA2/3 pathotype range.

On the other hand, tolerance is the ability of a variety to grow within a PCN pressure. "While PCN is feeding on the roots, it will carry on growing and still produce the yields," he added. Generally stronger rooting, indeterminate varieties will demonstrate improved tolerance.

Tolerance is hard to score, other aspects such as season conditions, soil type nutrition and growing season will also have an effect on the crop performance in the presence of PCN but Graham said that grouping the varieties with low, medium and high classifications is really useful. It has proved to be a valuable resource to see how new genetics will perform in a PCN situation compared to existing standards.

THE POTATO PARTNERSHIP

www.thepotatopartnership.co.uk

What is The Potato Partnership and how to get involved

With over £300,000 invested in potato trials to date, TPP is a collaboration between growers and the industry to tackle some of the key agronomic challenges facing potato growers today. The partners want to fill the gaps resulting from the loss of AHDB potatoes and its SPoT Farm East.

"We wanted to continue those learnings in the field in a conversational way," said James Wrinch, director of East Suffolk Produce.

The main partners are Agrii, VCS Potatoes, James Foskett Farms, East Suffolk Produce, and Greenwell Farms. There are over 20 companies and organisations from across the potato industry sponsoring trials, including CUPGRA, which is contributing to the budget for the Integrated control of PCN, as well as several of the seed houses.

In addition to in-field demo events, there are three regional winter trials results meetings where all the information gathered is shared, which are well attended by over 200 registered members. This is also available in the members' area on demand; last year's data has just been uploaded to the site.

Unlock exclusive insights, tools, and support for your farm. Learn more and sign up as a member today: thepotatopartnership.co.uk

MEET THE FRUIT TEAM

The Agrii fruit team is a passionate group of specialists dedicated to helping growers make the most of every season. From top fruit to soft fruit and even into the vineyard, they offer not just crop protection advice, but friendly, practical support on everything from regulations and sustainability to planning and product supply. Blending local insight with national expertise, they work alongside growers to find solutions that keep orchards and businesses thriving year after year.

Matt Greep
Fruit Team Manager & Agronomist

Brendan Rhodes
Agronomist, Kent & West Midlands

Ben Brown
Agronomist & Viticulture Specialist

Julian Searle
Agronomist & Viticulture Specialist

Gary Saunders
Agronomist, Kent

Neil Obbard
Agronomist, South and South East

Richard Killian
Agronomist, South East

Matt Adrian
Trainee Agronomist, South Coast & South West

Jason Steels
Agronomist, Lincolnshire

Emma Smith
Agronomist, West Midlands

Ryan Williams
Agronomist, Kent & Anglia

Jonathan Garratt
Agronomist, East Anglia

Steve Masters
Product Manager - Ancillary Products

Matt Curry
Commercial Support - Ancillary Products

Agrii is pleased to be attending the National Fruit Show on 5th November (stand S28) and the Vineyard Show on 19th November (stand M59). Come and meet your local contact in person! We look forward to seeing you there.

BASIS INSIGHT: EXAMINING CHERRY FUNGICIDE PROGRAMMES

Matt Adrian, Trainee Agronomist, South Coast and South West

Matt Adrian joined Agrii at the start of the year as a trainee horticultural agronomist. He is currently working towards my BASIS Certificate in Crop Protection (Commercial Horticulture), which he expects to complete in December. As part of the programme, Matt worked with Katie Hunt from the Agrii trials team on a study evaluating cherry fungicide programmes. The trial was conducted on unprotected cherries at a grower's farm in Donnington, Kent.

In recent years, cherry production has shifted away from entirely conventional fungicide programmes. This change is primarily driven by increased maximum residue level (MRL) testing by wholesalers and distributors, as well as the ongoing revocation of fungicide approvals due to tighter regulations.

As a result, cherry growers are increasingly incorporating biological fungicides into their spray programmes. These offer advantages such as shorter harvest intervals, reduced risk of resistance, and minimal impact on beneficial insects, while still providing effective control of brown rot (Monilinia spp.) and grey rot (Botrytis spp.).

However, with growing pressure from end users to reduce pesticide use even further, there is concern that the few remaining approved conventional fungicides may not be re-registered in the future. This highlights the need to evaluate whether fully biological spray programmes can maintain adequate disease control on their own.

That is what our trial aimed to examine. We compared the efficacy of fully biological fungicide spray programmes against programmes using both conventional and biological fungicides in controlling brown rot and grey rot.

The products included in the study were: Botector, Amylo-X, Switch, Signum, Teldor (See Table 1).

Observations for the trial were collected between April and August and are currently being analysed by the trials team. We hope to provide a further update in the next issue of The Journal, although the dry summer weather has limited the disease incidence, which may limit the conclusions from the study.

Product Name	Classification	Active Ingredient/species
Botector	Biological fungicide	Aureobasidium pullans
Amylo-X	Biological fungicide	Bacillus amyloliquefaciens
Switch	Chemical fungicide	Cyprodinil + Fludioxonil
Signum	Chemical fungicide	Boscalid + Pyraclostrobin
Teldor	Chemical fungicide	Fenhexamid

Table 1. Products tested

RESILIENT FARMING IN ACTION: LIVE FROM THE AGRIIFOCUS PANEL

In this special live episode of Tramlines, recorded at the AgriiFocus iFarm near Marlborough, we heard first-hand how farmers are adapting to a more volatile and unpredictable environment – and the tools and tactics that are helping them stay resilient.

Arable farmer Alan Clifton-Holt shared how a rethink of rotations helped tackle blackgrass while opening up new markets. "We now have a nine-year rotation with 13 different crops – including flax for fibre, which is baled and sent to France to be made into linen," he explained.

As well as flax, Alan has started growing mustard. He claimed to be the only mustard grower outside of the Cambridgeshire/ Norfolk Colmans grower base, with the market arising from challenging growing conditions in France. "We're pulling crops from hotter countries into our rotation as climate shifts open up new growing opportunities here in the UK."

James Bonner talked about machinery, drilling strategy and how on-farm decisions are constantly evolving. "Just because you did it that way the year before doesn't mean it's the best way the year after," he says. From upgrading drills to reduce compaction, to running older tractors for heavier work, it's all about precision, practicality and profitability.

Agrii's Ruth Mann showcases the latest from Agrii's digital farms – where nitrogen sensors, satellite tech and yield prediction models are already cutting costs and carbon. "Using the data, we reduced nitrogen use by 24% and cut CO_2 emissions by over 40%," she says. "We're moving from reaction to prediction."

Whether you're farming on heavy clay or chasing premiums in fibre crops, this panel offers insight, honesty and new ideas for every type of grower.

Explore the full discussion by scanning the QR code

Drill Modifications: how James said he changed the farm's drill to cope with challenging autumns

A chance collaboration with his neighbour, following a difficult autumn for cereal establishment, gave James the realisation that they should alter the farm's drilling strategy. Using an 8-metre Vaderstad Rapid, as opposed to their 4-metre, reduced the loading on each drill wheel by 200kg, allowing them to travel when the farm's drill could not.

The farm subsequently switched to a 6-metre drill to provide greater resilience in wet autumns. "It gave us what we needed to get the drilling done," he said.

James also switched the system disks at the front of the drill to system tines, which reduced the overall drill weight by 800kg. Because this is at the front of the drill, most of this weight came off the back wheels of the tractor to further help travelling.

> *"We're pulling crops from hotter countries into our rotation as climate shifts open up new growing opportunities here in the UK.*

REALISE THE BENEFITS OF MASTERLEYS

Reseeding with MasterLeys doesn't just bring grazing and cutting yield benefits. It will also lead to:

+ Improved quality
+ Increased palatability and digestibility
+ Improved DM intakes
+ Increased seasonal growth
+ Increased animal performance
+ Increased stocking rates
+ Increased disease resistance
+ Improved response to N fertiliser
+ All these factors result in increased farm profitability from homegrown forage

Get in touch with your Agrii contact to discuss your requirements.

MasterLeys

The MasterLeys range of grass mixtures offers full and comprehensive options for all types of farming systems and regions of the UK.

Working closely with leading grass seed breeders throughout the UK and Europe, Agrii is able to access the best varieties for the MasterLeys portfolio. In addition to this, Agrii grows and produces more than 80% of the seed used to produce MasterLeys.

This gives us greater control over the quality of the seed we use and ensures that what goes into a MasterLeys bag is of the highest possible standard. The best varieties from the Grass and Clover Recommended List are specifically chosen for each MasterLeys mix.

We're continually developing and innovating our variety choices and mixtures – ensuring that we provide the most resilient and best performing grass mixtures for your specific requirements and current climates.

The story doesn't stop with the seed in the bag.

Agrii agronomists and crop input specialists provide advice throughout the lifetime of the ley to ensure the best possible returns from your grass. This covers nutrition, weed control and forage nutrient analysis, together with support on animal health and advice storage. This integrated approach to making your grass work harder will help drive on farm profitability from your home grown forage.

Please get in touch for more information about our grass mixtures, or for a copy of the Agrii Guide to Grass & Roots, or the Agrii Livestock Directory.

You can also scan the QR codes for the digital versions.

CELEBRATING SUCCESS AT THE SCOTTISH AGRICULTURAL AWARDS

The Scottish Agricultural Awards 2025 are just around the corner – a night dedicated to recognising the people and businesses who help drive farming forward.

This year, Agrii are delighted to have been nominated in two categories:

+ Supplier of the Year
+ Adviser of the Year, with Central Scotland agronomist Donald Findlater named as a finalist

We're also pleased to be showing our support for the event by sponsoring the 'Machinery Dealer of the Year' category, celebrating the partners who keep Scottish farming moving forward.

Greig Baird, Head of Scotland Agronomy Teams

Donald Findlater, Central Scotland Agronomist

> "Greig Baird, Head of Scotland Agronomy Teams, said: *"The Scottish Agricultural Awards are about celebrating the breadth of talent and dedication across our sector. With so many deserving finalists, it's set to be a fantastic evening – and a reminder of just how much there is to be proud of in Scottish agriculture."*

SUMMER IFARM SEASON WRAPPED UP

Another iFarm season has come to a close, and we'd like to thank the 1,200+ growers who joined us at sites across the country. From sunshine to showers (and the odd hog roast along the way!), it was fantastic to share ideas, trial results, and conversations out in the field.

This year's programme covered:

- Cereal varieties
- Disease resistance & management
- Variety Sustainability Ratings (VSR)
- Emerging technologies
- NUE strategies
- The future of precision farming

All aimed at helping you make confident decisions for next season's rotations.

Missed an event, or want to dive deeper into the findings? Catch up in the 2024 Trials Results Report.