Wake-up call for yellow rust in high risk season for cereals

Agronomy insights at heart of 2026 Technical Conference

AICC leads the way on latest Wheat Dwarf Virus research

How independent advice is changing potato agronomy

the Independent Agronomist

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INSIDE

AICC growth signals bright future for independent agronomy

Sarah Cowlrick, AICC Chief Executive

Since I wrote in last year's Independent Agronomist Magazine, the AICC community has increased again. Growers recognise what truly independent advice really means and what they can expect when they engage the services of an AICC member. Agronomy has changed since AICC was started by a small group in 1981 but the ethos has not. True independence is still our USP and is strictly upheld.

Strategy

The strategy for AICC which is a live working document has been driven by me with a new group of members which I named Emerging Leaders. Luke Wheeler of Indigro and Jonny James of CCC Agronomy head up this dynamic group focusing on what the future AICC will look like.

Pictured here in London in November 2025, 19 members who represent the whole country and the groups and are all committed to independent agronomy gave up their time to attend the first meeting, another followed shortly after and they will meet again after the season. What more proof can there be that the future of independent agronomy is in safe hands? See the article on page 6 where Ben Mead talks about why he transitioned into independent agronomy.

Specialists

Within its membership the AICC has the best technical expertise and experience when it comes to all sectors of crop production and farming systems.

With our market share of the advice sector comes responsibility. We work hard behind the scenes on behalf of our members and the farms they advise. That includes supporting members in their day-to-day activities and by industry representation.

For example with EU alignment we have been involved in stake holder groups since the outset and we are involved in discussions as glyphosate approval heads towards renewal.

It remains to be seen how successful the industry's response to such issues will be. But there is no doubt that the independent message carries a huge weight at discussions due to our market share and impartiality. We are committed to standing alongside our industry partners and to playing our part in the future of farming in the UK.

Why independent agronomy matters more than ever

Andrew Blazey,
AICC Chairman

As we approach the end of another agronomy season and reflect on the year most agronomists will probably tell you it certainly hasn't been a normal season, but I think it is fair to say that an abnormal season is the new normal!

There certainly isn't a lack of challenges facing arable production here in the UK, whether that is from the weather, political decisions or global events wreaking havoc in the energy sector and tidal waves that it sends out across the industry.

20/80 rule

Adapting can be a challenge particularly as a great deal of these factors are out of the adviser's and farmer's control. Some say the 20/80 rule applies here and what happens when trying to grow a profitable crop in a sustainable system is that 20% is in our control and the other 80% at the mercy of external factors. I would argue that the intervention of a good independent advisor can swing that more in favour of the farmer and that with solid impartial advice some of that 80% can be grabbed back.

As well as dealing with the day-to-day agronomy needs of the growing crop an AICC member will spend a great deal of time working with the farmers they advise giving thought on how to manage risk in such a challenged sector of the industry. They will be implementing strategies with their farmers to try and reduce exposure to risk ahead of the growing season.

Profitability

Whether that be looking at the most profitable systems and rotations that give long term stability, discussing soil management, independently assessing and choosing varieties, and evaluating nutritional requirements and how best to implement them to maximise their efficiency and return on investment.

As always with challenges there follows a raft new opportunities and technologies all which will be assessed and trialled by AICC members either through our own in-house trials or from on farm evaluation to see if full scale adoption can deliver on their farmers behalf These trails look at new solutions such as biostimulants and alternative forms of crop nutrition and can make comparisons to traditional standards.

> **It's all about assessing what is in front of you and having the freedom to act accordingly.**

Assessing and adopting

When we are challenged by factors such as dry seasons or inflated nitrogen prices, we can draw on current and historic information to make the best informed decisions, combining data over years and reanalysing where appropriate to make the correct decisions for the current season.

An AICC advisor is not afraid to adapt as the season goes by. For example, following a successful drilling campaign in autumn and a mild wet winter we went into spring 2026 it looked to be shaping up into the worst disease season ever in winter wheat, with unprecedented levels of Septoria and rusts.

Dry spring

However, as we moved into March and April the taps were turned off. Septoria in crops in drier areas subsided and having no fixed program to stick to and access to all available solutions our members were able to adapt programs to suit, choosing the best options to take care of the rust threat and tailoring them to the reduced septoria often saving significant cost. The same was true in spring 2025 where our members did the same saving significant amounts on disease control programs in many crops including blight control in potatoes. It's all about assessing what is in front of you and having the freedom to act accordingly.

Independent advice

For these reasons and more we are seeing the demand for transparent independent advice continue to grow, and in turn so is our membership. Being an independent agronomist isn't easy – but I am sure everyone in the industry will say that. It is, though, very rewarding. it is an honour to be a trusted part of the farming teams we advise who look to your consul for all the decisions they are making to safeguard their business in the knowledge that your advice whether that be what they want to hear or not is truly impartial.

As we navigate through these turbulent times, I am certain the demand for independent advice will continue to grow. With that in mind if you are a farmer, adviser or looking to start out on your career as an independent agronomist, please do speak in confidence to us about what the AICC can offer you.

The trusted, independent voice of agronomy in the UK

Recognised across the country for its integrity, professionalism, and advice, the AICC always puts its members' clients first.

HOW IS AICC GOVERNED?

The AICC is governed by a Council of Management managed by the CEO who are all practising. established agronomists and are committed Directors of AICC Ltd. An Exec committee is in place made up of the CEO, Chairman, Immediate Past Chairman, President and our newly elected Exec Director, Ben Boothman. In addition, the R&D is led by David Boulton with support of AICC members across the country in each region. Succession is well mapped out for the governance and R&D to ensure that there is a good balance of representation to support the future growth of AICC.

TRAINING

Regional meetings are staged for members to provide vital technical updates. In addition, specialist training is staged, for example, in specialist crops such as Sugar Beet and we collaborate with industry players to provide bespoke training in addition to the AICCA (Academy modules)

The AICC's flagship event – a 3-day technical conference takes place in January each year and is a recognised highlight in the industry calendar. It features non-commercial, unique and highly technical presentations for members as well as highly valued interaction with the industry.

MARKET INTELLIGENCE

AICC's reach across the UK enables us to provide quantified information to facilitate market intelligence contracts. AICC has a proven track record and given our genuinely unique and independent reach of agronomists across the whole of the UK, we are well placed to deliver.

STAKEHOLDER ENGAGEMENT AND REPRESENTATION

AICC is represented on all the major industry committees and continues to represent its members views on political issues.

THE FUTURE

Independent agronomists support growers to invest wisely, manage risk for the whole business with the support of independent research and tools that are available to them. AICC members can focus on the grower's margin without any commercial pressure and will continue to play a vital role in arable farming.

The current climate is enhancing the independent thought process, and the value of truly independent advice has never been more relevant in these changing and challenging times.

EMERGING LEADERS WILL TAKE THE LEAD AT CEREALS THIS YEAR

Showcasing the Emerging Leaders within AICC and why they chose a career in independent agronomy as well as illustrating to growers exactly what independent advice means and how it can support their business will be the two main focuses on the stand this year.

AICC is involved in the Ceres Rural Crop Challenge which brings together students from the major agricultural learning institutions who enter a competition to manage winter wheat trial plots making the agronomic decisions required. Judged by AICC Members Charles Ireland of Ceres Rural and Roger Davis of Indigro.

AICC FACTS

- The largest body of independent agronomist in Europe
- Code of Conduct strictly upheld – total commercial Independence is key
- Governed by a Board of Agronomist Directors and managed by the CEO
- R&D Trials run across the country by members for members
- Training and Support provided to all members and their trainees
- A recognised voice in the industry and contributor to all the major industry committees
- 98% of truly independent crop consultants are members
- Market Intelligence – no one else has the breadth of independent agronomists across the country
- The AICC Flagship event is their National Technical Conference run each year which has become the highlight of the industry calendar for members and AICC invited stake-holders.

CRITICALLY AICC MEMBERS

- only sell advice
- adhere to the AICC Code of Conduct
- giving trusted impartial advise allows members to grow their own business
- focus purely on the profitability and sustainability of the businesses they advise
- have a free hand to recommend product based on its merit backed by comprehensive independent research
- have the technical expertise to advise on all aspects of successful crop production and land management including holistic approach to crop and soil management
- are available across the UK
- are actively bringing in new entrants to the industry
- collectively have a market share of 50% of the UK arable advice market

How do the AICC Trials future-proof members' agronomic decision-making?

David Boulton,
AICC Trials Chairman

David grew up on a mixed family farm in Leicestershire and studied Agriculture at University of Nottingham, he approached the AICC for opportunities of working in the independent sector. This led to an opportunity with Indigro, a Midlands company that started in 2011 and is now a team of 11 agronomists. David particularly enjoys the technical aspect of crop production and strives to advance the technical strategy within Indigro as senior agronomist and AICC as trials chairman.

Quality trials

As chairman of the trials committee, I know how much hard work and enthusiasm goes into the production of high-quality trials to ensure rapid turnaround of results, so that AICC members have the very latest independent research ready for implementation and planning for the next cropping season. With the AICC trials teams expertise from across the whole country, we are able to deliver trials run by members for members with hugely valued results.

With plant protection products facing significant regulatory uncertainty, involving active ingredient withdrawal in Europe (for example flufenacet), and the UK-EU Sanitary and Phytosanitary (SPS) agreement, the AICC is taking a forward-thinking approach to this year's trials.

Our blackgrass and ryegrass herbicide trials focus on programmes without the active ingredient flufenacet, which has been the cornerstone residual herbicide for several decades. We are evaluating the efficacy and cost-effectiveness of newer and alternative actives, in preparation of regulatory changes.

Management

Another focus of AICC trials has been resistance management and sustainable active ingredient partnering. With the recent introduction of two new generation SDHIs, pydiflumetofen and isoflucypram, and the overreliance on the commonly used azole prothioconazole, the AICC is looking at sustainable septoria tritici control strategies to prevent cross-resistance development and ultimately prolong the effective lifetime of fungicides.

This approach extends into our broad-leaved weed herbicide trials where we are looking at synergistic combinations for greater efficacy and sulphonylurea (SU) resistance management of difficult to control weed species such as groundsel and poppy.

Our crop nutrition trials aim to evaluate conventional nitrogen products such as ammonium nitrate, treated and untreated urea, with biological solutions, at various rates and timings. With the high cost of fertiliser, and emissions regulations for urea, knowing what product and how much to use is integral for managing costs and providing an optimum return on investment.

Network

The AICC's trial network provides unbiased, truly independent trials results which are reported to members and presented at the annual conference in January, as well as being discussed at regional meetings throughout the year.

With the opportunity to see the trial plots at regional site visits, the work carried out and learnings from this season will provide an invaluable insight into how AICC agronomists and their growers manage the risk of volatile costs and prices and transition into a new era of sustainable crop production.

Driving smarter decisions

AICC emerging leader **Ben Mead** talks about the benefits of independence – for growers and agronomists

The decision to move into independent agronomy is not one I took lightly. Like many in the industry, I spent a number of years working within a commercial structure that combined advice with the supply of inputs. That model has its place and works well in many situations, but over time I increasingly felt that farmers deserved access to advice that was completely free from commercial influence — advice that was based solely on what is right for their business.

That was ultimately the driver behind setting up Smart-Ag Ltd in 2025.

A different starting point

Independence changes the starting point of every conversation, as the focus shifts entirely to outcomes — margin, risk management, and the long-term sustainability of the system.

In practical terms, that means challenging decisions more openly. It means asking whether an input is genuinely needed, not just which product to use. It also allows strategies to be adapted quickly, without being tied to a supply chain or commercial targets.

Farmers are increasingly aware of this distinction. Input costs remain volatile, crop prices are under pressure, and there is a growing expectation to deliver environmental outcomes alongside production. In that context, every decision has to stand up to scrutiny.

The 2026 season so far – very much a tale of two halves

The 2025/26 season has been one of sharp contrasts. Autumn drilling, in many cases, was highly successful. Crops were established into excellent seedbeds,

with good conditions allowing for timely operations and strong early development. However, this quickly shifted as persistent rainfall arrived in mid-November, with little to no let-up through to March.

That prolonged wet period has influenced crops in a number of ways. While establishment was generally strong, the extended period of saturated soils has affected rooting, nutrient availability, and overall crop resilience in places. As a result, many fields are now carrying more variability than might have been expected from such a promising start.

Spring disease pressure – a rapidly changing picture

As we have moved into early spring, disease pressure has become a key talking point.

In winter wheat crops, there has been significant yellow rust pressure on certain varieties, largely linked to the breakdown of previously robust resistance — particularly where YR15 had provided strong protection in recent years. In many situations, this has required timely fungicide intervention to protect green leaf area.

At the time of writing, septoria is clearly present on older leaves across a number of crops, reflecting the prolonged wet conditions over winter. However, the recent shift towards drier weather has slowed its progression, at least for now.

This creates a critical decision point. The disease is present, but its development is currently being suppressed by the weather. That places greater emphasis on monitoring as we approach T1, ensuring that fungicide strategy reflects actual risk rather than default assumptions.

Winter barley crops are looking very promising, with some high biomass stands indicating strong potential. However, a key issue this spring has been the widespread effects of Wheat Dwarf Virus (WDV), transmitted in the autumn by leafhoppers. This is something I am monitoring closely, while also discussing longer-term mitigation strategies with clients.

Oilseed rape generally looks good. Some areas on heavier land have suffered from prolonged waterlogging, but the majority of crops retain strong yield potential. Encouragingly, CSFB larvae pressure has been low, and crops are branching well. Pollen beetle has not caused issues at green bud and is now beneficial during flowering. Mealy cabbage aphids are present in low numbers and will be monitored over the coming weeks in case thresholds are exceeded.

Nitrogen – matching your crop investment to yield potential

Nitrogen decisions this season are closely tied to crop variability.

The strong establishment seen in the autumn would typically support a high level of confidence in yield potential. However, the impact of winter conditions means that potential is now far less uniform, both between and within fields.

This reinforces the need to move away from blanket approaches. Instead, nitrogen strategy must reflect realistic yield potential, with a focus on protecting margin rather than simply maximising output.

Independent advice plays an important role here. By taking an objective view of the crop — including its limitations — inputs can be adjusted accordingly, rather than applying a standard programme across all situations.

Looking ahead – the role of independent agronomy

The role of the agronomist is evolving.

Farmers are no longer just looking for product recommendations; they are looking for someone who can interpret what is happening in the field and help guide decisions in an increasingly complex environment. That complexity is being driven by a combination of factors — tighter margins, increased scrutiny on input use, regulatory pressure, and more variable seasonal conditions.

In that context, agronomy is becoming less about following a standard programme and more about making informed, timely decisions. No two fields are the same, and increasingly, no two seasons behave in a predictable way. The ability to assess risk, understand crop potential, and adjust strategy accordingly is becoming just as important as technical knowledge itself.

Technology will continue to support this process, whether through improved access to satellite imagery, data analysis, or decision-support tools. However, these tools are only as valuable as the interpretation behind them. Independent agronomy sits at the point where data, field observation, and practical experience come together to support better decision-making.

> **Good agronomy is not about using more or less input – it is about using the right input, in the right place, at the right time.**

Independence plays a key role in enabling that shift. It allows advice to be based entirely on what is observed in the field and what is best for the farm business, without the influence of product targets or supply-driven decisions. That creates the freedom to challenge assumptions — whether that is reducing inputs where crop potential does not justify the spend, or investing more where the opportunity is there to deliver a return.

Since establishing Smart-Ag Ltd, this approach has been central to how I work with growers across the East Midlands. Much of the value now lies not in recommending a product, but in helping to interpret situations — understanding when a crop is under genuine pressure, when it can recover, and when intervention will genuinely deliver a return.

For me, the transition into independence has reinforced a simple principle: good agronomy is not about using more or less input — it is about using the right input, in the right place, at the right time, based on what is actually happening in the field.

In a season like this, where variability is high and certainty is low, that approach is not just important — it is essential.

Yellow rust's wake-up call

By **Harry Molton**

The past few years are a stark reminder that the UK arable season is rarely predictable. For many agronomists and growers, spring 2025 will be remembered as one of those unpredictable seasons: a year where yellow rust challenged not only our fungicide programmes, but also our confidence in varietal resistance and established disease management strategies.

After difficult autumn drilling conditions and another year of tightening margins, many entered the spring cautiously optimistic. Dry weather and relatively low overall disease pressure appeared to offer crops a welcome reprieve. Yet AICC agronomists further north were seeing worrying trends in yellow rust pressure.

> **Varieties claiming resistance to yellow rust at the young plant stage were showing active infection**

Resistance

Varieties claiming resistance to yellow rust at the young plant stage were showing active infection. Fungicide timings came under renewed scrutiny, and the industry was forced to confront the reality of a rapidly evolving pathogen. Twelve months on, the dust has settled enough for us to reflect on what happened, why it happened and — perhaps most importantly — what practical lessons we, as independent agronomists, can take forward.

Prior to autumn 2025, farmers and agronomists endured prolonged wet winter drilling campaigns accompanied by rising input costs and an ever-falling wheat price. Following a difficult autumn, above average temperatures in March 2025 and low rainfall were a welcome sight for many.

Overall, crops did not experience high disease pressure in spring 2025 as warm, dry weather persisted into April and May. But AICC agronomists in the north-east saw yellow rust in winter wheat varieties claiming to express genetic resistance to the disease at the young plant stage.

These reports led to widespread detection of yellow rust in varieties such as DSV's flagship variety Champion, Limagrain's Beowulf and KWS's stand-out hard feed variety, Dawsum. It has since been confirmed by UKCPVS that a new yellow rust race had mutated from the PstS10 (Warrior-) clade, exhibiting virulence against Yr15, a gene conferring broad-spectrum resistance to genetically diverse yellow rust isolates.

20:20 hindsight

In a remarkable spring that yielded only 22mm of rainfall throughout April in the east, there was always going to be another twist in the tale. As many of my clients and colleagues at Indigro will know, one of my go-to phrases is 'hindsight is always 20:20'. So, 12 months on from a yellow rust epidemic, what have we learned, where are we now and where do we go from here?

Yellow rust, Puccinia striiformis, survives winter periods as dormant mycelium or active sporulating pustules on volunteer wheat and autumn-sown crops. Whilst it is widely accepted that low temperatures kill active pustules, mycelium within plant tissue can survive temperatures down to -5oC, making overwintered infections a critical source of spring inoculum.

Under ideal conditions, the pathogen can complete its cycle from infection to new spore production in just 10 days and may repeat this cycle multiple times within a season. Recent seasons have shown concerning developments, with yellow rust increasingly arriving in crops earlier in the spring and persisting into June, extending the critical management window for agronomists.

Typically, we associate high yellow rust pressure with cool, humid conditions in early spring and view the disease as manageable with the correct agronomic and agrochemical decisions. Last season, however, we experienced a shift in levels of yellow rust control from traditional approaches.

As I am sure many will recall, we experienced an unprecedented lack of rainfall and hot, dry weather during spring

2025. Despite not being perfect yellow rust conditions on paper, the pressure in many wheat crops was evident for all to see.

Regardless of the hot, dry weather, inoculum within crops was cycling quickly and proving difficult to control. Perhaps the largest contributing factor, however, was that 49% of total certified winter wheat seed grown in the UK last year carried the Yr15 resistance gene. Add to this the area of farm-saved seed sown carrying the same gene and a picture of extremely high selection pressure begins to emerge.

So what did we learn from the season and what has changed this year?

New genetics

With the armoury of winter wheat varieties remaining somewhat unchanged, we can't rely on new genetics to lend a hand with Yr15 race resistance. After all, it takes anywhere from 7-10 years for wheat breeders to bring a new variety to market. However, the first port of call had to be variety choice and diversification of on farm varietal portfolios.

Choosing the right position in the rotation for a variety is as important as introducing a new variety to the farm. Looking at a second wheat scenario, for example, consider growing a variety that was unaffected by the Yr15 genetic breakdown as there will be high levels of inoculum already in the field.

Introducing new varieties onto farms is always a good idea where there is appetite, spreading and managing risk. But I would advise against wholesale change without trying the new variety beforehand. Some varieties suit farms better than others.

Perhaps the most critical step for good early season control of yellow rust is good volunteer management. Stubbles cultivated after harvest should be left to green before a well-timed glyphosate application prior to drilling. Ineffectively controlled volunteers can act as a reservoir for the fungus to over-winter and result in early-season infection.

Certain grass weeds, such as sterile brome and couch, can also host yellow rust. Effective pre-drilling and in-crop control can eliminate these alternative hosts. We also know that overly-dense crop canopies can provide the ideal micro-climate for spore germination, so managing your seed rates and subsequent plant population allows for better ventilation.

A kind Autumn 2025 gave us a good window of opportunity to get most of our rust-focussed cultural controls right, setting farms and crops up for a productive and successful spring campaign. .

Resistance

However, arable farming is rarely that straightforward. It seems the story was similar across the UK, with fellow AICC independent agronomist, Luke Bullock, confirming he was seeing the same rampant yellow rust at the beginning of the season in the south of the UK that I was seeing in the Midlands and east.

A range of varieties suffered early yellow rust infection, such as LG Typhoon and Beowulf, Bamford and DSV's Champion and Oxford. In some cases, fungicide application timing has been critical to control in these varieties. In the east of England, Adam Horsfield (Apex Agronomy and AICC) noted that an extended gap between early fungicide applications on leaf four and the traditional T1 timing on leaf three due to cold weather allowed the pathogen to take hold in susceptible varieties, after which control was more difficult and nuanced.

Luke points out that a well-timed and appropriate T0 to T2 fungicide program has been largely effective at controlling the early season infection. Prothioconazole-containing programs seem to have worked well, combined with the inclusion of tebuconazole at different application timings through the season..

Timings

Some crops, such as Champion and LG Beowulf, have had a T1.5 fungicide application to protect leaf two and the emerging flag leaf from rust that was creeping into crops as the T1 fungicide persistence began to wane.

This wasn't the case for all winter wheat crops, where traditional fungicide application timings were sufficient to control disease this spring.

The most important factors for growers and farmers in the battle against yellow rust are, therefore, considered varietal choices, good cultural control practices and appropriate fungicide use at an appropriate rate and at the right time for each crop – the bread and butter of an independent AICC agronomist.

Harry Molton is an agronomist with Indigro. He grew up on a family farm in Cambridgeshire and studied biological sciences at Brighton University. After he graduated, Harry trained with Indigro with the help of AICC and its academy.

Independent agronomy at heart of this year's Conference

From climate volatility and political uncertainty to emerging pests and shifting disease dynamics, the 2026 AICC Technical Conference highlighted the increasingly strategic role independent agronomy is playing across UK arable farming. **Adam Clarke** reports

Held at its long-term venue near Towcester, the 2026 AICC conference brought together agronomists, researchers and policy specialists to explore the major forces that are rapidly reshaping arable production.

While technical updates remained central (see trials update on pXX), this year's conference also reflected the growing overlap between agronomy, economics, regulation and long-term business resilience.

Across several wide ranging and engaging sessions, one message emerged: arable farming is entering a period where volatility is becoming the norm rather than the exception.

Weather extremes, regulatory uncertainty, evolving pathogen populations and tighter margins are all combining to make decision-making more complex. For AICC members, this creates both a challenge and an opportunity.

The organisation's nationwide network of independent agronomists acts not only as a source of crop advice to individual clients, but as an early-warning system for emerging threats and a practical bridge between science and farm-level decision-making.

POLITICAL AGENDA

Climate change

Climate change was one of the dominant themes throughout the conference, with speakers presenting increasingly compelling evidence that changing weather patterns are already altering UK crop performance, disease pressure and agronomic priorities.

ADAS senior crop research scientist Christina Baxter presented long-term analysis comparing Recommended List trial yields with average farm wheat yields dating back to the early 2000s.

While RL yields have continued to increase gradually, farm yields have largely stagnated, leaving a widening yield gap of around 2.5t/ha.

"The fact that both datasets show the same pattern of fluctuation tells us that they are dealing with the same limitations coming from the environment and changing weather patterns," she explained.

The data presented showed how warmer temperatures, wetter winters and increasingly dry springs and summers are beginning to alter the fundamental physiology of crops.

Yield Enhancement Network analysis suggested earlier-maturing wheat varieties may increasingly hold an advantage because they flower and fill grain under cooler, less drought-prone conditions.

At the same time, rising temperatures are shortening grain fill periods, reducing thousand grain weights and increasing stress during key yield-building phases.

The climate discussion moved well beyond crop physiology alone, with Dr Helen Fones from the University of Exeter outlining how climate change is likely to reshape future pest and disease pressures.

She warned that pathogens and vectors are already adapting to changing conditions, with yellow rust populations adapting to warmer temperatures and changes in Fusarium population dynamics just two examples.

"Predicting and mitigating disease risks under climate change requires

1. Christina Baxter, ADAS; 2. Conference Question Time with Farmers Weekly; 3. Dan Matthews, Ceres Rural; 4. Conference audience; 5. Jonathan Blake, ADAS;

Thank you for the fantastic AICC event we attended this month. It was my first time and I was glad to be part of it. From start to finish, the event was fantastic for us – from the accommodation to the opportunity to exhibit. The biggest thing to me though was the room packed full of great people. Please count us in for next year."

Andy McGrath, KWS UK

understanding pathogens as well as plants," she said.

The session reinforced how climate resilience is no longer a distant or theoretical concept for UK agronomy.

According to Yorkshire-based independent agronomist Ben Boothman, who chaired the session, climate adaptation is already influencing practical farm decisions.

"Five years ago, drought probably never really entered our heads. Now, it's not just about whether the crop will reach its potential, but whether the herbicides we're putting on are going to work," he said.

Ben argued that increasingly volatile conditions mean agronomy advice must become more tailored and responsive.

"You can't just go off a playbook like some have in the past. Everything must be tailored for a specific field or farm," he added.

The climate discussions also demonstrated one of the conference's wider themes: many future agronomy challenges will not have simple product-led solutions.

Instead, they will require more integrated thinking around rotations, soil management, varietal selection, drilling strategy and system resilience.

Farm profitability

While sustainability and resilience featured prominently across the conference, speakers repeatedly stressed that profitability remains the foundation that underpins every successful farming system.

Ceres Rural's Dan Matthews argued that UK arable farming is currently facing a "perfect storm" of rising costs, volatile grain markets, tighter regulation and increasing climatic uncertainty.

"Profitability must come first. Without profitability, sustainability is not achievable," he told delegates.

Drawing on Ceres Rural's own benchmarking data from a broad range of farming businesses, Dan challenged the assumption that higher spending automatically delivers higher yields.

Instead, he argued that management quality and decision-making precision are becoming increasingly important determinants of both yield and margin.

In many cases, relatively small changes to input strategy and better alignment of fungicide and fertiliser investment with realistic crop potential delivered significant profitability improvements.

Dan also highlighted the structural pressures facing UK arable production, pointing out that Britain remains one of the highest-cost wheat-producing regions globally because of its climate, pest and disease pressure and regulatory frameworks.

"In this environment, independent advice becomes more valuable, not less. The margin for error is smaller, and every decision carries more weight."

The session reflected a wider mood across the conference that modern agronomy is increasingly about risk management as much as maximising output.

Extreme seasons, variable markets and uncertain regulation mean businesses must all become evermore adaptable and driven by evidence-based decision-making.. >>

Dan argued that independent agronomists play a key role in filtering innovation from hype and helping growers focus on technologies and strategies that genuinely improve resilience and returns.

Dynamic alignment

Policy and regulation also generated significant discussion throughout the event, particularly around the UK's proposed "Dynamic Alignment" with evolving EU sanitary and phytosanitary rules. The issue featured heavily during a packed Question Time session, where speakers warned that at that time farmers seemed to be largely unaware of the scale and speed of potential regulatory change.

Jenny Brunton of the British Agriculture Bureau told delegates that the process is already moving forward.

"This is not about whether it happens. It is happening. What is being negotiated now is the timeline and whether there are any exemptions."

The concern for many delegates centred on what Dynamic Alignment could mean for future access to crop protection products, especially where EU policy diverges further from UK priorities.

Before Brexit, the UK played a major scientific role in EU pesticide assessments and was widely respected for its evidence-based approach.

Under Dynamic Alignment, however, Britain could increasingly become a rule-taker without a formal vote on future regulatory decisions.

Much of the discussion focused on herbicide and fungicide availability, with concern around key active ingredients currently under scrutiny within the EU system.

Delegates warned that further losses of chemistry could undermine grassweed control strategies, increase cultivation pressure and potentially conflict with wider environmental objectives such as reduced tillage and cover cropping.

The debate illustrated how agronomy is increasingly shaped not only by biology and weather, but also by politics, trade and international regulation.

Conference Manager Sarah Cowlrick said: "The event broke record numbers in terms of members, supporters, industry stakeholders and guests. Feedback from members was extremely positive with 87% saying they were satisfied or very satisfied.

"The highlight for me was the interaction from our Emerging Leaders and new entrants – they are the future after all so great that they are engaging so positively."

Be part of it

Planning has already started for next year's AICC technical Conference, which will be held at Whittlebury Hall 12-14 January 2027.

Where else can the industry get together with 140 independent agronomists representing all groups and every part of the country? Exhibitor bookings are already open. Contact info@aicc.org.uk for more details..

TECHNICAL ISSUES DEBATED

Beet moth

Among the technical sessions, sugar beet pest pressure emerged as one of the most pressing topics following the severe beet moth outbreaks seen during 2025.

BBRO crop protection lead Professor Mark Stevens said the pest *(pictured right)* had moved rapidly from a relatively isolated curiosity to a serious agronomic threat across parts of the British beet area.

"Unfortunately, I think it's established itself and it's one that we're going to have to keep a very close eye on going forward," he said.

The worst damage occurred during prolonged periods of drought stress, particularly on lighter soils where weakened canopies allowed moths to reproduce continuously throughout the summer.

In severe cases, larval populations reached 50-60 caterpillars per plant, causing black heart, crown damage and, in some fields, near-total defoliation.

Importantly, the pest did not behave in the way older literature suggests it should.

"If you read the textbooks, they talk about two migration periods separated by six to ten weeks. That's not accurate. Once they started, every week you had another flush."

The session highlighted how climate-driven stress is increasingly interacting with pest pressure. Warm, dry conditions appeared to amplify damage significantly, reinforcing wider conference discussions around resilience and climate adaptation.

The key message from the session was that beet moth cannot simply be managed reactively through insecticide use.

"There are no UK thresholds at the moment. The French use 10% of plants showing damage, but I'd argue that's probably too late."

Instead, the emphasis was firmly on integrated pest management: early canopy establishment, maintaining crop resilience, monitoring adult activity and minimising stress.

Yellow rust

Yellow rust *(pictured above)* also dominated technical discussions following the emergence of a new race of yellow rust which is capable of overcoming the widely used YR15 resistance gene.

The implications have been significant because many popular varieties rely on YR15-based resistance, meaning susceptibility ratings underestimate real field risk.

One of the major technical concerns raised was that standard fungicide programmes, largely designed around septoria, may now leave crops vulnerable to yellow rust cycling rapidly between T1 and T2 timings.

Delegates heard from ADAS's Jonathan Blake on how yellow rust's much shorter latent period allows infection to build rapidly on leaf two, even where leaf three and the flag leaf remain relatively clean.

"Leaf two contributes about 25% of light interception during grain filling, so disease there will have a real impact on yield," he explained.

Trials presented during the conference suggested that T1.5 sprays may need to be considered more seriously in susceptible situations, particularly where T1-T2 gaps extend beyond four weeks.

The discussions also highlighted the increasingly delicate balance between disease control and resistance stewardship.

Irish researcher Stephen Kildare warned that aggressively chasing yellow rust could inadvertently increase selection pressure within septoria populations if programmes become too azole heavy.

"We have to control yellow rust, but if we are chasing yellow rust, we potentially could be impacting septoria also."

Ben Boothman and Charlotte Cook were both recently elected as AICC directors.

Wheat Dwarf Virus

Perhaps the clearest demonstration of AICC's wider industry value came through collaborative work around Wheat Dwarf Virus (WDV).

Through cooperation between independent agronomists, entomologists and plant virologists, AICC members helped identify that the disease may be significantly more widespread in UK cereals than previously recognised.

The work emerged after independent agronomists began noticing unusual symptoms in crops that did not fully fit traditional Barley Yellow Dwarf Virus patterns.

Tim Martin of Apex Agronomy described the project as an example of what the AICC network can uniquely deliver.

"Independent agronomists are walking crops across large areas every week. That puts us in a strong position to detect emerging issues early and, by working with researchers, turn those observations into robust, practical evidence," he said.

Importantly, the project also highlighted AICC's willingness to work collaboratively for the wider good of the industry, even where no immediate commercial solution exists.

The WDV work captured the wider spirit of the conference itself: independent agronomy acting not simply as a commercial service, but as a technically skilled network capable of identifying emerging threats, collaborating rapidly with researchers and helping the wider industry respond proactively to emerging challenges.

See p14 for more on the WDV project.

What EU alignment means for plant protection, by CropLife UK

Proposals for closer links between the UK and European Union would do more than reduce border friction.

The proposed UK-EU Sanitary and Phytosanitary (SPS) agreement would establish a common SPS area requiring 'dynamic alignment' of agri-food regulation, including for Plant Protection Products (PPPs) and maximum residue levels (MRLs).

Alignment could be highly significant for UK crop production. For the PPP sector, the key issue is whether an SPS deal is implemented in a way that preserves science-based decision-making and avoids the unnecessary loss of important crop protection tools.

In May 2026, the King's Speech announced the EU Partnership Bill which is the beginning of the process to put a new legislative framework in place. We consider the UK Government's desired timeline to be highly ambitious – including for the following reasons:

- The UK Government expects to conclude negotiations by June 2026.
- The UK Government's EU Partnership Bill could become law by the end of 2026 if ministers are able to maintain the current policy timetable.
- Secondary legislation and detailed implementation measures are likely to be developed during 2027 before the new regime becomes operational.
- UK Government wants the SPS agreement to take effect in mid-2027.

Concerns raised by CropLife UK, which represents the UK crop protection sector, include the risk of immediate alignment with post-Brexit EU decisions on PPPs and MRLs from day one of the agreement.

A report* by the Andersons Centre commissioned by CropLife UK modelled that scenario and found that UK crop production GVA could fall by 3–6% in the first year, while Total Income from Farming could decline by £500m to £810m.

The report also identifies potential output reductions of 9–16% for wheat, 4–6% for potatoes, and 3–7% for apples, reflecting the impact of losing access to key crop protection tools.

CropLife UK has been clear that this is not an argument against an SPS agreement itself, but against an approach that automatically overrides legitimate GB regulatory decisions without a managed transition.

Key points

- The principal risk is a cliff-edge move to retrospective alignment on PPPs and MRLs.
- The Andersons Centre analysis estimates a first-year farm income loss of £500m to £810m under that scenario.
- Output of key crops, including wheat, potatoes, and apples, could fall significantly.
- The concern relates to the approach to 'dynamic alignment'. If the UK Government chooses to switch to inappropriate EU decisions rapidly rather than respecting legitimate UK decisions, it could lead to removal of tools important to UK agronomy.

CropLife UK will continue to argue for a better-designed agreement. The Andersons Centre report indicates that a managed alignment model, in which existing UK decisions are respected until they are properly reviewed within a future regime, would significantly reduce the disruption associated with alignment.

The central policy question is therefore not whether to pursue an SPS agreement, but how to structure one that supports trade while protecting productivity, resilience, and predictability for UK growers.

"The AICC and other industry partners support the requests laid out here and in the CropLife UK report," says AICC Chief Executive Sarah Cowlrick.

**The Andersons Centre: Analysis of the Impact on UK Crop Production of GB Aligning with EU Rules and Decisions on Plant Protection Products. Commissioned by CropLife UK, 2026.*

AICC leads way on Wheat Dwarf Virus research

By **Tim Martin**

Wheat Dwarf Virus (WDV) is a serious disease affecting cereals, causing up to 100% yield losses depending on the level of infection within the crop and the timing of infection. It is widespread throughout Europe, from Finland to the Mediterranean but until now has not been regarded as significant in the UK.

Spring 2026 was the first time WDV has been shown to be widely distributed in the UK, mainly in winter barley but also in wheat. Before this, there was a single confirmed report of WDV in wheat, at Elveden in 2012 on the Norfolk-Suffolk border.

Under-reported

However, crops with symptoms, now known to be WDV, have been recorded by agronomists in a number of seasons since 2011 and it is possible that the disease has been present in the UK for much longer as plants with those same symptoms, had been seen in crops prior to 2011.

WDV, while present, has been under-reported and almost certainly misdiagnosed for much of that time. This is probably because symptoms are very similar to those caused by BYDV, in both wheat (reddish leaves) and barley (yellow leaves).

Early infection in autumn-sown cereals causes yellowing leaves, but also stunting of the plants, multiple tillers, stubby root growth, and can eventually result in the death of the plants. Later infections can cause stunting in the tillering plants, smaller ears, and smaller grains within the ears

In the field, infection does not occur in patches like BYDV, indicating a single source of infection and no secondary spread. It is often seen as a salt and pepper effect of symptoms across the field, indicating multiple sites of primary infection. Unlike BYDV, there is no secondary spread.

Why 2026 should see such widespread incidence of WDV is explained by an understanding of the biology of the vector and how that coincided with winter cereals being drilled approximately 10-14 days earlier than for several seasons as farmers sought to avoid the wet spells and delayed drilling of the two previous autumns.

Five strains

WDV is a member of the Mastrevirus group (Maize Streak viruses) and is thought to comprise of five strains, two in wheat and three in barley. A sixth strain, Oat Dwarf Virus is closely related genetically. The virus has a wide range of host plants, almost exclusively grasses, including all cereals and many other grass species, including some we regard as weeds as well as cultivated grasses.

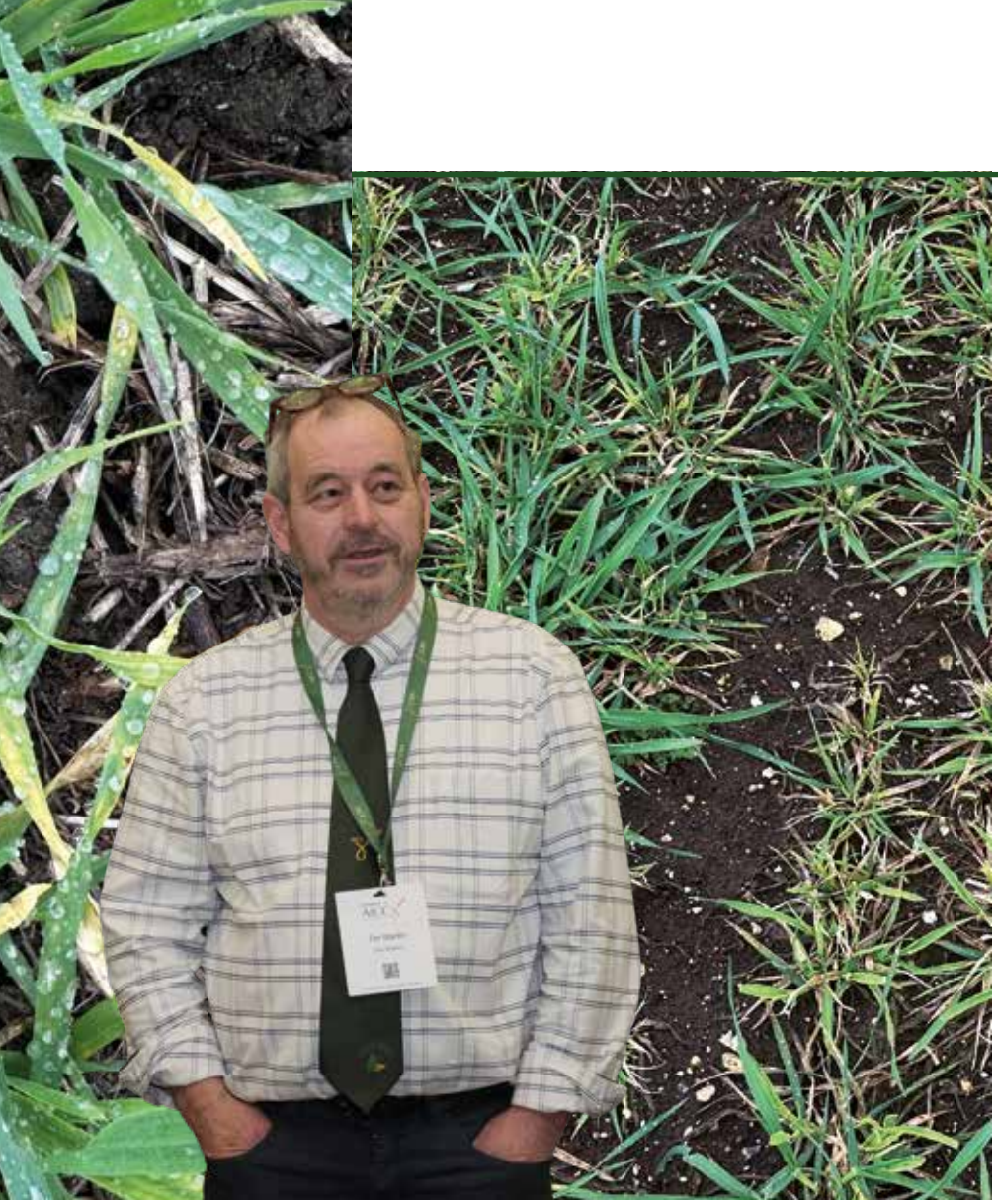
WDV is spread by a leaf hopper, Psammotettix alienus, which acquires the virus by feeding on infected plants. It can acquire the virus during any of its life stages, as a nymph or an adult and once it has picked up the virus, it remains infective.

In the autumn, cereal crops are infected by adult leaf hoppers migrating from nearby grassland areas to lay their eggs. As the eggs do not hatch until the following spring, WDV infections are introduced entirely by adults as they feed on newly emerged plants.

Stem-extension

The virus does not survive through the eggs, so when these hatch in spring, probably in early May, the nymphs are uninfected, they pick up the virus, by feeding on an infected plant. Secondary spread of virus can occur at this stage, but by then almost all UK cereal crops will have reached the stem extension stage, and are more tolerant to infection.

The leafhoppers go through 2-4 generations during the summer, depending on how warm the local climate is, with larger populations that move more frequently in warmer summers. The spring and summer of 2025 were warm and dry and conditions



> **“For the first time, Wheat Dwarf Virus has been shown to be widely distributed across the UK.”**

over much of the UK, were ideal for leaf hoppers. Large numbers could be observed in grass margins and in early sown cereals in the autumn of 2025. It is these warm and dry conditions that are predicted to become much more frequent in the UK as the climate changes and now that the virus is widely established, epidemics are likely to be more common and this will present a challenge.

Samples

AICC agronomists in East Anglia, had been familiar with WDV symptoms in barley in previous years, although this was anecdotal and uncoordinated. Given the many leafhoppers observed and the appearance of the first symptoms at the end of October, a survey was undertaken to assess the extent to which WDV was present. Initially plants were collected from 16 sites from Suffolk and Norfolk. Mostly barley, but they also included two wheat samples. These were tested using an ELISA technique and all 16 samples were returned positive for WDV.

The survey was expanded in the early spring of 2026 to include all AICC agronomists. To date nearly 100 samples have been submitted from across the UK. These were mostly barley but also included some samples of wheat. Not all samples that were tested proved positive for WDV, there are a number of other potential causes of poorly growing and yellow plants.

Distribution

For the first time in the UK, this survey shows the extent to which WDV is established in England. It shows the distribution of the virus from Yorkshire to Hampshire and from the east coast across to Wiltshire.

What it doesn't show is the frequency of the virus or the severity of infection and impact on yield. This is because the sample collection was targeted and not random.

For many agronomists it was the first time that observed symptoms could be linked to a specific cause, WDV. It became obvious from comments that the disease had been present in previous seasons but either misdiagnosed as BYDV or that infection was too low to impact the crop. This was similar to the situation before 2011 in East Anglia. Furthermore, almost all participating agronomists reported seeing similar symptoms in most of their winter barley crops. So, in many respects, the survey has highlighted the previous underestimated distribution of the disease.

No information

The survey gives no detail about effect on crop yield, although reports from continental Europe vary from 20-100%. In the UK, this year yield loss in barley is likely to range from nil to 100%. Severe damage to some crops will lead to considerable yield loss. Equally, many crops with few infected plants will suffer no loss. With no secondary spread, uninfected neighbouring plants compensate.

There are currently no quick and easy solutions to control WDV. There are no products approved for the control of leafhoppers that transmit WDV in cereals. Products applied for the control of BYDV do not appear to be effective in protecting against WDV. There is no genetic resistance in the current set of UK wheat varieties, although there is a breeder's claim of WDV tolerance in one feed barley variety

The answers are likely to be a series of Integrated Pest Management (IPM) strategies that largely need to be worked out and tested for UK conditions. We know from this year and past seasons that later sowing dates and larger plant populations provide some mitigation against WDV

.

Further work

The survey confirmed WDV infection in crops sown as late as 16 October, but not enough to impact yield. We also have observed that crops with larger plant populations have less infection and have a greater ability for compensation by neighbouring plants.

Like all IPM measures, these are not simple solutions on their own or without risk or consequence. They must be implemented in conjunction with a risk assessment of the site and season based on correct identification of the vector, knowledge of its biology and a measure of the reservoir of virus in the environment. All these factors need investigation under UK conditions.

The AICC survey confirmed for the first time that WDV is established across much of England. Cereal growers should consider WDV management in their plans for future cropping years. Additional UK-based research is desperately needed to support decision-making in the field.

How independent advice is changing potato agronomy

By **Harriet Bateman**

Harriet is a farmer's daughter from a working arable farm on the Norfolk/Lincs border who gained a Level 6 degree from the University of Lincoln. Harriet joined Prime in January 2024 as an agronomist specialising in potatoes. Harriet's move to independent agronomy stemmed from just wanting to simply do right by the farmer and have no other agenda than just that (since working with a potato packer, it was a lot of red tape, making up unfair deductions to suit them and just caring more about the company's bottom line!). Within Prime Harriet covers all arable crops, speciality in potatoes, mainly covering Cambridgeshire, South Lincs and into Norfolk.

Challenges in potato agronomy

Potato production has always been one of the most involved and demanding areas of arable farming. High input costs, intensive soil management, irrigation, disease pressure, and tight market specifications leave growers very little margin for error. That has always been the reality, and it has not changed. What has changed is the environment around them.

Sustainability, environmental stewardship, and regenerative farming have moved from talking points to commercial conversations. Soil health, carbon footprint, biodiversity, water use efficiency- are phrases now used in everyday chit chat. Retailers and processors are asking questions, supply chains want answers, and growers are having to engage whether they want to or not.

For potato growers, that brings both challenge and opportunity. These are already some of the most expensive and demanding crops to produce, so any change has to stack up commercially. The good news is that many of the tools and practices emerging from the sustainability agenda such as better soil health, more precise inputs, smarter water management, have real business value in their own right. The question is not whether they belong in potato production. It is how to introduce them in a way that works on farm.

Why potatoes are a harder conversation compared to other crops

Potatoes remain one of the highest-value crops on many farms, but also one of the most intensive Establishing a potato crop involves multiple cultivations, bed formation, high fertiliser use, multiple spray passes, irrigation, and heavy harvest traffic. That intensity places real pressure on soil structure, organic matter, fuel use, and water resources. It also means that when things go wrong, they usually go wrong at high expense.

Retailers and processors are increasingly pushing sustainability requirements down their supply chains: carbon reporting,

water use, pesticide reduction, biodiversity measures. Many growers are encountering these expectations for the first time in contract discussions. In some ways this is nothing new for potato growers. Compared to combinable crops, potatoes already carry a heavier burden of specification, traceability, and quality standard. The sustainability agenda is simply adding to an already demanding supply chain and where the end market prices are far more volatile.

What is happening on farm today?

Regenerative agriculture in potatoes is not about abandoning conventional agronomy. It is about finding ways to improve efficiency and resilience without sacrificing overall performance and profitability.

Cover crops are probably the most visible change; oats, rye, vetch, clovers, and brassicas are being used ahead of potatoes across a growing number of rotations, with the aim of protecting soil over winter, building organic matter, encouraging rooting depth, and reducing nutrient losses. Better soil structure can improve drainage and workability, biological activity can support nutrient retention, and surface cover reduces erosion risk.

In practice, it can be more complicated. Cover crop residues can be a home to slugs, and slug pressure is already a significant and costly risk to growers. Destruction timing matters enormously- leave it too late and you carry too much moisture into the seedbed and therefore bed preparation will suffer. Cover cropping in potatoes is worth exploring, but it needs managing carefully and properly, selecting the right variety and managing like a proper crop.

Reduced cultivation is another area attracting attention. Potato production has historically relied on intensive tillage to create the bed structure crops need. Some growers are now looking at controlled traffic systems, combination planters, and more targeted approaches to depth and web spacings in destoners. The potential benefits of less diesel, lower compaction, better long-term soil resilience are being seen. But potatoes are not forgiving if not managed well. Poor bed structure, whether from compaction, capping, or slumping, can delay emergence and lead to - misshaped tubers, low quality skin finish, and poor harvest efficiency. Reduced cultivation in potatoes is possible, but it takes time and monitoring.

Technology

If there is one area where potato production has genuinely moved forward in recent years, it is precision technology. Satellite imagery, drone mapping, soil conductivity scanning, in-field weather stations, irrigation sensors, variable-rate nutrient applications, disease forecasting models, and digital storage monitoring are now mainstream tools on well-run potato operations.

These tools allow growers to understand variability in far greater detail and make decisions based on actual conditions rather than calendar programmes. Precision irrigation targets water where it is needed most, protecting tuber quality and reducing waste. Blight forecasting models used well allow spray intervals to be refined based on real risk, which means better protection in high-pressure seasons and fewer unnecessary passes in low-pressure ones. Variable-rate nutrition improves efficiency and reduces input cost on variable soils.

Who is driving it?

Retailers and processors are setting sustainability targets and starting to embed them in supply chain requirements. So naturally there is awareness at farm level, whether growers are enthusiastic about it or not.

Growers themselves are also pushing change, though often for straightforward commercial reasons. Rising input costs, tighter margins, unpredictable weather, and labour pressure are making more efficient and resilient systems increasingly attractive. If better soil health means fewer cultivations or lower irrigation demand, that has immediate business value, quite apart from any environmental credential.

Independent agronomists sit in the middle of all of this, putting into practice sustainability targets to real on-farm decisions and, critically, helping growers distinguish between what is genuinely useful and what is just noise.

The agronomist's role

The role of the independent agronomist in potato production has always involved managing complexity. That has not changed, but the scope has broadened.

Introducing cover crops, biological inputs, reduced cultivation systems, or precision technologies all sounds straightforward until it meets a real farm with real constraints; will a cover crop increase slug pressure on a site that already struggles? Will reduced cultivations affect soil warming and push back emergence on a heavier soil? Will a biological product perform consistently enough across different seasons to be worth the cost and management overhead? Will a >>

>> variable-rate programme deliver a return that justifies the investment?

These are not reasons to avoid change. They are reasons why change needs to be introduced carefully, tested properly, and evaluated honestly.

Phased adoption, field-scale comparison, and clear benchmarking are how new approaches get embedded without putting a crop or a business at risk. That kind of structured, evidence-based approach is what independent agronomy is for.

Potatoes and other sectors

Potato production has taken ideas from across agriculture in recent years. From cereals, controlled traffic systems and longer-term soil health thinking. From horticulture, sensor-based monitoring and precision irrigation. From livestock systems, integrated rotations and organic matter management.

The borrowing goes the other way too. Few crops demand the level of precision that potatoes do across establishment, crop protection, irrigation, harvest timing, and storage. The discipline that potato agronomy requires- detailed planning, close monitoring, rapid response to problems, is increasingly relevant across all of farming as input costs rise and margins tighten.

Looking forward

The next decade will bring further change. Biological products and microbial inputs will continue to develop. Strains of diseases will evolve and new pests will emerge. Automation and robotics are moving from demonstration to practical application in high-value crops. Carbon accounting and natural capital reporting may well become standard business metrics rather than optional additions to an annual review.

Future potato agronomy will need to draw on a mixture of approaches to remain sustainable and relevant. With fewer growers than ever before, the industry cannot afford to lose more, which means productivity, profitability, resilience, and environmental responsibility all have to stack up. Growers who start building systems that work across all fronts now will be better placed than those who wait for the pressure to force the change.

My colleague Alistair Neill will spend the next 18 months exploring exactly this through his Nuffield Farming Scholarship, Digging into Emissions: The Potato Conundrum. His work will look at reducing emissions and the sustainability challenges facing potato production globally, with the aim of bringing practical, evidence-based insights back to real decision-making on farm.

Ryegrass: the uglier sibling of blackgrass

By **Ben Boothman**

Ryegrass is rapidly emerging as one of the most challenging grassweeds in many UK arable systems, moving from a distant secondary concern to a primary driver of agronomic decision-making to mitigate the impact on crop yields.

While historically overshadowed by black-grass, Italian ryegrass (Lolium multiflorum) is now widely recognised by farmers and agronomists as a weed of equal – if not greater – complexity due to its biological vigour, adaptability and evolving herbicide resistance

A key feature underpinning ryegrass success is its exceptional vigour. Individual plants are highly competitive, capable of prolific tillering and seed production. Under favourable conditions, on plant can produce over 20 seed heads and up to 5,000 seeds, contributing to rapid population build-up.

Crop performance

Even relatively low populations can have a measurable impact on crop performance; as few as five plants per square metre can reduce cereal yields by around 5%, with heavy infestations causing losses approaching 80–90%. This competitiveness is further enhanced by its extended germination window and ability to emerge in both autumn and spring crops.

Ryegrass seed can remain viable in the soil for more than five years, allowing

populations to re-establish even after periods of good control. In min-till and even reduced tillage systems, this persistence is exacerbated by limited seed burial and a greater reliance on chemical control.

> **“If you see ryegrass for the first time, act now and take a zero-tolerance approach while you still can.”**

Resistance

Herbicide resistance is at speed becoming central to the ryegrass issue. Although resistance levels historically lagged behind black-grass, the situation has shifted significantly. Both target-site resistance (to ACCase and ALS herbicides) and non-target-site (metabolic) resistance mechanisms have been identified in UK populations.

Of particular concern is enhanced metabolic resistance, which can pose reduced sensitivity across multiple modes of action, making control strategies increasingly unreliable. Over the last few years many of the resistance tests sent away to labs have come back with an extremely high level of resistance to historically key residual chemistry such flufenacet and prosulfocarb.

As well as making full use of newer residuals including the actives aclonifen, cynmethlyn and isoflex getting pinoxaden onto the crops earlier in the spring rather than relying on sulfonylurea herbicides as the first line off attack has showed some positive results however this comes with its own risks.

Cold weather around application timing can greatly affect the efficacy of the pinoxaden – and the first confirmed case of glyphosate resistance to ryegrass poses another significant escalation of concern..

Cornerstone

Glyphosate has long been a cornerstone of stale seedbed and pre-drilling weed control, and any loss of efficacy places considerable pressure on already limited control options..

This development highlights the weed's capacity to adapt rapidly under pressure and raises concerns about the long-term sustainability of current systems, particularly those heavily reliant on non-inversion tillage

Ryegrass's combination of genetic diversity, high biological fitness and resistance evolution means no single control measure is sufficient. Herbicide chemistry alone is increasingly fragile, and performance is highly variable between fields and seasons.

Control requires a whole-system approach, combining cultural controls such as delayed drilling, rotational ploughing, competitive cropping and spring cropping, if possible, alongside a carefully managed herbicide programme with the correct stacking of residual chemistry and carefully timed post-emergent late autumn/early spring contact applications.

As with blackgrass, reducing seed return is priority. Once established, ryegrass populations can escalate rapidly and become economically damaging. It is best to act ealy adopt a zero tolerance approach.

Ben Boothman advises on a mixture of combinable and root crops as well as grassland throughout Yorkshire and north-east England. Ben is a newly-elected AICC executive director and runs an independent soil sampling and mapping business.

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