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The Kinross iFarm open evening in June gave visitors plenty to consider

iFarm visitors up 37% on 2022 to more than 2,400 visitors

This season's iFarm events have been a resounding success. We report on the Kinross event from June to see what attracted growers.

For many growers, on-farm trials are the living proof that support a change in cropping choices, herbicide and fungicide strategies and environmental commitments.

Brothers John and James Russell of Mawhill Farm, Kinross have hosted trials as part of the Agrii iFarm network since 2020. The learnings identified in the years since have been applied across the farm.

"The objective is to identify the gains in performance that support business profitability while promoting the biodiversity that inhabits our farm," says John Russell.

"In practice, this means studying the results of the variety trials, integrating the crop protection programmes to understand the contribution of product choices and application timings, and quantifying the value of different seed treatments to inform future decisions," adds Mr Russell.

Wheat, barley and hybrid rye

The trials serve to remove much of the guesswork that otherwise clouds the decision-making process. Much of the number crunching behind

these informed judgements is done by the Agrii R&D team with Agrii agronomist Iain Anderson providing the interpretation.

The Mawhill Farm site is valuable to Agrii because it provides central Scotland climate pressures. With wheat, barley, oats, hybrid rye and several species of cover crops sown in plots for demonstration and trial purposes, the site gives local growers the opportunity to look at new varieties under challenging weather conditions.

"The winter barley plots have attracted interest because the candidates for this season are especially strong. Bolivia, a 2-row feed which Agrii has classified as a high in its variety sustainability index, and LG Caravelle, another 2-row feed with a high sustainability score, especially show suitability for central Scotland," says Mr Anderson.

For 6-row winter barleys, the choice is more limited. "KWS Feeris is a conventional variety with tolerance to barley yellow dwarf virus (BYDV) but lacks the yield potential of hybrids.



Jim Carswell leads a tour of the wheat variety plots

Continued on page 2...

iFarm visitors up 37% on 2022 to more than 2,400 visitors

Continued from page 1...

SY Kingsbarn has only a medium sustainability rating, but is the highest yielding variety on this site, as it often is elsewhere; its medium straw strength means it receives three plant-growth regulators," says Mr Anderson.

The winter wheat trials provide more than just variety assessments. For Jim Carswell, Agrii R&D manager for the north, the fungicide timings and seed treatment trials specifically serve as a useful opportunity to counter the threats that undermine efforts to deliver high-yielding crops.

"The 2022-23 season will be remembered for its higher disease and lodging pressures than previous seasons which tested varieties under different input programmes. The differences between varieties and treatment programmes, was telling," says Mr Carswell.

"Growers in Scotland face little in the way of new variety choices, but some offer hope. Skyscraper is a known quantity to many but can be viewed as becoming outclassed. Of the alternatives, RGT Bairstow is a possible successor. It has a similar disease profile, distilling approval and higher yield potential.

"Alternatives include LG Tapestry which is a soft feed variety rated medium for distilling with a good disease profile but watch for mildew, or SY Insitor. It's a hard feed, has good *Septoria* resistance and has done well in dry seasons but is poorer for yellow rust."

Nutritional seed treatments are often an essential means of promoting good establishment rates and early vigour, but the single purpose dressings should be seen as more the first line of disease protection.

"Vibrance Duo (fludioxonil + sedaxane) should be considered the standard seed



Astranos with its higher yield and better standing power and disease resistance is the heir apparent to Helltop

treatment for winter wheat offering good control of soil and seedborne diseases along with early root and shoot promotion which is important in the north where cooler autumn conditions generally start earlier than in other parts of the country.

"Micro-nutrient and biostimulant seed treatments too are worthy of inclusion, depending on the situation, Take-off + i-Man + Rancona i-Mix offers a great deal more and we have seen yield gains of up to 0.5 t/ha versus SPD alone in spring barley," says Mr Carswell.

As a crop, hybrid rye gained significant traction among growers when anaerobic digestion was introduced to the UK, but this has since slowed. The construction of new AD sites as part of a national push for more

local sources of energy is expected to give the sector a boost and stimulate renewed interest in the crop.

"Hybrid rye has a lot to offer as a wholecrop silage. It's early to harvest, produces high dry matter yields, is a suitable second cereal but with lower input needs. When viewed in the round, this is likely to drive interest among growers," says Ben Lowe, Agrii national forage product manager.

"For some years, Helltop was very much the benchmark, but regional Agrii R&D trials have highlighted next generation varieties suited to Scotland and AD especially. Astranos has emerged as the obvious successor. It has fantastic yields, excellent standing power and good resistance to mildew and brown rust," says Mr Lowe.

More than just demo plots

For John and James Russell, the opportunity to see how these crops and treatments perform on their farm under much the same management regime that they follow is highly valued.

"They're a useful outlook on to a world of gradual change where gains are refined over the course of several seasons. The popularity of the open evenings suggests that others appreciate the opportunity to see what happens. If this is the benefit of our neighbours and the industry across the region, then we are happy to have played a supporting role," says James Russell.



Agrii agronomist Iain Anderson with James (centre) and John Russell of Mawhill Farm



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Working together for a sustainable future What has been achieved since 2020?

SDG = Sustainable Development Goal set by the United Nations to be achieved by 2030.



Are you thinking about **recycling your waste**?

Our surveys suggest that **67% of customers recycle everything possible on their farm through local recycling specialists.**



Agrii seed bags are 100% recyclable



As a member of the Green Tractor Scheme, we can offer a 5% discount to customers to recycle their waste with select recycling specialists.

Simply use the code **AGRII5** and quote your Agrii account number when speaking to your local recycling specialist.

The Green Tractor scheme is a group of environmentally focused businesses aiming to have all farm plastic recycled by 2030. With an ambition to minimise waste in agriculture, Agrii is working to improve the recyclable content of product packaging.

An example includes our seed bags, which are 100% recyclable. By joining the scheme, we are working with recycling businesses in the UK to ensure that all waste we produce in the supply chain is recycled where possible.

04 SFI & Environmental

How to make SFI application as simple and effective as possible on your farm



Paul Pickford

Whilst the new Sustainable Farming Incentive (SFI) rules are complex and confusing in parts, taking a step-by-step approach to their application can help growers get the most out of them in the least time, says independent farm business consultant Paul Pickford.

There is little doubt that DEFRA have succeeded in achieving one of their main objectives for the new SFI application service which is to make it quicker and more straightforward for farmers, but it's still a daunting task for many.

Look below the surface and you will also see there's much more flexibility built-in as to how you implement the rules and manage them subsequently, so it should be a less demanding process to manage over the years.

With 2027 being the last payment under the old BPS scheme, it's important producers understand as much as possible about what SFI offers and how they can make it work as effectively as possible in their business.

This, of course, is much easier said than done. Much of the detail is still evolving with changes being introduced alongside ongoing discussions about how existing schemes will align with the new one, not to mention further options being introduced in future years.

Nonetheless, and regardless of the precise detail of the final scheme, a good starting point for many applicants will be to break down the application process into three distinct stages.

STAGE 1 – FOCUS ON THE EASY WINS

STAGE 2 – TAKE ADVANTAGE OF THE OBVIOUS AREAS

STAGE 3 – TIME TO DO SOME HOMEWORK

As the name implies, the first of these is to take advantage of the 'easy wins' by simply making sure you apply for all the things that you are already doing.

The next involves the obvious areas, bits of fields or whole fields, where you can change land management practices in line with SFI requirements and payments, without causing too much disruption to the farm overall.

The final stage is to spend a bit more time identifying other areas where you can make SFI gains but that might involve analysis of field records and historical yield data to make sure you are making the right decisions.

Where you will make the biggest wins will depend on the size of your farm. With some of the stage one 'easy wins' being based on single payments regardless of area involved, smaller farms will benefit from these disproportionately relative to larger businesses. Where bigger enterprises might really win out, by contrast, is in stages two and three when they start making changes to farming and land management practices to leverage payments made per ha of land involved. The table below explains this.

Percentage of BPS of payment likely to be achieved under SFI in the three stages by farm size

STAGE	200 ha arable farm	600 ha arable farm
STAGE 1 – FOCUS ON THE EASY WINS	25%	15%
STAGE 2 – TAKE ADVANTAGE OF THE OBVIOUS AREAS	5%	7.5%
STAGE 3 – TIME TO DO SOME HOMEWORK	5%	7.5%

An effective approach could be to take your stage one 'easy wins' first and some of the stage two 'obvious areas' alongside this. This could be a realistic, and sufficient, year one target in many circumstances.

You then have time to look at the final areas in greater detail and add them to SFI in subsequent years.

Adopting a step by step process will ensure you're making the biggest gains from the effort you put in and give you options as to how far you want to take it in terms of optimising all possibilities from the scheme.

For more information, please contact the environmental team at info@agrii.co.uk



Complete our survey for a chance to win a luxury hamper worth £250! See back page for details.

STAGE 1 – FOCUS ON THE EASY WINS

So what are the areas and business practices you should act on first – the things you are already doing.

Well, to net £5.80/ha all you have to do is test your soil organic matter and prepare a soil management plan on the nature of your soils and the risks they might be exposed to in the future.

Most farmers are doing this to an extent anyway as part of the Red Tractor scheme and would also have carried it out under cross compliance, so it should be quite an easy task to complete.

Once you have done this, you also get access to a management payment of £20/ha for the first 50 ha of your land.

Then you can look at hedgerows. Making an assessment of your hedgerows, size width, height etc., will pay you £3 for every 100m.

You can then manage these pretty much how you want to from there.

You can cut them every year, as long as you cut them a little higher (incremental cutting), or you can do this every second or third year. Many farmers already cut their hedgerows every other year anyway, so the £13 per 100m on offer for this is a very definite easy win.

On the same theme is the single one-off payment of £989 available under SFI for completing an Integrated Pest Management (IPM) plan. Most farmers will be doing this anyway as part of Red Tractor.

Again, similar for the nutrient management plan and, whether under the NVZ rules or the farming rules for water, everybody should already have one of these and it's worth £589 under SFI.

Between management, IPM and nutrient management plans, there's just under £2,600 on offer within the scheme and that's a good start. There are also some elements which have been re-introduced from ELS such as the arable field corners scheme and these are worth thinking about.

Where farmers used to swing around and back in and do the whole field, ELS encouraged them to leave the corner and that's now paying £590 for every ha of land left in this way under the new SFI.

On some farms, the buffer strips that were put in under ELS are still there and again these will attract payments, as will creating new ones. On an arable field, you'll get £451/ha for having a buffer strip.

A lot of farmers are now planting multi-species cover crops and if you are one of them, there is a payment of £129/ha available. A companion crop will pay you £55/ha and crops that have no insecticide use will get another £45/ha.

When you consider there are no insecticides available for use in spring barley and increasing numbers of OSR growers no longer bother with them and use buckwheat as a companion crop, that's money many growers can easily attain.

Because many of these payments are rotational options, you can do a calculation that says in the first year, for example, I am going to have 40 ha of no insecticide use land on the farm but in year two, my area of spring barley is going to be 60 ha.

That's fine – you'll get paid for the 60 ha of no insecticide in your spring barley and provided your area remains above 50% of the original application in years two and three that is also acceptable.

It's a good example of how the rules are less prescriptive than previously.

The main driver now is that key activities actually happen in the first place rather than the government wanting to micro-manage them once they are there.

The fact that the SFI scheme lasts three years now instead of five, also makes it much more flexible, too.

STAGE 2 – TAKE ADVANTAGE OF THE OBVIOUS AREAS

If you are going to put in new corners and buffer strips, for example, you will be taking land out of production and this is where things get a little more complicated and where stage two comes in.

You'll need to think carefully about what you are doing and why. Ultimately, it's about identifying the parts of the farm that aren't profitable when it comes to cropping and could benefit more from being in SFI.

Many of us have grown up in an era where you crop the field from edge to edge as much as you can and that is what farming has really been all about.

But, without BPS or other support to fall back on, we actually have to look at fields differently and understand which of them, and what parts of them, make the most money.

If the average yield of a particular field is 10 or 11 t/ha, then it's obviously making some good money, but there will be parts of that field, whether it's a boggy corner or a shady bit under a hedge, that might only be doing 5 t/ha.

If it is only doing 5 t/ha and you are spending the same money on inputs costs and fuel and labour etc., you're actually losing money on that portion of the field.

Choosing to grow a pollinator mix, wildflowers or some winter bird food on that particular piece of land could not only make a more positive contribution to the environment, it would make you more money.

Those three options will all make a gross margin of somewhere just over £500/ha which could be considerably more than you would have earned by growing 5 t/ha of wheat.

STAGE 3 – TIME TO DO SOME HOMEWORK

In many cases, growers will know exactly where their least productive areas are but in some instances this may need a bit more investigation.

The bad bits are obvious, but the more marginal areas will need a bit more work to identify. If an area has always produced 4-5 t/ha that's a given. But if it produces 7 t/ha in most years and a bit more in some, that's a harder call.

Although the new SFI scheme is a simpler and easier scheme for farmers to get in to, it does require thought and planning to get the most out of it.

Being a three year scheme, unlike the old stewardship schemes which were five years, does mean that if you get something wrong it is not the end of the world, but it's far better to put the effort in to get the best out of it from the beginning.

Some of the benefits from looking at the finer detail may only be small, but at the end of the day it is the aggregation of these improvements that will make all the difference.

Take the case of headlands for example. It could be that you have turned on two particular headlands for many years without really appreciating the implications of this.

Looking at yield information from the last 3-5 years could tell you yields are down 15% in these areas, probably as a result of compaction, and a quick calculation can reveal exactly what that is costing in money terms.

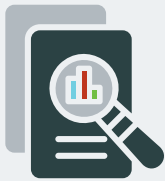
It could be that a better result can be achieved through planting some wildflowers (e.g. IPM2 or AHL1) and using that as a turning headland.

At the end of the day, it's about how creative you can be, within the rules of the scheme, and how much time you want to put into this. Some people are very thorough when it comes to making these sorts of things work and others less so.

The last thing you want to be doing is replacing profitable cropping with game cover, for example, through a lack of imagination and information or simply time to evaluate the situation properly.

06 Soil Services

Focus on soil organic matter



So you've got your soil organic matter (SOM) results back. But what do those results mean, and what value are they? We have gathered six key things you need to know about organic matter.

1. What is organic matter?

Organic matter is plant and animal residues at various stages of decomposition. About 58% of organic matter consists of organic carbon. Soil biology breaks down residues in the soil to form humus.

2. The importance of organic matter

Without organic matter, soil simply can't thrive. It plays a multi-faceted role by enhancing the soil's physical, chemical and biological properties. Practically speaking, this means benefits such as enhanced aggregation, improved water-holding capacity, optimised nutrient cycling and the provision of food for living organisms in the soil.

3. What is a good result?

Due to its nature, having been living or once-living material, SOM is highly variable – the average amount in UK agricultural soils ranges between 1 and 7%. The optimum organic matter is highly dependent on soil type. We expect organic matter to be higher in clay soils than in sandy soils. This is because clay particles' binding capacity makes degradation more challenging.

4. Is it a good indicator of soil health?

Soil is a complex ecosystem, so one parameter alone won't tell you how healthy your soil is. By definition, soil health is a balance between soil physical, chemical and biological characteristics. Therefore using other measurements such as pH, micro nutrition, and digging to look at soil structure is vital.

5. How can I improve soil organic matter?

There's no quick fix; building SOM levels is a long-term commitment. However, following the philosophy of 'replacing what you remove' is a good starting point. Whether that's applying organic manures, incorporating crop residues or adding cover crops into the rotation.

6. When should I retest my organic matter?

Organic matter takes a long time to change, so there is little value in testing for it every year. Typically, it is recommended that you test for soil organic matter once every 3-5 years.

To learn more about organic matter testing, please get in touch with your local agronomist. You can find out more about organic matter in our latest article: www.cpm-magazine.co.uk/sustainable-farming/sustainable-solutions-putting-the-bounce-back-into-soil/



Latest podcasts related to sustainable farming:

- 🔊 Taking a reality check on Regen farming
- 🔊 Groundswell session – can you have too much organic matter?
- 🔊 The future of fuelling your farm machinery
- 🔊 The lowest carbon rocket fuel fert products



Agrii advisers complete soil and environmental training to benefit customers

Nearly 200 Agrii agronomists and crop input specialists have completed environmental training that will help customers comply with new regulations, identify sustainable practices and promote biodiversity across their farms and estates.

The training is in addition to the BASIS crop protection and FACTS courses that all Agrii advisers complete as part of their employment. In addition to the environmental syllabus, almost 100 have completed separate courses in soil care, and 150 have completed courses in sustainability.

The training, which Agrii sees as part of its obligation to customers, will ensure its advisers are equipped with the knowledge and understanding needed to meet the soil health actions contained in the sustainable farming incentive (SFI) and ensure they are able to capture the revenue opportunities that flow from sequestering carbon.

The training has been delivered internally by Amy Watkins, Agrii sustainability manager, and Paul Pickford, Agrii business management consultant, with the participants required to sit the online BASIS course in order to gain the qualification.

"The training is part of our ambition to develop the people and systems that support growers in meeting the challenges and opportunities of the future," says Amy Watkins.

"Some of these measures, such as the soil health aspects of the SFI, have been years in development, but the industry is still grappling with how to implement them and understand the legacy of the some of the actions being promoted. This training lays the foundation needed to answer these questions."

The courses are intentionally rigorous and certified by BASIS. For those who want to specialise, Agrii is offering the opportunity for higher-level courses that can count towards a BASIS diploma in crop protection.

"We are working with BASIS to develop courses that reflect the advisory and compliance needs of the future, for example, the need to understand greenhouse gas emissions from agriculture better so farmers can accurately calculate carbon and the need to meet net zero targets," adds Ms Watkins.

The courses are supplemented with relevant in-field training and farm visits, such as to biodiversity projects run by conservation groups that seek to demonstrate how different farming methods can affect wildlife and environmental outcomes.

For more information on Agrii Soil Services, contact Agrii customer services on 0845 6073 322 or visit the Soil Resilience Strategy section of the Agrii website for a free copy of our Soil Resilience Strategy guide: www.agrii.co.uk/srs





Latest research shows all-round benefits from 'appropriate' tillage

Reducing cultivations may help improve long-term soil structure and health. However, the latest research shows that, like profitability, Nitrogen Use Efficiency (NUE) and greenhouse gas (GHG) emission levels depend on crop productivity.

The results of field-scale trials at the country's longest-established grassweed management technology centre at Stow Longa near Huntingdon underline that tillage itself need not necessarily be bad for these key environmental priorities. Indeed, Colin Lloyd, Head of Agronomy at Agrii, who has overseen more than two decades of the centre's work, sees plenty of room for 'appropriate' tillage in heavy land rotations in particular.

"Despite all the ups and downs of grain markets and input costs, yield continues to remain the driver of arable profitability," he insists. "You can analyse your performance down to the last square metre of land or litre of diesel. But whatever you do, you can't get away from the fact that decent margins have always and will always depend on sufficient yield."

"Yes, grain quality is important. As is effective input and overhead control. But without the tonnes you're not in the game. Which is exactly what our rotational work with a range of cereals crops is also showing with NUE and carbon emissions."

For the past seven years, Mr Lloyd and his R&D team have managed a variety of rotations in one hectare Stow Longa blocks with tillage regimes ranging from continuous and rotational ploughing to deep one pass, min till and direct drilling with catch or cover crops.

As well as huge differences in grassweed populations between different rotations and tillage regimes, their pioneering work has highlighted large differences in margins after cultivations, drilling and all inputs. In 2022, indeed, the range in margins between the best and worst rotation and tillage combination was a staggering £1,821/ha.

More recently, they have extended their work to measure the Nitrogen Use Efficiency and greenhouse gas emissions of their main cereal crops to established protocols. And this has been very revealing.

Yields of Fitzroy grown as a first wheat on the heavy clay ground in 2022 varied by almost 3.1 t/ha between the different tillage regimes. Both continuous ploughing for six years and a plough reset after five years of direct drilling delivered over 9.75 t/ha. In contrast, direct drilling after five years of ploughing and six years of continuous min tilling or direct drilling produced less than 7.25 t/ha.

Unsurprisingly, given exactly the same starting soil N levels and fertiliser applications, this performance was reflected in NUE of over 67.5% for the higher tillage regimes and under 50% for the lower ones.

"Using the YEN Zero carbon tool, the lowest tillage regimes stood out as generating around 10% lower CO₂ emissions per hectare than the plough ones," reports Mr Lloyd. "But on a per tonne basis – which has to be what really counts in food production terms – much higher yields gave the plough blocks a GHG emissions advantage of over 25% (Figure 1).

"Even the highest emission regimes were well below the current 340kg CO₂eq/tonne UK feed wheat benchmark established by the authoritative 2022 CHAP Net Zero report, with the ploughed

areas close to the lowest reported national crop emissions intensity.

"What's more, we saw the same thing in our Skyway spring barley," he adds. "The higher tillage regimes gave NUEs a good 40 percentage points up on the lower tillage ones and per tonne CO₂eq emissions almost 25% lower (Figure 2). "Again, it's all about yield, the plough regimes both producing over 8.75 t/ha against around 6.3 t/ha for the min till/direct drill ones.

"Grassweed populations clearly played their part in these yield differences. But, even after five years of continuous min-tilling or direct drilling with catch and cover crops, our heavy ground clearly isn't able to support the sort of winter wheat and spring barley yields it is does under the plough.

"Although our work with UKCEH does suggest somewhat more favourable soil microbial populations with reduced tillage, I have to say we have struggled to see any consistent differences between the regimes in either organic matter levels or soil health scores here."

Interestingly, it's been a slightly different story with the SY Armadillo hybrid winter barley crop; the 2022 trials showing much less of a yield difference between the tillage regimes, and similarly smaller NUE and GHG emissions differences (Figure 3).

After many years of observing how much less affected hybrid barleys are by seedbed conditions than wheat or spring barley, Mr Lloyd attributes this to their ability to cope better with the more challenging conditions the least tillage regimes present on heavy ground.

Overall, he considers the NUE and emission results particularly encouraging for growers with soils not as well suited to major tillage reductions as some, pointing out that what clearly counts in environmental terms as much as in economic ones is growing a good crop.

"It's crystal clear from our work that, however you do it, growing a good crop will reward you in NUE and GHG emissions per tonne of production as well as on the bottom line," Mr Lloyd concludes. "And in many situations this may need a decent amount of tillage.

"Appropriate tillage has to be your driver," he stresses.

"And recognising the obvious

machinery and labour-saving opportunities from tillage reductions, this must mean the least tillage necessary for your particular conditions.

"You shouldn't shy away from low disturbance lifting of heavy or high silt soils that have become too tight. Nor from using the plough as a reset where grassweed populations have become too high. We have to recognise that cultivations aren't going to completely deplete soils and there is room for them in many rotations, even where the emphasis is on tillage reductions. As with so many other inputs, the secret to success is knowing how much to apply, when and where."

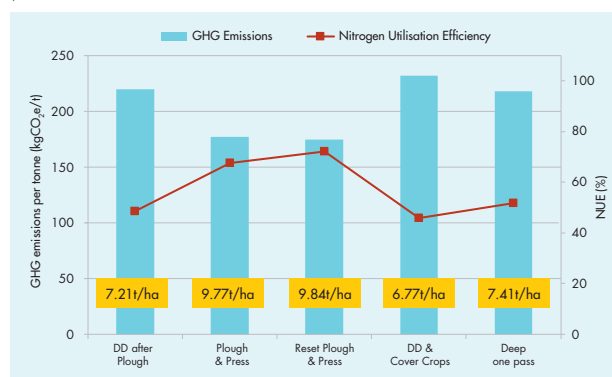


Figure 1: Fitzroy Wheat Performance (Stow Longa Rotations trial 2022)

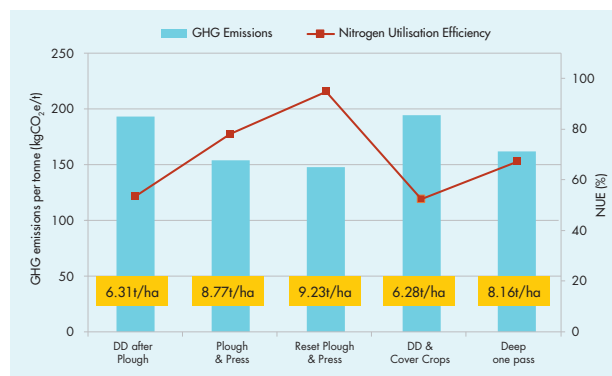


Figure 2: Skyway Spring Barley Performance (Stow Longa Rotations trial 2022)

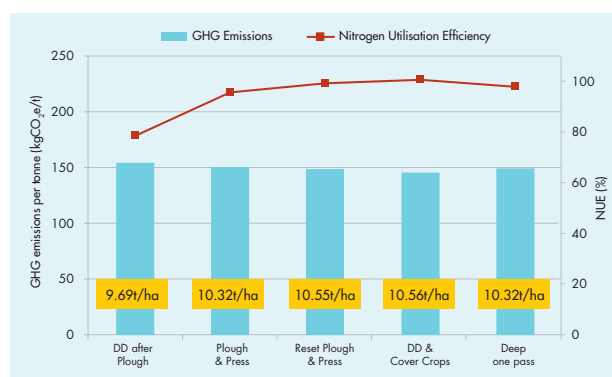


Figure 3: SY Armadillo Winter Barley Performance (Stow Longa Rotations trial 2022)

West Country BYDV Eye-Opener

This season has been a real barley yellow dwarf virus (BYDV) eye-opener for Phil Lockyer and his partner Kate at Lower Eggbeer, Cheriton Bishop near Exeter on the northern edge of Dartmoor National Park.

Despite diligent field-walking every two days until the December cold snap, they found no aphids at all in the winter wheat and barley they grow on their generally heavy, fairly steep and well-manured ground.

So, in the interests of the environment, they decided to do without an autumn insecticide; a decision they have come to regret in a major way with half their wheat crop and a good 20% of their winter barley developing significant BYDV infections from this spring.

"BYDV really hadn't been a problem here until this year, even after the loss of Redigo Deter," explains Mr Lockyer. "We've tended to see small patches of infection on and off but nothing alarming. Although the extra cost of an insecticide is negligible, we have always been keen to avoid insecticide spraying wherever we can.

"With mid-October the cut-off for reliable winter cereals drilling on our ground, we start sowing barley in the last week of September and move on to the wheat in the second week in October. We accept this means our crops are at a higher BYDV as well as *Septoria* and lodging risk than many. But the risk of not getting crops in is even greater."

To counter the virus threat, Mr Lockyer employs the Agrii BYDV Alert app to give the best possible estimate of aphid development risk from local day degree monitoring, and inspects all their crops religiously throughout the main danger period. He had insecticide ready in store for rapid application last winter should the need arise, but left it there because there were no first-generation aphids to be found, let alone a threshold level.

"We started to become aware of BYDV in early February but still couldn't find significant numbers of aphids," he recalls. "They only really became apparent in April, by which time it was too late to do much about them. And the very last thing we want to do is use an insecticide at this stage of the season, anyway.

"Substantial areas of the Graham and KWS Dawsum wheat and KWS Tardis barley we grow have really suffered. It looks like we'll be taking the sort of yield hit we can ill-afford with margins as tight as they are just now.

"We're pretty hot on the field-walking, so I don't think we missed any aphids early on. Which means they must have come in later. As it went down to -9° in December and stayed cold for a good 10 days, we thought we'd be through any real migration. Maybe that's something we can no longer assume in today's climate.

"Whatever the reason, this season has been a real eye-opener for us. The worst infections have definitely been in earlier-developing, lusher crops carrying a lot of leaf on our best ground."

An equal eye-opener at Lower Eggbeer has been the extensive local variety and agronomy trials they run with Agrii on some of their 'best dirt'. Given the ground's fertility, both the wheat and barley plots were badly hit by the virus; especially those receiving the highest early spring nitrogen treatments.

However, the BYDV-resistant wheat, RGT Grouse and the BYDV-tolerant barley, KWS Feeris included in the plots both stood out a mile for their cleanness alongside every other variety, offering a potential solution to the farm's IPM dilemma. The resistant wheat had no symptoms right through to harvest, while the tolerant barley did show a little later on but nothing worth worrying about, and nowhere near as much as any other variety in the plots.

"The Agrii trials we have hosted for several years now give us a great opportunity to look ahead," Mr Lockyer says. "They have provided some especially good food for thought this time around.

"We can't delay drilling if we want to be sure of getting our winter crops in. So, without any seed-treatment protection, the only solution we've had up to now has been the insecticide spraying we really don't want to have to do.

"The BYDV Alert app is valuable in helping us target our spraying – when we aren't tempted to disregard its warning, that is! To have the in-built protection of BYDV tolerance or resistance would be a big step forward even from the days of Deter.

"On the barley side, we've always preferred two rows. However, we're keen to put half our acreage into KWS Feeris this autumn if we can. It's well-placed on the Recommended List and would be particularly valuable on the wetter ground we can't risk putting the sprayer onto most Novembers.

"BYDV resistance would be a real boon for our wheat-growing," he adds. "While RGT Grouse has shrugged-off the BYDV, though, there are too many question marks over other elements of its agronomy for us yet."

Knowing what can so easily happen if their best environmental intentions go awry, Mr Lockyer will be keeping a particularly close eye on the developing BYDV-resistant wheat pipeline from now on in the Agrii trials. After all, a wheat variety he can rely on to deal with the virus without the need for any autumn insecticide would raise his integrated pest management to an altogether different level.

While waiting for a BYDV resistant wheat variety that also has both the *Septoria* resistance and standing power he needs for the local conditions, he plans to focus his future cropping squarely on slower-developing, more resilient varieties, with agronomy that minimises the risk of lush crop growth in today's generally milder winters.

"This season has taught us we can't risk assuming we won't have a BYDV problem just because we don't see aphids in our crops before Christmas," concludes Mr Lockyer. "That's why a reliable genetic solution is such an exciting prospect."





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Evaluating the genetic defences

Part of Agrii's regional network of farm strip trials, this season's wheat and barley plots at Lower Eggbeer are highlighting the increasingly viable genetic barley yellow dwarf virus (BYDV) defences now becoming available to UK growers as well as how devastating the virus can be.

"We know BYDV can halve wheat and barley yields," notes Agrii seed technical manager, David Leaper. "The risk of serious losses has become much greater with the loss of Redigo Deter. And milder winters and increasing pressures to avoid insecticide spraying wherever possible aren't helping either.

"RGT Grouse stood out as lush, green and uniform in our plots while the other 23 wheat varieties all showed classic BYDV symptoms; the more vigorous and growthy ones amongst them being particularly severely infected.

Our trials last year highlighted RGT Grouse's poor yellow rust, brown rust and *Septoria* resistance ratings as well as its relatively weak straw. So, it will never pass muster in a non-BYDV environment.

"However, its combination of highly-effective BYDV and orange wheat blossom midge (OWBM) resistance is definitely appealing to some growers; especially those with less accessible land away from the main farm and/or wishing to avoid insecticide spraying – for which there is now, of course, a Sustainable Farming Incentive (SFI) payment.

"While Gensurus wheats may have some way to go for many, it's important we don't under-estimate the value of what RGT Grouse already offers," Mr Leaper stresses. "A bit like clubroot in oilseed rape, I suppose, in high-risk situations a decent genetic defence has to be the first priority. It will be very interesting to see how the variety performs overall in our wider national trialling as well as where BYDV has been problematic."

The fact that more resilient wheats like SY Insitor appear to be coping better with the virus than many at Lower Eggbeer provides a useful steer on the current BYDV management front. As do the lower infection levels seen by the trials team on their plots with manganese (iMan) and zinc (Zax) treated seed.

For barley, it's a different story, with KWS Feeris showing the particular value of its BYDV tolerance alongside a much more complete agronomic package. The only winter barley on the current RL with this trait, its treated and untreated yields at 103% of the controls are well-up with mainstream two rows. With the possible exception of mildew, the variety has a very decent disease-resistance profile too. Its standing power is good, and it has nowhere near the straw length of the hybrids.

"It may be a six-row, but KWS Feeris also has a specific weight to rival many two-rows and screenings that are a match for KWS Tardis," points out David Leaper. "We have seen some late season BYDV infection in our plots but far less than in the other 13 varieties alongside it. With barley especially exposed to the virus by virtue of its earlier sowing and generally greater susceptibility, the variety looks like being a good choice for those with BYDV worries.

"What is crystal clear in all our trial work is the great progress breeders are making in combatting what can be such a devastating drain on cereal productivity," he observes. "There is a lot of interest in reducing insecticide inputs and these traits provide a great opportunity for growers to do this as well as adding extra risk protection for outlying fields and against increasing climatic challenges."

Skyway spring barley set for take-off



Skyway, the high-yielding spring barley with full approval for brewing, is on course to become one of the most popular varieties of 2024 after impressing growers over the past two seasons.



Demonstrating a combination of yield and agronomic characteristics that puts it ahead of both RGT Planet and Laureate (see table), it has performed strongly across regions and soil types. As the joint-highest yielding variety on the AHDB Recommended List for 2023, Skyway is an excellent choice for brewing or feed growers.

Grower feedback has been overwhelmingly positive, and this confirms the work of the R&D team at Throws Farm which first identified Skyway as a variety of promise.

This promising performance gave Agrii the confidence to expand the certified seed area putting it on course to be the second biggest variety in the UK behind Laureate. We expect it to become the most popular spring barley across the UK in the coming years.

With Skyway set to become a mainstay variety, there are other contenders coming through from breeders that ensure a broad choice of varieties for growers and end-users. Our breeding partner Secobra has two varieties, Diviner for malt distilling and Sun King for brewing, with provisional approval and a further two varieties, Belter for brewing and malt distilling, and Rocker for brewing, entering the evaluation process this year with provisional approval expected in 2024.

Bedfordshire grower, Freya Morgan of MW & PV Ward had 90 hectares of Skyway on a buyback with Viterra alongside another 90 ha of Laureate for harvest 2021 and was impressed with how the former performed.

"Our Skyway sample was very nice with big bold grains looking more like wheat than barley," Ms Morgan says. "We harvested it ripe, but the straw was noticeably lighter than we're used to and much fluffier in the rows behind the combine – again more like wheat.

"The Skyway made the malting spec with nitrogen contents ranging from 1.48% to 1.66%. Unlike many 2021 crops, though, the bushel weights held up well at 63.2-64.0kg/hl and the 2.25 mm screenings were down to 0.74%.

Skyway versus Laureate and RGT Planet

	Skyway	Laureate	RGT Planet
Treated yield (% of controls)	105	103	98
Untreated yield (% of controls)	94	94	89
Specific weight (kg/hl)	69.4	67.2	68.8
Grain nitrogen (%)	1.54	1.52	1.54
Screenings (% through 2.25 mm)	0.9	1.2	1.2
Lodging resistance (without PGR)	7	6	7
Brackling resistance	7	8	8
Mildew resistance	9	9	8
Brown rust resistance	4	5	5
<i>Rhynchosporium</i> resistance	7	7	6

Source: AHDB Recommended List, 2023

"It looks to be the reliable, easy-to-manage spring barley we've been wanting for a while now. And quicker, hassle-free combining is just what we need to make sure we also get our Group 2 and 4 wheats off for the best possible local premiums despite the increasingly challenging harvesting weather we seem to be getting these days," Ms Morgan says.

"Skyway is a reliable, easy-to-manage spring barley", says Freya Morgan





Biostimulant Seed Treatments A boost to growth and yield

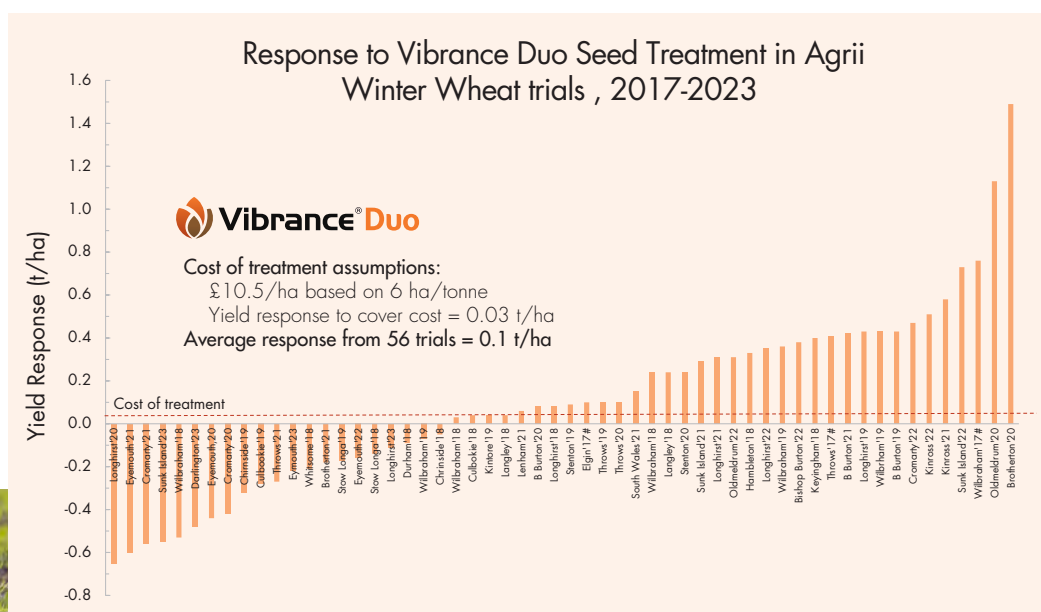
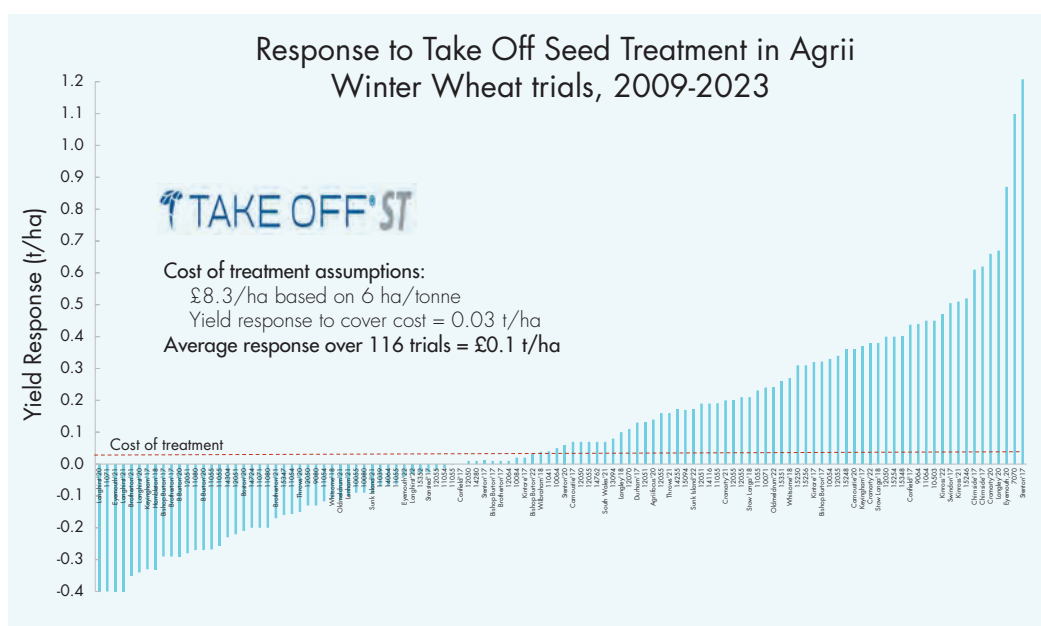
Biostimulant seed treatments are increasingly used to boost early crop growth, especially in later drilled crops where grassweeds remain a major issue.

This year has seen the introduction of a number of new biostimulants including Nuello iN, a blend of endophytes from Syngenta, and Newton, based on vegetable-derived peptides from Interagro.

These new biostimulants have been tested in Agrii R&D trials over two years and the results are comparable with those from Agrii's existing biostimulant range, Take Off and Vibrance Duo.

Take Off and Vibrance Duo have been tested for many years across a range of crops and the results are compelling. Not only do they set the crop up better in the autumn they frequently deliver a positive yield benefit that more than covers the cost of treatment. They are ideally suited for later drilling or for cold wet soil conditions where the crop needs a helping hand.

A summary of Agrii's comprehensive and robust results over many years are presented in the graphs.



11 Seed: Crop and Seed Cleaning

Ergot sclerotia in wheat grains – ergots can be very large – up to 2cm in length.

Investment in Mobile Colour Sorting Technology

Ergot continues to be a significant issue for many farmers. Reduced tillage and blackgrass are partly to blame but cool, dull, and wet weather at and after flowering also increase the incidence of this disease.

Ergots contain large amounts of toxic alkaloids that can pose a risk to animal and human health. Stringent controls are in place in traded grain to prevent them getting into livestock feed and grains destined for human consumption.

The removal of ergots from affected crops has improved significantly in recent years through the application of colour sorting technology. Last autumn Agrii commissioned a new state-of-the-art mobile colour-sorter that has significantly increased capacity and regional coverage.

If you're worried about ergot contamination on your farm, please get in touch with your usual Agrii agronomist, or Mark Taylor, Agrii national Farm Saved Seed business manager on 07836 527251 / mark.s.taylor@agrii.co.uk.

2022

(~27,500 tonnes)



2023

(~34,000 tonnes)



Ergot Incidence
Over the Past
Two Years –
Tonnes cleaned
by Agrii mobiles



Our latest colour sorter in operation on-farm



"Agrii Farm Saved Seed always provides a seamless service for us. I like the level of control I get in terms of timings, choice of seed treatments and overall quality of the final product. The team is friendly and well trained; I highly recommend them."

Mark Holt Langold Estates



12 Seed: VSE & Beans



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Precision-Driven Solutions: Agrii VSE gears up for the treatment season

The Agrii Vegetable Seed Enhancement (VSE) team stands fully prepared for the upcoming treatment season and is delighted to offer solutions that will help improve on-farm performance. We will offer seed enhancement services to seed houses and growers this autumn. The crop focus will be onion, carrot, parsnip, spinach, lettuce and leek.

We take pride in the quality of our encrustments and are happy to offer a product which meets industry standards. Also, we have been working to develop our filmcoat offering through meticulous research and analysis. We have evaluated several new products and are excited to offer our customers targeted enhancement solutions.

Our treatment options will focus on biological offerings, including biostimulants, nutritional options and their combinations. We have devoted significant attention to our trials, carefully developing combinations to create a successful treatment story. Following the Agrii standards and our commitment to sustainable practices, all products we introduce to the market have proven efficacy.

We also welcome feedback from Agrii's agronomy team and growers, encouraging them to share their field experiences and crop-related challenges. This collaborative approach enables us to thoroughly study and analyse the issues alongside other Agrii teams, which will help to craft tailored and appropriate solutions.

In the current cost-driven landscape, precision and effective solutions have become paramount. VSE aims to take a proactive approach, deliver quality service of seed enhancement, and establish a strong industry presence in the seed coating sector.

Please get in touch for more information with **Kateryna Prylutska**, VSE manager on 07720 974891, kateryna.prylutska@agrii.co.uk



Winter beans

Winter beans are a sound alternative break crop to oilseed rape, providing good residual nitrogen levels for the following cereal crop.

Agrii has good availability of Vespa, Tundra and Vincent winter beans for autumn sowing.

Vespa is the market-leading winter bean variety, offering high yields and good all-round disease resistance.

Vincent is a new addition to our portfolio and has the most robust downy mildew resistance, bold bean size, and excellent protein content.

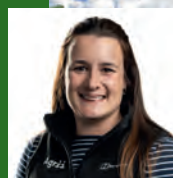
We will have some exciting new varieties available for spring planting, including Futura and Genius spring beans and Carrington peas.

Other spring pulse varieties include the popular Lynx and Vertigo beans and Daytona, Greenway & Kameleon peas.

As in previous years, buyback contracts are available for all combining peas through GB Seeds.

We will have limited availability of lupin seeds, which are a great source of homegrown protein for use in livestock rations. For more information speak to your local Agrii contact or Rebecca White on 07721 128172 or rebecca.white@agrii.co.uk

Rebecca White



RHIZA Whole Field Seed Planner enables greater accuracy

Every crop begins with seed, so why not be precise in how it's used?

Plant population is one of the fundamentals of crop performance, but it is easily affected by factors outside the grower's control, such as weed competition, soil type and nutrient status. Even the choice of seed treatment has been shown to influence the speed of germination and therefore establishment.

The RHIZA Seed Planner tool seeks to reflect these variables so growers can calculate their seed requirements accurately and avoid over- or under-ordering.

"As a seed calculator, the Whole Field Seed Planner delivers a level of flexibility to a system that was previously archaic. It enables growers to accurately calculate their seed needs on a field-by-field basis by reflecting varietal characteristics and the external factors that influence establishment," Sam Fordham, RHIZA Head of Technical, says.

The Seed Planner tool is the latest addition to the RHIZA platform and is available to all users. It supports grower desires to be precise in the use of inputs but without the need to be fully invested in variable rate systems.

The programme has been developed with support of long-term RHIZA customers to ensure it is user-friendly and reflective of the considerations that influence seed rate decisions.

"Users can adjust base rate calculations according to drilling date, soil type, and other pressures, such as blackgrass or typical areas of pest damage. The user can then use the drawing tools or pre-scouted observations to create polygons around areas of specific concern that require a higher seed rate, for example, headland compaction," Mr Fordham says.

"A user can just as easily exclude a portion of a field using the drawing tools, perhaps where it is to be sown to game cover or entered into stewardship, so it is not included in the final seed requirement," he adds.

If the user has a drill that supports variable rate application, GPS files can be exported to be transferred to the drill control unit.

"This allows a grower to utilise a great entry

level, variable rate, planning tool at a low pricing point, without the need to invest in sub field mapping such as electro conductivity (EC) or satellite mapping and soil sampling.

While EC mapping is the best way to understand and measure soil variation, the Whole Field Seed Planner tool allows growers to dip their toe into variable rate drilling before moving on to more accurate ways to achieve this," Mr Fordham says.

Aside from promoting greater accuracy in seed calculations, it can also be used to support scenario planning and action decisions made from scrutinising crop performance, explains Poppy Bunting, Agrii crop input specialist.

"The analysis and comparison tools within the platform provide a way to inform future decisions and support the drive for greater accuracy. Data layers such as soil type, texture, yield maps and imagery can be used for investigating crop performance and the reasons behind it," Ms Bunting says.

"Basic satellite imagery is often sufficient to scrutinise establishment success and crop growth. Seed rate maps can then be overlaid without the user needing to be fully invested in precision farming to properly analyse the significance of seed rate and variety choice on crop development," she adds.

Where cropping plans change, the plan can be easily amended to reflect the new policy, for instance to calculate the exact quantity of farm-saved seed that needs to be cleaned and dressed.

"Whether it is just good forward planning where the user wants to understand the impact of different cropping policies, for example with and without oilseed rape or sugar beet in the rotation, or a desire to investigate the effect of drilling date or the inclusion of a micro-nutrient seed treatment, each plan can be saved separately," Ms Bunting says.

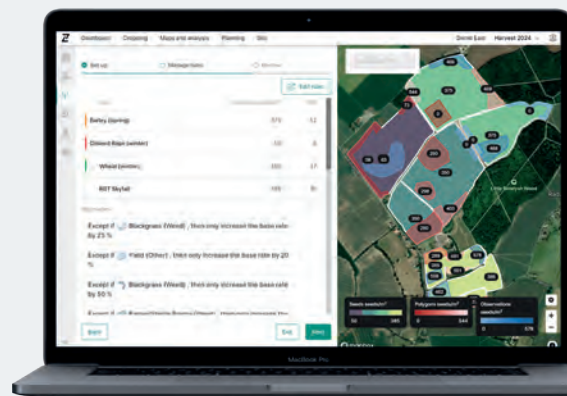
The Whole Field Seed Planner will also support future developments, such as the introduction of margin mapping whereby yield, and application data can be used to scrutinise the financial performance of a field.



Poppy Bunting



Sam Fordham



"Margin mapping is possibly one of the most useful features we could bring to RHIZA.

As growers are encouraged to incorporate more in-field measures to promote biodiversity, tools such as margin mapping will help to ensure they are located where they will have the least financial impact," Ms Bunting adds.

The Whole Field Seed Planner paves the way for RHIZA's next development, which will be zone-based seed planning to be released in September. This new functionality supports creating seed plans based on soil texture and variety characteristics data.

Either lab-based soil texture or soil scientist investigation data can be stored against 'management' zones created from either EC or satellite imagery. These can be used to create a variable rate plan to further inform decision making. These 'layers' can then be overridden by 'exceptions', scouted observations and ad-hoc polygons, all weighted to influence the plan as you develop it.

Look out for us at:



Future Farming Expo

Date: Tuesday 10th & Wednesday 11th October 23

Location: P&J Live, Aberdeen



CropTec

Date: Wednesday 29th & Thursday 30th November 23

Location: NAEC, Stoneleigh Warwickshire



LAMMA

Date: Wednesday 17th & Thursday 18th January 24

Location: NEC, Birmingham

For more information on the Seed Planner tool or any other functionality in Contour, please contact a member of the RHIZA team:

info@rhizadigital.co.uk | 03300 949150 | www.rhizadigital.co.uk

Yield Maps in Contour

Upload your yield data and download your farm's performance.

Start to piece together the story of a crop, identifying areas of interest and measuring the impact of decisions to shape the management of future cropping.

Get started now. Watch our quick and easy guide on how to upload your data into Contour, or scan the QR code:

<https://www.youtube.com/watch?v=lbuSq53gDA8&t=7s>



14 Speciality Crops: Fruit



Are biologicals about to deliver on their promise?

Biological crop protection agents have been heralded as the future of pest and disease control for more than a decade, but for many early adopters the experience left them underwhelmed.



Don Pendergrast
Technical Manager
Non-Combinable Crops



Fortunately, the strong performance of several products, such as Serenade ASO (*Bacillus subtilis* strain QST 713), Sonata (*Bacillus pumilus* strain QST 2808) and, more recently, Botector (*Aureobasidium pullulans* strains DSM 14940 and DSM 14941) served to demonstrate that some have real potential.

In many cases, growers are right to be sceptical, Don Pendergrast, Agrii technical manager for non-combinable crops says, but there is also cause to be optimistic.

"In many cases the introduction of a biological product brings a new mode of action or other benefits such as reduced harvest interval or exemption from residue limits, while in rare cases, such as with Botector, the performance is better than that of the conventional fungicide standard," Mr Pendergrast explains.

"In other situations, such as powdery mildew in strawberries, there are simply not enough active substances or modes of action to deliver a robust programme, so we need to be savvy in how we approach protection and utilise all available options," he adds.

Proven performance

Of the many biological products – pheromones, micro-organisms and natural substances – available to growers in Great Britain, only a handful have shown sufficient performance to earn the respect of growers.

Botector offers strong performance against *Botrytis* and has demonstrated better control than many conventional products in Agrii trials over a number of seasons in both vines and soft fruit.

"Botector can also be used for reduction of *Monilinia* spp. in stone fruit. Botector use has increased in grape and soft fruit production in recent seasons as confidence in its performance has spread," Mr Pendergrast says.

Blossom Protect contains the same active substance as Botector but is a different

formulation that can be used for the control of fire blight in pome fruit.

"Fire blight is a difficult disease to control and Blossom Protect has become widely used in Europe for this threat. It is now used by growers across the UK for fire blight," Mr Pendergrast says.

Mevalone (geraniol + eugenol + thymol) is a foliar-applied biofungicide for the control of *Botrytis cinerea* in wine grapes. It is yet to gain registration for use in Great Britain or Northern Ireland but is an example of the potential offered by terpene-based products.

"Mevalone has a novel mode of delivery using a biological yeast encapsulation to extend the efficacy of the three terpenes it contains. It is particularly exciting because it offers control, or partial control, of three difficult-to-control diseases: *Botrytis*, powdery mildew and downy mildew.

"We have seen terpene-based products perform well against powdery mildew versus other biofungicides, so Mevalone and other terpene-based products may offer some potential should we lose mancozeb," Mr Pendergrast advises.

ProAct has become a staple biostimulant in many programmes. It is a complex peptide that delivers quality and physiological improvements that support shelf-life through its bio stimulatory effect on calcium utilisation.

"In cherries, depending on variety, it has been found to reduce splitting. In apples, it has reduced bitter pit, improved colouring, set and size and in strawberries it has improved vegetative development, fruit size and shelf-life," explains Mr Pendergrast.

Frutogard is a phosphite with fungicidal properties. It has shown strong activity against Oomycete pathogens, such as downy mildew, in grapevines. Frutogard has become a valued product in the grapevine programme.

Sonata (*Bacillus pumilus* strain QST 2808) has been an effective means of control in protected cropping situations as part of a programme for the control of powdery mildew.

Amylo X (*Bacillus amyloliquefaciens* D747) is the next generation of fungicide to contain *Bacillus* species.

"It has performed consistently well in trials over several seasons delivering good control of *Botrytis* and other storage diseases such as penicillium in strawberry. It has also proved effective against storage rots and as part of a programme for control of powdery mildew," Mr Pendergrast says.

Secover is a silicon product registered as a physical insecticide.

"It has performed well versus other biological products. While not as good as a conventional insecticide it can be used effectively in programmes against pests such as rosy apple aphid in orchards as well as aphid in soft fruit. Similarly Flipper, a plant oil containing fatty acids, has a physical mode of action but is registered as a bioinsecticide," adds Mr Pendergrast.

Innocul8 is a biostimulant peptide + Mn + Zn, typically applied early in programmes to improve plant health and reduce abiotic stresses in top fruit. Used alongside fungicides, it can reduce the overall disease seen on the plant and can also help with softening some of the harsher products.


Laminarin is a plant elicitor product that is yet to receive authorisation from CRD as a biofungicide for use on top fruit and soft fruit.

"In Agrii trials during 2022 it delivered control against apple scab that was comparable to captan," Mr Pendergrast says.

Dipel and Delphin are both based on different strains of *Bacillus thuringiensis* (BT). Both products have been used for reducing populations of lepidoptera larvae and have a good IPM profile due to their selectivity.

"Interest in their use is increasing as well as interest in granulovirus products such as Madex Top and Carpovirusine which are both specific to control of codling moth (*Cydia pomonella*). The BT products do, however, offer wider control across many of the lepidoptera species that are of significance in fruit, such as Winter moth (*Operophtera brumata*)," says Mr Pendergrast.

Look out for us at:

 **British Christmas Tree Grower Award (BCTGA) Competition Day**
Date: Thursday 19th October 23
Location:
Billingley Christmas Tree Farm,
Barnsley, South Yorkshire

 **National Fruit Show 2023**
Dates: Wednesday 1st &
Thursday 2nd November 23
Location:
Kent Showground, Detling, Kent

 **Vineyard & Winery Show 2023**
Date: Wednesday 22nd
November 23
Location:
Kent Showground, Detling, Kent

15 Speciality Crops: Fruit



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Thatchers Case Study: Celebrating the vintage, embracing the future

Somerset farmer William Thatcher made the first ever Thatchers cider at Myrtle Farm in 1904. Today, the farm continues to honour traditional varieties, as well as leading the way in cider innovation with its extensive variety trials.

THATCHERS — THE FAMILY CIDER MAKERS —

Grower profile

- + Farm manager: Chris Muntz Torres
- + Location: Sandford, north Somerset
- + Total farm size: 200 ha
- + Varieties grown: Over 500 in total, including variety trials. Traditional cider varieties are grown, such as Dabinett, Somerset Redstreak and Tremlett's Bitter; modern varieties such as Three Counties, Gilly, Hastings, and Prince William; and eating varieties such as Katy, Red Windsor, Jonagold and Falstaff, which are used to make lighter ciders.
- + Soil type: Predominantly sandy-silt loam.

From humble beginnings to iconic brand

As was the tradition in the early 1900s, Myrtle Farm – a mixed enterprise at the time – grew cider apple trees and pressed the fruit to make cider for its farm workers. William Thatcher soon became known for making the best cider around and began selling it in the local villages. The tradition continued through the generations to current cider-maker Martin Thatcher, William's great-grandson. The fifth generation is also now working for the business, which has its roots firmly in the Mendip Hills area of north Somerset.

Sustainability is integral

Being a family company and growing apples and producing ciders in a sustainable way is integral to the farm. Whether that be by reducing plastic packaging (an area they are continually researching and innovating) or installing solar panels to contribute to their use of renewables and energy creation across their cider-making.

"We work hard to constantly reduce our use of water, to reduce our carbon, and our waste throughout our cider-making process," farm manager Chris Muntz Torres comments. "And we're doing all of this from the ground up. We're not investing in offset schemes or anything like that; we want our progress to be meaningful, genuine, and in itself, sustainable."

"As a cider maker with hundreds of acres of orchard, planting trees is second nature to us. As a family, Thatchers has been planting trees

for generations. The resulting biodiversity within our orchards is amazing, and this is something that benefits not just our apples, but our local community too."

There are 3,000 solar panels at Myrtle Farm which they anticipate will provide a total CO₂ saving of 301 tonnes per year, and an annual generation of 1,064 Mwh of electricity, contributing to the green energy that is produced and used across the farm all year round. A biomass boiler also uses wood chippings from the orchard, and apple waste left over from the cider making process goes for anaerobic digestion, though some is saved for cattle feed.

Loss of chemistry is a concern

Another benefit of being juice producers is that many of the superficial pests other growers would be concerned about are not a problem for Myrtle Farm. Instead, they focus on those that harm yields and tree health, including apple blossom weevil, rosy apple aphid, apple sore fly, woolly aphid and mites – specifically spider mites. On the disease side, being in the west of the country, scab is one of the primary diseases of concern. Mildew can come in certain weather conditions and canker in some varieties. Fire blight is seen intermittently.

Myrtle Farm has worked with Agrii for at least 18 years, going back before Chris and Agrii agronomist Matt Greep's time. Loss of chemistry to deal with pests is one of the biggest concerns, Matt explains. "We've known that for some time and Chris is very good at putting things in place to mitigate it. For example, reduced nitrogen inputs to make Katy less susceptible to woolly aphid and thinking about how they prune because the aphids like to overwinter in the crevices around the pruning cuts."

"There are some really good cultural controls that Thatchers have put in place to try to minimise the risks. Chris has also tried some alternative products with varying degrees of success, including Sion and Magnesium Sulphate for breaking down the wooliness on the pest."

"We have had great success with Batavia Spirotetramat at Myrtle farm for the control of woolly apple aphid. This product is quite technical and can often be used incorrectly by growers. As an agronomist, when I advise that product a lot of growers try and take short cuts and then it doesn't work, but the Thatchers team are very good at thinking about how they can get the best out of the products. So although we've seen certain areas of the farm that probably haven't had the best results from the product – perhaps because the pest pressure was just too high for it to manage – in other areas we've certainly seen it work well. And I put that down to

the guys being very good at what they do when it comes to application and knowing how to use these products."

Encouraging beneficials

There's a big emphasis on letting beneficial insects fight it out with pests where possible. "The main thing we do, and a lot of people do, is avoiding broad spectrum insecticides – the loss of products is easy to fall back on with some of these but we're trying to hold our own on that and maintain those natural background populations," Chris says.

As well as avoiding products that affect those beneficial populations, they try to encourage habitats – whether it's in non-cropped areas around the orchards, or more recently, trying mixed species sward mixes between the trees in their young orchards over the past couple of years. When having conversations about what products work well for certain pests, Matt and Chris will not only consider whether the product hurts the pest, but also whether it hurts the beneficials. "We need to factor that into the equation as well and that's really integral for the IPM structure of the farm to work successfully. It's a key part of the decision making – what is the product's beneficial profile like, and do we have any data to back that up? If we haven't, where are we going to find it?" Explains Matt.

Ciders of the future

Looking to the future of the cider apple industry, Chris says there is potential for further automation. "Whether it be during the harvesting process or even pruning – the majority of which is still done manually," he adds. "It is encouraging to see the developments in other areas of agriculture and horticulture that our industry can look to."

For Thatchers, the aim is to keep doing what they're doing; "making the best cider around, innovating and keeping our consumers excited about new flavours and styles." As part of this, the farm is running more tree trials than anyone else in the industry, featuring around 100 varieties making up 10% of the total acreage, according to Chris. Key to this is finding varieties that are good for the market but also grow well in Myrtle's system.

Listen to the full Thatchers Cider Podcast – recorded live on-farm!



Scan the QR code:



16 Speciality Crops



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Future-proofing Agrii's research

Agrii's strength is delivering agronomic advice completely backed by our own research to ensure sustainable and profitable farming systems. Our research is currently completed in replicated small plot and tramline trials located on 28 iFarms and Technology hubs spread across the UK. Additionally, we also co-ordinate many farmer led split field demonstration type trials to ensure any results proven in replicated small plot work can be scaled up to real life crop production using large machinery.



Dr. Ruth Mann,
Head of Integrated
Crop Technologies

In any year, Agrii will have more than 300 trials across all major crop types in the UK including cereals, fruit, oilseeds, potatoes and vegetables. In these trials, we determine optimal varieties in different parts of the country, efficacy of crop protection products and how we can create programmes or enhance uptake using adjuvants to deliver optimal crop yields or additive benefits of integrated crop management programmes, for example.

As UK agriculture and horticulture embraces new farming systems, technology and products, the research completed at Agrii also needs to embrace new methods to test products and services effectively, ensuring we continue to provide the best expert agronomic advice. Therefore, Agrii has invested in a state-of-the-art glasshouse to be positioned at Throws Farm. By investing in this technology, we enhance the capability within the research and development team.

Many future solutions will require more in-depth analysis to determine how we obtain the maximum benefit from interventions with products. These will include determining

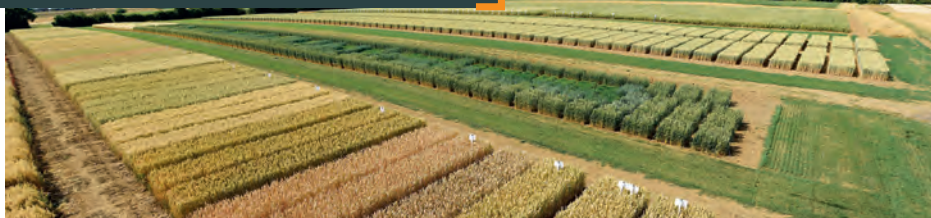
exact modes of action, timing of application and environmental conditions favourable to product efficacy, for example. Having a glasshouse where we can create these conditions as well as controlling the timing of pathogen infection or pest infestation will permit Agrii to fully understand all benefits provided by products.

In certain sectors, such as fruit production, the use of robotics to manage crops and apply products is gaining momentum. We will be able to match these technological advances in our own fruit trials, keeping our research relevant and valuable to growers.

Additionally, many products contain similar active ingredients, biocontrol agents or micronutrients. We need to be able to effectively screen these products quickly. When completed in the glasshouse, these screens are very cost effective and ensure only those products with the greatest efficacy and selectivity are chosen for further field-based research trials.

These learnings from the glasshouse can then be applied to small scale plot trials, tramline trials and farmer led field scale trials ensuring we consider every aspect of sustainable crop production and help our growers proactively achieve their optimal triple bottom line.

In any year, Agrii will have more than 300 trials across all major crop types in the UK.



Sign up to our vegetable and potato newsletters!

Three times a year we send the latest vegetable and potato trials, and industry updates straight to your inbox! Including:

- + Trials updates from our extensive R&D trials programme
- + Latest podcasts – perfect for the tractor cab!
- + Nutrition management advice
- + Upcoming events

Scan the QR code to sign up!



Look out for us at:

 **British Carrot Growers Association Demonstration Day 23**
Date: Thursday 5th October 23
Location: Huntapac Produce, North Yorkshire

 **Elsoms Open Day**
Dates: Wednesday 11th & Thursday 12th October 23
Location: Spalding, Lincolnshire

17 The Potato Partnership

WHAT IS THE POTATO PARTNERSHIP?

Through collaboration, we can achieve far more than if we worked alone.

The Potato Partnership (TPP) was established with the understanding of its founding members that a collaborative effort was our best way of finding answers to our industry's production challenges.

The Potato Partnership is an opportunity for those with a vested interest in potatoes to work together for mutual benefit.

"Our first-year success owes much to the partners involved. We are heavily reliant on James Foscett Farms, and were it not for the willingness of the farm's directors to give access to sites and provide management time, The Potato Partnership would not have got off the ground. Agrii has played a straight bat despite what some might say about the big distributors. It has brought a depth of understanding and background knowledge to the project. It too believes that collaborative enterprise is vital to sustaining the industry."



James Wrinch
Director of East Suffolk Produce
and TPP steering group member

Look out for us at:



British Potato 2023 (BP23)

Dates: Wednesday 22nd & Thursday 23rd November 23

Location: Harrogate Yorkshire Event Centre

Stand number: AAH

Join our on-stand session! A short 20 minute talk at 11.45am on day one and two covering:

- + The Potato Partnership: our research and findings so far
- + RMA & RHIZA – new technologies in potato production



Open Session, 15th July 21, James Foscett Farms



Winter Regional Meetings, Feb & March 23
Photo: Throws Farm event, Essex
Also held in Herefordshire, Yorkshire
and online.



East Field Event, 2nd August 23
Sutton Hall Estate, Woodbridge

"TPP has enjoyed a great start and the work we do is of real benefit to growers. It has benefitted from having a clear purpose, members who understand the value of collaborative working and crop protection manufacturers willing to see their products independently tested."



Nick Winmill
Head of Potato R&D
at Agrii

THE POTATO PARTNERSHIP WEBSITE HAS LAUNCHED!

Features:

- + Upcoming events
- + Steering group members
- + Trial supporters
- + Latest news

Coming soon – members area

The Potato Partnership Team are currently building a members area for the website. The member's area will be free of charge and will provide access to the latest research, papers, trials and technical data available through the partnership, along with other exclusive member benefits.



www.thepotatopartnership.co.uk

Scan the QR code to visit the website



@ThePotatoP_ship



This newsletter content was provided by Bimeda, makers of Gold Fleece Sheep Dip, 608 mg/ml Concentrate for Dip Emulsion.



David Pryce
Animal Health Sales
Specialist

Sheep scab is estimated to cost the UK sheep sector £78-202 million annually¹. Historically under control, its incidence has increased exponentially with resultant economic and welfare impacts.

Caused by the *Psoroptes ovis* mite, which can be transmitted between animals and via the environment on fomites, like clothing and equipment which carry infection. It can survive for up to 17 days in the environment, for example, on wool caught in fences.

Clinical signs

The mites produce faeces eliciting a severe allergic reaction in the sheep host, causing skin lesions and intense itching. While many are familiar with the classic signs of severe 'scabby lesions', nibbling and scratching due to intense itching, fewer are familiar with the signs of chronic sheep scab disease and

unaware that long-term infections may cause no obvious clinical signs at all.

Biosecurity

Animals which have been repeatedly exposed to sheep scab disease are likely to have developed an immune response. This immunity will not eradicate disease and will not prevent transmission but will dampen or even prevent obvious clinical signs. All new incoming stock should be considered at risk.

Diagnosis

Skin scraping has been widely used for diagnosis and offers a quick, cost-effective solution. Your veterinary surgeon can carry out a skin scrape and deliver results rapidly, facilitating ongoing management.

Even where infestation is present, mites may not be detected on skin scrapes, particularly

if low mite numbers are present. Moredun has developed a sheep scab (blood) ELISA test, which is available commercially via Biobest Laboratories and Wales Veterinary Science Centre. It detects the presence of antibodies produced by the sheep following infection.

Treatment & management

If sheep scab is diagnosed, engage with your vet or RAMA (SQP) to discuss treatment options.

Currently, two treatment groups are available, plunge dipping with organophosphate dip or injecting with Macrocytic Lactones (group 3 clear warmers). When determining which approach to take, consider and discuss the following with the prescriber:

- + How will different treatments impact my roundworm control plan?
- + Is clean housing and pasture available, or is a product which prevents reinfection required?
- + What is the administration protocol, and can it be facilitated?
- + How will the withdrawal impact management, e.g. drawing lambs?
- + For dipping, is there an 'Award in the Safe Use of Sheep Dip' held and a responsible disposal method in place (according to the local environmental agency). If not, could a mobile dipping contractor be utilised?
- + How has scab likely to have been introduced, and who do we need to inform that may also be affected, e.g. neighbours?

Due to the different protocols (1 injection vs 2), different routes of administration (subcutaneous vs intramuscular) and prevention vs treatment only products, it is easy to make mistakes which can result in treatment failure. Double-check before administering that they are being used correctly.

Diazinon has been used in showers/jetties; however, the product is not licensed for this use, and there are numerous concerns, including:

- + The ability of mites to survive in ear canals facilitating reinfection.
- + Dip concentration in fleeces following showering has been demonstrated as significantly lower in trial work vs plunge dipping which could result in treatment failure and a reduced duration of protection.
- + Exposure of mites to sub-lethal concentrations may lead to resistance.
- + Harmful aerosol generated may increase the risk of inhalation.
- + Medicines must only be used in accordance with their licenced use.

Table 1: Medicines licensed for the control of sheep scab in the UK:

	Active	
Organophosphate (plunge dipping)	Diazinon	Treatment: dip once Prevention: 60 days
Macrocytic lactones (injectable)	Ivermectin	Treatment: two injections 7 days apart Prevention: none Route: subcutaneous
	Doramectin	Treatment: one injection Prevention: none Route: intramuscular
	Moxidectin 1% ²	Treatment: two injections 10 days apart Prevention: 28 days Route: subcutaneous
	Moxidectin 2%	Treatment: one injection Prevention: 60 days Route: subcutaneous

For more information contact your local Agrii Animal Health Advisor or David Pryce on **01584 872134**.

¹ The high cost of sheep scab. Emily J Nixon, Richard Wall, Hannah Rose Vineer, Lesley Stubbings. Vet Record, 2020. ² Do not use in animals vaccinated against footrot

³ M. H. Clear, P.R. Kettle & T. J. Hynes (1982) Retention of diazinon in wool on Romney and Drysdale sheep and in hair on goats, New Zealand Journal of Experimental Agriculture, 10:1, 19-21, DOI: 10.1080/03015521.1982.104278



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Mycotoxin risk to your livestock

It is believed that over 90% of animal feed is contaminated by mycotoxins which can cause major harm to your animals' health, performance, and consequent profitability. Mycotoxins are metabolites produced by fungi infecting forage and cereal crops in the field as well as during storage and can be found in almost all agricultural commodities worldwide.



David Thornton M.Sc
Feed & Nutrition Specialist

This season it is predicted that the risk factor posed by mycotoxins in farm-produced feeds is significantly higher than last year due to the nature of the season and harvesting difficulties on some farms.

Agrii recommends you take control over the risks mycotoxins potentially pose to your animals, as often their effects are very subtle with few visible symptoms of illness. Agrii works closely with several suppliers of "mycotoxin binder" supplements that negate the risks by simple low-inclusion addition to winter rations.

Deactivate mycotoxins. Activate performance.

Mycotoxins are secondary metabolites of fungi, which means that they are not essential in the normal metabolic function of the fungus. Over 1,000 different mycotoxins and fungal metabolites have already been identified; many of these substances still need to be studied.

They can be produced as the crop is growing and after harvest during storage. Some of the most common and well-known mycotoxins are aflatoxins, trichothecenes such as deoxynivalenol and T-2 toxin, fumonisins, zearalenone, ochratoxin and ergot alkaloids.

Mycotoxins' effects on animals range from carcinogenicity and neurotoxicity to impaired reproduction, digestive disorders, immunomodulation and decreased live-weight gain and milk output.

Clinical signs can be seen at high levels of mycotoxin contamination, but more frequently, we observe subclinical effects. Already moderate levels of mycotoxins, especially during chronic exposure, can negatively affect the animals. Mycotoxins influence the immune system, the integrity of the gut barrier and act as predisposing factors for disease.

Different strains of fungi produce mycotoxins, and each strain can produce more than one mycotoxin. Therefore, co-contamination of crops with several mycotoxins is very likely. This co-occurrence can lead to even more detrimental effects on the animals.

Mycotoxins are invisible, tasteless, chemically stable, and resistant to temperature and storage. They are highly resistant and thus cannot be removed or detoxified during the normal feed manufacturing processes. Good mycotoxin risk management is crucial and should include mycotoxin detection (by laboratory analysis) and other services, as well as solutions to counteract the various mycotoxins in the feed.

Help is at hand. If your winter rations are properly balanced by a qualified nutritionist but are still under-performing, seek advice from Agrii.

The Agrii livestock offering

The Agrii Livestock Team is made up of highly qualified and dedicated advisory staff.

Our staff provide a professional, advice based service in addition to supplying the following products.

- + Vaccines for beef, sheep, suckler cow and dairy enterprises
- + External and internal parasite control products for all farm animals
- + Trace element drenches and boluses for sheep and cattle
- + Superstock proteins for home mixing
- + Calf and lamb milk powders and follow on products
- + Protein and mineralised buckets and feed blocks
- + Compound feeds
- + Dairy and hygiene chemicals
- + Mobile livestock handling equipment
- + Cereal, grassland and forage crop seed
- + Silage preservation products
- + Cereal harvest preservation products
- + Farm plans
- + Worming programmes, including faecal egg counts

Agrii: for all your livestock needs.



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Measuring and managing soil P and K

Phosphate (P) and Potassium (K) are two of the big three macro-nutrients for plant nutrition; they are also some of the most considerable crop input requirements for development, growth, and yield. This places a high significance on managing the application and utilisation of P and K.



Ben Wainwright
Fertiliser Technical Support

Throughout the last cropping year, P and K prices along with most other fertilisers, were significantly inflated, leading many growers to take a PK holiday to manage input costs. Despite this, growers should continue to take into account the needs of the soil and crop.

Soil testing via RHIZA or standard sampling is the foundation, but understanding how to achieve the best from soil nutrient inputs will help enormously. Couple these results with broad spectrum analysis of macro-nutrients, micro-nutrients, organic matter and soil texture, and you've got a holistic view of understanding nutrient availability. Understanding these values helps to target specific inputs.

Phosphate's primary roles in crop nutrition is to aid root development, photosynthesis, storage and transport of other nutrients. As such, P needs to be understood and measured to avoid any shortfalls in availability. The rate of freshly applied P ranges between 5-25%, which indicates that the remainder of the P used by the growing crop must come from pre-existing soil reserves of P.

From all the samples taken by Agrii and RHIZA in 2022, 21% yielded below an Index two for phosphate, meaning applications of fresh P are essential for healthy crop production in those scenarios. Conversely, 16.1% of samples yielded an index of four or higher. In those cases, taking an extended P holiday may still be possible by utilising Agrii-Start Release. This soil phosphorus activator makes existing locked-up soil phosphorus available to the plant.

The main functions of potassium are to aid cellulose production, photosynthesis, and nutrient, starch and sugar transport. Of all the samples Agrii and RHIZA took in 2022, 26% of soils yielded below an index of two. If this is the case, fresh K should be applied to supply the crop with sufficient nutrition to establish, grow and optimally, yield.

24% of UK soils yielded a K index of three or higher, again similar to P. In these instances, it may be possible to take a K holiday.

Where K levels are at an index of three or higher, take steps to measure magnesium (Mg) levels in the soil and conduct tissue testing to quantify if the plant utilises these soil-based nutrients effectively. This is because K and Mg have a unilateral antagonistic relationship, meaning high levels of K can negatively impact the capability of plant utilisation of soil Mg (Mg can still get into the roots but have a suppressed rate of translocation into the shoots) leading to K induced Mg deficiency.

It is worth considering that UK soils are typically high in Mg levels (56% at index three or higher) due to applying dolomitic lime.

For all of the reasons highlighted above, it remains essential to frequently test your soils to maintain the optimum nutrition levels to best set up your cropping for success. As mentioned, it works both ways; testing may reveal that you need to increase or decrease fertiliser application rates. Either way, testing helps you rectify nutrition problems rather than compounding them.

Any questions relating to this article? Please contact ben.wainwright@agrii.co.uk



Agrii-Start Release

Agrii-Start Release is a unique and ground-breaking soil complexing agent which works in the soil to prevent both lock-up and to release phosphate and other essential nutrients for uptake by the roots. Suitable for a wide range of crops including: cereals, vegetables, root crops, maize, grass and OSR. Contact info@agrii.co.uk for more information.

Research shows new key to maximising liquid fertiliser sustainability



Contracted research by Verdesian as well as Agrii Technology Centres and iFarms has highlighted marked increases in Nutrient Use Efficiency (NUE) from the stabiliser's unique combination of urease and nitrification inhibitors. These have led to valuable improvements in crop yield and quality as well as machinery and labour use, and – every bit as importantly – environmental impact.

"The key challenge in farming today has to be to get more from less," stresses Agrii nutrition technical manager, Tom Land. "Especially so with the imperative of reducing the carbon footprint of our production. We can only do this by understanding the science behind key elements of crop management and applying it in the most effective ways.

"We have been working with the nitrogen-stabilising technology of the Liqui-Safe added to our Agrii-Start fertiliser range this season in a sister product (Enhance) for more than ten years now. Replicated trials across a wide range of crops highlighted its value in both increasing the Nitrogen Use Efficiency (NUE) of urea fertilisation – measured in higher yields and milling wheat N contents – and in enabling the number of passes to be manipulated."

"Our long experience with Enhance, and hundreds of results from manufacturer trials – including more than 40 in the UK and Ireland – gave us confidence in the product's crop and environmental improvement abilities from the outset.

Agrii trials found no difference between wheat performance from standard three-

application farm regimes and those applying all the N with Liqui-Safe in a single early season pass in either 2018 or 2019.

The results were even more impressive in replicated Agrii field trials with Skyfall in last season's very dry spring and early summer. Here, there was no discernible yield difference between the same 200 kg/ha of nitrogen balanced with sulphur applied in a standard late-March, early April and mid-May programme without Liqui-Safe and at just the first and third timings with it.

However, applying all the nitrogen with the stabiliser at the first timing alone raised yields by over 9% from an average of 10.8 t/ha to 11.8 t/ha. This gave a margin over input costs of more than £110/ha before accounting for any savings in machinery and labour costs.



"All the evidence shows that Liqui-Safe offers really valuable economic and environmental sustainability benefits for liquid fertiliser users," Mr Land concludes.

Photo ID to be required to buy ammonium nitrate

The Home Office has amended the Control of Poisons and Explosives Precursors Regulations 2023 to introduce new substances to the lists of regulated explosives precursors and poisons, including Ammonium Nitrate based fertiliser with a nitrogen content of 16% or more. This applies to compounds, blends and mixtures such as NPK fertiliser containing ammonium nitrate above the 16% nitrogen content threshold.

The new rules requires all businesses supplying Ammonium Nitrate products to professional users and other businesses to take additional steps to verify the legitimacy of the individual or business. This is defined as being provided a photo ID. This ID can be for anyone working for the farm business who is authorised to make the purchase.

The new legislation takes effect on all orders **placed or delivered from 1st October 2023**.

As this is a legal requirement, we will not be able to deliver any product until we have the photo ID on file.

The supplied document will be held for a period of 18 months as per the legislation after which it will be deleted from our records and another requested at or before any subsequent order.

We are developing a process to facilitate the collection and storage of the identification documents that will be smooth and create very little inconvenience for customers.

If you have any queries please do not hesitate to contact your local Agrii contact or email info@agrii.co.uk.





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Next Gen initiative launches at Stow Longa

A group of young farmers, agronomists and crop input specialists joined the Stow Longa team to tour Agrii's renowned blackgrass site for the inaugural Next Gen event.



David Felce
Regional Technical Advisor

The Next Gen initiative targets the next generation of farmers and Agrii's agronomy team. It aims to create an environment where the group develops relationships and learns, utilising Agrii's R&D expertise. Next Gen was born from the realisation that younger farmers are often reluctant to ask questions or engage with Agrii's experts at an iFarm event. The young farmers who attended certainly did not disappoint. "I have been giving this tour for the last six weeks, and that was the most engaged group I have had," says regional technical advisor David Felce. "Some great questions showed they had really thought about what I was saying."

The most recent data collected by DEFRA on farmers demographics reveals that over a third of farm holders in England are over 65 years old. Just 2% are aged less than 35 years. This illustrates the age gap between generations and the jump that can happen when a farm passes from one generation to the next. Engaging with future farm decision-makers helps them make more informed choices for their farms and cultivates a relationship with Agrii's agronomy team of the future.

"I have a customer who farms near Bedford and visits Stow Longa every year; she wanted her son to attend and believed he

would benefit more by being in a younger, smaller group," says crop input specialist Jack Riddington. "Farmers like this are the target for the Next Gen group. We want them to feel comfortable asking questions, even if they think they are asking something relatively basic, because more than often, others in the group are thinking the same.

"Blackgrass has been an increasing issue for farmers, especially this year, so coming to Stow Longa for our first event made sense. Steve Corbett, Colin Lloyd, and David Felce's knowledge is second to none in the industry. We are lucky to have them talk to us about all their work at Stow Longa over many years," adds Jack.

The tour began with a discussion on cultivation methods and soil management, led by Agrii trials manager Steve Corbett. The group were shown a range of cultivation methods and their impact on soil structure in the trial plots at Stow Longa. Direct drilling, ploughing, low disturbance subsoiling, and shallow cultivations were all highlighted. Their effect on the crop's rooting behaviour surprised the farmers, leaving them thinking about their soils and whether they could improve them if they did things differently.

David Felce discussed the new Sustainable Farming Incentive options and how these could be adapted to different farming systems. Moving away from area-based support payments to work-based schemes is a once-in-a-generation change that all of the members of the Next Gen group will have to manage throughout their careers. David also

took the group through the continuous wheat trial, where the recent n-tester results on the Skyfall in the plots predict that grain nitrogen could be low this season. Because of this, David will add 40 kg/ha foliar nitrogen to half the plots to investigate whether this will help them make the full milling wheat specification at 13% protein.

Finally, the rotational trial experiment in its ninth year was demonstrated by Colin Lloyd. The unusual spring weather highlighted the role of spring cereal drilling dates in blackgrass control. The spring barley at the site was drilled on the 24th of February when the conditions were excellent following a month of settled weather. However, little blackgrass had yet germinated, and the subsequent wet March encouraged a flush of weeds once the crop had emerged. Colin believes that sometime in mid-March is the optimum spring drilling date for blackgrass control at Stow Longa.

"The development agronomist group is busy creating a schedule for the next 12 months. We hope to meet at least four times yearly to discuss different agronomy topics. As it continues, we expect the group to get larger and the relationships to strengthen," concludes Jack.

The feedback from the farmers who attended was excellent. Most agree that their biggest challenge will be convincing their families to make changes on their farm so they can apply some of the learnings they gained from the day.

Look out for us at:



AgriScot

Date: Wednesday 22nd November 23

Location: The Royal Highland Centre, Edinburgh



23 Tramlines – Regen

Taking a reality check on regen farming

Tom Martin, who farms near Peterborough and Agrii agronomist, Neil Harper answer the tough question of what is the reality check that we need to honestly answer to be able to learn from to go forward today with regen farming.



With more farmers than ever exploring regen farming, maintaining profitability has never been more of a challenge. Starting with the mindset of suddenly changing practices and getting the results is easier said than done.

Volatility in markets is a challenge. Fertiliser prices have increased, grain prices have reduced from the highs seen in 2022, and the challenge with farming is not knowing what the crops being grown will be worth at the end of the day.

But where to start? Regen is more than reducing tillage. It's about good manure, building up soil organic matter, bringing in livestock to graze cover crops in the wintertime, improving biodiversity, increasing the number of crops in rotation and using companion cropping. When getting into regen farming, Neil suggests learning from failures and discussing with other groups of farmers and advisors as great ways of mitigating some of the pitfalls.

Does the plough still have a place?

"It's still needed in the right situation," comments Neil. "Bringing in different cultivation practices, using cover crops and having that mindset to be brave enough to say, I need to start from a good place. It's also about understanding that mother nature occasionally does something that puts us under more pressure.

"We have to be flexible to get the best out of these systems. It's not a failure if you have to revert and move a bit more soil. It could mean ploughing; you are doing what's right, but then it's thinking, how can I reduce the harm or the damage it's causing? Can I use green manure? Is it the right thing? Can I use a cover crop at the right time of year?"

Mindset matters

"We talk about the top six inches, and often people think that means the soil, but as Clive Woodward used to talk about in the 2003 Rugby World Cup campaign, it's our brains. Our minds are the six inches we must change before thinking about our soils. Try to understand what's going on, how we can make a difference, and what we might do. Your first step might be bringing in a local contractor with slightly different machinery," explains Neil.

The five pillars of Regen farming



1

REDUCED
TILLAGE



2

BRING IN
BIODIVERSITY



3

LIVING ROOTS
IN THE GROUND



4

PROTECT YOUR SOIL
& HAVE SOIL ARMOUR



5

INCORPORATE
LIVESTOCK

"And if there's a sixth pillar, it's to get the context right – be sure to apply the first five in the context of your farm and your situation," says Tom.

To discover the best place to start with regen farming and Tom and Neil's top three tips before getting started, listen to the full podcast here.



To discover more about regenerative farming principles, click the link below or scan the QR code to access **Insight Report 1: Improving Soil Resilience**, the first of five Insight Reports.



Tom Martin
Farmer



Neil Harper
Agrii agronomist



24 Tell Us What You Think

HAVE YOUR SAY!

Answer our quick and easy survey and be in with the chance of winning **a luxury hamper worth £250!**

Tell us what you think of the Agrii Journal, what you like about it and how you think we could improve it for future editions.



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Or click the link here:
www.surveymonkey.co.uk/r/Y3XG8YP

Closing date 1st December 2023.
Full T&Cs available on the Agrii website.



Connect with Agrii



Agronomy and advisory teams
– we have over 300 agronomists throughout the UK



iFarm Events
– 28 iFarm and Technology Centre demonstration farms throughout the UK



Online at agrii.co.uk
for the latest news, event information or to ask us a question



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