Working to secure a better future for oilseed rape

Integrated Pest Management – AICC leadng the way

How growers can manage the risk of resistance

Why independent AICC trials are yielding the best results

the Independent Agronomist

AICC
the home of **independent** agronomy

TRUSTED ADVICE FROM THE ASSOCIATION OF INDEPENDENT CROP CONSULTANTS | **SUMMER 2025**

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INSIDE

ABOUT THE AICC

HOW IS AICC GOVERNED?

The AICC is governed by a Council of Management who are Directors of AICC managed by the CEO. There is a separate trials team with representation from each trials region.

TRAINING AND SUPPORT

Training is staged in seven regions by coordinators which provides members with comprehensive technical and industry updates. Training is also staged nationally as required with industry partners such as BBRO, Rothamsted Research, NIAB, as well as the Academy modules. AICC members gain discounts on industry schemes and professional indemnity insurance. They also receive help and support with business and industry issues.

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 having been facilitators in various projects in the past. Most recently via an ADAS-led project with other industry partners, delivering the FarmPEP (Farm Performance Enhancement Project), supported by Innovate UK.

Since the project's launch in 2021, AICC members have been working with their farming clients to explore novel ways of conducting on-farm trials and helping to meet the goals of the project to collaborate, learn and share knowledge in the farming community with the aim of increasing farm performance.

No other group within the UK agronomy advice sector has both the number of independent agronomists and advisory market share to be able to respond effectively to requests for market intelligence.

AICC TRIALS

AICC has had a long history of running in-house trials for the benefit of its members. The portfolio of projects undertaken and regional reach of these member trials has been significantly increased in the last nine years.

The AICC Trials team comprises a committee of proficient and technically driven, established agronomists from the South, West, East, Central and Northern regions of England along with Scotland.

AICC Trials runs a national series of independent field trials that are principally involved in testing and comparing the performance of current and near market agrochemicals. Our trials also focus on specific agronomic issues such as nitrogen response, the role of micronutrients, and the use of adjuvants. In addition, we also run a number of regional variety trials looking to compare the performance of new and established varieties.

AICC Trials data is turned around quickly to maximise the benefit to members, and external manufacturers have praised the efficiency and professional way we handle trials. AICC members have the opportunity to inspect trials sites in the season as well as attending a deep-dive results session at our conference.

This resource is one of the many pools of information that AICC members use (see infographic on back page). But there is no doubt that access to these extensive, independent trials results and innovative technology keeps members at the forefront of delivering technical excellence and provides them with the tools to deliver the most cost effective advice to growers.

THE FUTURE

AICC takes the view that it is healthy to have a near 50:50 split of the advisory market and expects to see the independent share increase. The current climate is enhancing this independent thought process. Independent in thought, why wouldn't a grower wish to have an independent advisor?

AICC
the home of independent agronomy

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The future of truly independent agronomy is in safe hands

Sarah Cowlrick, AICC Chief Executive

Trusted advisers continue to underpin farming businesses across the country, being the first port of call for advice on all things arable and more.

More growers are turning to agronomists who provide wholly transparent advice not linked to sales as their business needs become more complex. As they do so, our share of the advised arable sector is growing.

Founded in 1981, the Association of Independent Crop Consultants (AICC) has a UK market share of c.50% when it comes to delivering arable advice – making us well-placed to service growers who demand truly independent expertise.

Within our membership, the AICC has the best technical expertise and experience covering all crop production and farming systems. We are the largest body of independent agronomists in Europe.

As our share of the advised arable sector grows, so too does the request for us to be represented on committees and bodies that serve arable farming, as well as responding to consultations and issues on behalf of our members and the farmers they advise.

One example is the recent release of the UK Pesticide National Action Plan (NAP). The AICC remains in communication with Defra and other industry stakeholders to better understand the methodology behind the plan and we are responding accordingly.

The NAP has many implications for UK crop production. Objective 1 of the NAP, for example, is to encourage the uptake of Integrated Pest Management (IPM).

The ethos of independent advice has meant that the AICC has always been at the forefront of IPM adoption. Our members practice it. Day in and day out.

We have always championed IPM from its conception, whether through on-farm advice, in our research, membership training and conferences, and in our publications – including an article in this issue by former AICC chairman Sean Sparling. Sean, who

is an AICC honorary member, is actively involved in its promotion.

AICC will endeavour to demonstrate to Defra that IPM is engrained in independent advice and that the focus should be on research and development to help us adapt and improve it, especially as we adapt and change our farming systems.

A highlight in the industry calendar and a kick-start to the year is the AICC Conference, Our 2025 conference, which took place in January was attended by 140 members and a similar number of invited industry guests and stakeholders.

All delegates who completed a post-conference survey said the event fully met their expectations, with 75% of delegates saying it had exceeded them. Work has already started on making our 2026 event even better still.

Nowhere else is there a gathering with the market share and reach of agronomists under one roof as the AICC annual conference. Firmly established within the industry calendar, next year the conference runs from 12-14 January 2026 at Whittlebury Hall, Northamptonshire.

Our AICC Academy for younger members goes from strength to strength. New entrants benefit from training and can tap into the organisation's experience and expertise while developing their own interests and specialisms networking.

I hosted a special reception and open discussion session for new entrants at this year's conference. It was very well received and how refreshing to see so many young, talented and vibrant youngsters already making their mark in our industry.

It all demonstrates that the future of Independent Agronomy truly is in safe hands.

AICC Agronomists

- Are paid only for their advice.
- Have a free hand to recommend product based on its merit and comprehensive independent research
- Target advice for the sole benefit of the grower so they know exactly what they are paying for
- Adhere to the AICC Code of Conduct
- 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

Trusted advisers are key to farm business success

Andrew Blazey,
AICC Chairman

Agriculture is changing rapidly – and at a pace most of us haven't seen before – including me during my three decades of practicing agronomy.

Words like change, adapt and unpredictable are mentioned in nearly all the articles in this issue of *The Independent Agronomist* magazine – in relation to the climate, government policy, markets and the way we practice our day-to-day job as independent agronomists.

Thankfully, one thing that remains consistent is the value of the truly impartial advice delivered by members of the Association of Independent Crop Consultants (AICC).

The farmers we serve look to us as their trusted adviser to guide them through such turbulent times. As Chris Tolley suggests in his article *(see pages 16-17)*, growers expect us to oversee their whole farm strategy, not just their crop production.

I agree with Chris's sentiment. Indeed, it has always been the case. But it is now more important than ever to help farmers run businesses which are both sustainable and profitable – and the AICC is seeing increasing demand for our services.

We have seen some increasingly challenging weather events since I became AICC chair in early 2023. The challenging autumn later that year followed by the cereal disease epidemics of spring 2024 will certainly be remembered for a long time.

This led to tricky conversations about the pros and cons of earlier autumn drilling and advice about variety selection to mitigate disease risk. Then, true to form as the drills were about to roll a little earlier last autumn, the rain came again.

For most, this cloud turned out to have a silver lining. When it dried up later in the autumn, drilling was completed, with the added benefit of excellent stale seedbeds and optimumal conditions for pre-emergence herbicides.

This season then saw one of the driest early springs on record. Here in the east of England, disease levels are currently much lower than a year ago. But as the drought prolongs, there is considerable concern about how crops will perform in such conditions.

Some say we have little control over the effect of the weather. But I disagree. We learn from previous seasons and those lessons help us to manage the impact of future adverse weather events.

> **"It is clear that the need for independent advice will remain steadfast in an increasingly changing industry."**

Wet or dry, AICC members work tirelessly on behalf of their clients who can be confident that all advice given is truly impartial. Helping the farms we work with mitigate risk is a core part of what we do to ensure that farmers have profitable and sustainable businesses.

As well as being led by farmers and independent advisors, the drive for sustainability has come from Defra in the form of the Sustainable Farming Incentive (SFI) as well as from the commercial sector as an end market requirement or a private incentive.

This drive has brought opportunity in the form of additional financial reward, but with it comes risk. With falling commodity markets and a modest harvest in 2024 comes the temptation to change and adopt new practices – either to access additional funding streams or to reduce costs.

AICC advisers are at the forefront of helping farmers adapt and change whether it be through SFI options or by changing to more regenerative farming practices.

The involvement of AICC members in novel approaches to farming means they can help farm businesses develop while mitigating risk – reaping real benefits while ensuring "the tail doesn't wag the dog".

We are fortunate within the AICC to have many members with a keen interest and good skillset to help farmers adopt and prosper as systems adapt. I am sure you will enjoy reading about some of the work our members do within this magazine.

Not only does the AICC continue to go from strength to strength in terms of market share, we are also seeing an increase in the number of young people embarking on a career in independent agronomy.

For the second year running, this was evident at our 2024 national conference, where I started to feel distinctly above average age for an AICC member.

Our organisation works hard to attract new members brimming with enthusiasm for independent advice *(see pages 13-15)*. I would urge any prospective young agronomist to consider the independent sector – it provides a fantastic career.

I have been lucky enough to build a business within Prime Agriculture, work with fantastic colleagues who support one another – both within Prime and AICC – and I'm honoured to be a trusted part of the management team on farms I look after.

It is clear that the need for independent advice will remain steadfast in an increasingly changing industry – and for that reason the sector provides some great opportunities, both for farmers and agronomists who recognise the need for truly impartial advice.

Securing a future for oilseed rape

Despite the challenges, the time is ripe for an oilseed rape revival.

The first Apple Mac was launched, the Winter Olympics were held in Sarajevo and Band Aid was formed to raise money for famine relief. All iconic moments from 1984 – the last time such a small area of oilseed rape was grown in the UK.

For many in the industry, the demise of oilseed rape in the rotation has been viewed with dismay. The UK is only 14% secure when it comes edible oils – and there is a ready market for rape, with the leftover meal is a prized protein-rich animal feed.

Shortfall

An iconic crop in the UK, rape also produces a bountiful supply of pollen and nectar for insects such as bees, butterflies and hover flies during a critical part of their lifecycle.

Cabbage stem flea beetle (CSFB) is a pest in both adult and larval stages. Controllingand managing it is crucial to both crop establishment and yield, especially where pyrethroid resistance is endemic.

Rape growing peaked at 750,000ha. But less than 200,000ha were grown this year after a long decline since the withdrawal of neonicotinoid seed treatments in the mid-2010s – and no reliable alternative chemical control methods to control CSFB.

There is no prospect of neonicotinoids returning, so it is frustrating that the shortfall in UK rape has been replaced with crop from countries where neonicotinoids are still used, says James Warner from United Oilseeds.

Hence the OSR Reboot campaign, which brings together farmers and agronomists with trade associations, beekeepers, oil crushers, input providers, distributers, seed companies, banks and retailers to reinvigorate UK rape growing.

This has armed farmers and agronomists with a series of management strategy options. A defining moment for the Reboot process was recognising the knowledge gap between researchers and growers.

Hannah Foxall, from Premium Crops, encapsulated the frustration about the need to close this knowledge gap during an early meeting of campaign supporters. Better communication is key, she believes.

"People keep talking about all the research that has been done but why have people on the ground not heard of it? An academic journal isn't enough because most people don't read those journals."

Drilling dates

Good crop establishment is, of course, key to success. And sowing into moisture is still the number one priority for any good agronomist. But persuading growers to try different drilling dates can be challenging.

The need to ditch traditional sowing dates has been a difficult message to get across to many growers – especially those who used to start the season in late August, despite it coinciding with peak CSFB migrations.

That's because earlier sowing may not be good for soil moisture – and may in fact encourage CSFB larval numbers. But sowing later risks not getting a crop in at all should bad weather intervene.

Instead, the Reboot Initiative has identified other options that could help. They include lower seed rates to encourage faster plant growth and disorientating migrating beetles by addition of chicken muck.

Other options include leaving rape volunteers in neighbouring crops, planting companion plants such as oats, buckwheat and clover, and parking the pyrethroids to encourage natural predators.

Wider rotation

AICC member Jonny James, from CCC Agronomy in Sussex, recommends a wider rotation, usually one in six years. "We saw a slow decline in rape being sown but we feel that we know what we are doing."

Jonny adds: "Cabbage stem flea beetle has not been as bad as we've seen in previous years but the slugs and especially pigeons have been terrible. I've seen hundreds of acres written off as a result.

"We tend to sow later to avoid the larvae, which then reduces the numbers of beetles in subsequent years. Rolling and getting a uniform establishment is important, and putting on sewage sludge rather than synthetic fertilisers does seem to help."

The Reboot group is also encouraging co-funded industry research and a more supportive government policy. The closure of Sustainable Farming Incentive options is disappointing – but Defra officials have attended Reboot meetings.

As Jonny succinctly explains: "In my opinion, you need to take growing this crop seriously. Despite the challenges, there is a real belief among the Reboot group that oilseed rape has a bright future."

IPM success requires fundamental mindset shift

With integrated pest management (IPM) now central to Government policy on crop production and pesticide use, Lincolnshire AICC agronomist **Sean Sparling** offers his thoughts on how the industry will triumph with its widescale adoption

A limiting factor preventing the full adoption of Integrated Pest Management (IPM) is that too many people worry about the consequences of getting things wrong.

There's a long history of non-chemical practices turning out to be relatively expensive and unreliable compared to the easy option of spraying a plant protection product (PPP), which is perceived to be a more secure, cost-effective choice.

This has led to an overreliance on chemistry. But our awareness of the issues caused by this overreliance – like resistance in target populations of weeds, pests and diseases *(see page 8)* – is improving all the time, particularly among AICC members, who sell only independent advice and not crop protection or fertiliser products.

Better understanding

Moving away from this reliance and towards using IPM to its fullest potential requires documented and proven science. It also requires wider sources of information to help more agronomists and growers understand the benefits of IPM – something AICC members have always embraced.

So far, this has been minimal. Sometimes the work has been done, but not got through to farmers and advisers through sound knowledge transfer. Other times the guidance has been missing completely.

There is, for example, no guidance that states how many money spiders you need per metre squared to reliably control the aphid vectors of barley yellow dwarf virus (BYDV) in the autumn. Neither is there guidance on how many parasitoids or predatory ground beetles will deal with cabbage stem flea beetle in oilseed rape.

I've largely had to build confidence in IPM measures through trial and error, personal experience and speaking to like-minded people about theirs.

No easy answers

Biological PPPs are often hailed as part of the answer, too. Over many years, solutions presented by the industry have promised it all. But they have seldom delivered. That has undoubtedly affected the confidence of agronomists and growers to recommend and use such alternative products.

Many biologicals are still expensive. And when they do work, there's not always an obvious reason why or how – or any indication whether they'll work again.

This historic unreliability is the biggest obstacle to their wider adoption and a lack of independent trials data hasn't helped.

"It's nothing new – we've always used it. But we call it IPM now instead of having an open mind, understanding weed, pest and disease ecology, and applying some good old common sense."

There is also no financial support or protection, nor any incentive which offsets the increased risks of full implementation of an IPM approach. By that, I mean reducing PPP use to a minimum and replacing them with cultural or biological methods.

When a pesticide fails, there is a degree of manufacturer responsibility – so long as the product in question has been used in accordance with the label. But there is nothing in place to protect the advisor or grower when IPM goes wrong.

Instead, all fingers will point to the advisor who took the decision not to use the pesticide and rely on cultural or biological methods of control.

These methods have been relied upon in the organic sector for some time. But a degree of perspective is required when people talk about organic production as the way forward for everyone.

Arable production

About 27% or 4,667,000ha of the 18.2 million hectares of agricultural land across the UK is suitable for producing arable crops.

Within that, there are 498,000ha of organic production in the UK, of which 86% or 430,000ha is grassland and just 68,000ha arable – so organic makes up less than 1.5% of total UK arable production.

Organic winter wheat using the same varieties as conventional systems yields around 70% less, so organic arable land contributes less 0.9% of all crop output.

Unless biologicals evolve into viable and reliable treatments comparable to conventional standards, organic is not the way forward if we want to feed people and optimise sustainable output and production from our finite arable area.

Food security must not be overlooked. That is why I don't believe we can farm without pesticides today, but we must combine all approaches to the best of our ability to reduce reliance on any one tool.

To broaden the IPM mindset, we need more awareness and acceptance that mistakes are going to be made if alternatives to pesticides are fully implemented,

In other words, we cannot turn imprecise science into precision, no mater how much we try. That's when our portfolio of PPPs become even more important tools within an IPM system, supporting the approach when all else fails and protecting the grower from significant losses.

There are plenty of examples of how IPM can work well. Without the use of cultural options like wider and more diverse rotations and late drilling, alongside glyphosate, we cannot manage blackgrass..

Less insecticide

Will we ever get away from herbicide use completely? It will be difficult until reliable and effective alternatives develop. But when it comes to pest control, we can reduce the levels of insecticide applied with IPM.

Cabbage stem flea beetle in oilseed rape, for example, is now all but completely resistant to pyrethroids. So why apply them at all? The damage done to predators and beneficials becomes counterproductive.

It is more helpful to allow natural predators to build by removing ineffective insecticides and using cultural controls. These include managing drilling date, using vigorous varieties, companion crops, leaving longer stubbles and applying organic manures and digestate.

Can we understand what impact the previous season had on the flea beetle population before planting? Targeted cultivations in last year's stubbles can have an impact, according to work by NIAB.

Natural predators

Pyrethroids still give some control of BYDV vectors in cereals. But I believe insecticides are now largely a waste of time.

Again, by delaying winter cereal drilling and then allowing the tens of thousands of money spiders and other predators to feast on aphids once they have migrated into crops can and does work.

My clients' fields shine silver from money spider silks throughout the autumn. And I haven't seen BYDV for over 20 years where this approach has been taken.

For every pest, there's a predator and we need to let them flourish and predate.

Some Sustainable Farming Incentive (SFI) options provide a designated home for our beneficials and pollinators. But they can also be a home for weeds, pests and diseases – a risk that needs to be acknowledged.

Cabbage stem flea beetle, pea moth, bruchid beetle, and pea and bean weevil, all manner of aphid species and many diseases can build in these mixes. They are another part of the IPM equation we must solve.

While giving evidence to a House of Lords select committee on the UK's food strategy post-Brexit, in which IPM was a major talking point, I was asked by the chairman: "In your opinion, how do we reduce the amount of pesticide used on UK farms in the future through the implementation of IPM?"

Arable production

I'm not sure it's the right question to ask because IPM and pesticide use are not necessarily in opposition, they're part of the same process. But one of the answers to that question is easy for me.

Just as in every other major service industry, from insurance to banking, separating advice from sales of product and the use of commercially independent advisers is fundamental.

It might be a contentious and sweeping statement, but independently advised growers see high yields and quality – with fewer inputs.

But the mindset of the adviser and grower is even more important. Why? Because to succeed with IPM, understanding and accepting the risks involved takes a very different mentality.

We know plenty about IPM. But knowing what to do and then not doing it is the same as not knowing what to do at all. A broad knowledge of IPM is of no value unless it's being put into practice.

It's clear, then, that IPM is a principle and one of a range of modern crop production tools. More fundamentally, IPM isn't a 'thing', it's a mindset and an applied approach in which actions speak louder than words.

Resisting resistance
– how to stay ahead of crop threats

Using plant protection products (PPPs) involves a significant risk of resistance developing in target weed, pest and pathogen populations. Until recently, that resistance has often been trumped by the next blockbuster agrochemical. But new products are few and far between. With fewer options available to protect crops, **Adam Clarke** asks some leading experts where we are with PPP resistance and what we can do to negate it.

Weeds: Diversity is key weapon against problem species

Globally, confirmed cases of herbicide resistance soared from the very early 1980s, but ADAS weed scientist and AICC Researcher member, **John Cussans** suggests that upward trend has started to flatten out over the past few years.

This is not because herbicide resistance in weeds is less of a problem, but because different combinations of weed species and modes of action unaffected by resistance are running low.

He also points to evidence from numerous countries where target site resistance – a single mutation rendering a herbicide ineffective – tends to happen quickly and has a profound effect on a specific mode of action.

Good examples include mutations causing ALS-inhibitor and ACCase-inhibitor herbicide resistance in UK blackgrass and ryegrass populations.

"I think we're getting to the end of a wave of target site resistance in the UK and moving into a phase where farmers are experiencing the slow erosion of herbicide efficacy.

It's a slow, corrosive development of resistance where weeds become a little bit harder to kill over time," explains John.

This is known as metabolic or non-target site resistance, meaning that the weed can detoxify itself of the herbicide post application.

Its pernicious creep has led to more use of soil-acting, residual herbicides in many crops, particularly cereals, with big stacks of active substances being applied pre- and early post-emergence.

John believes the use of more and more residuals is impacting on crop suppressiveness; a key cultural measure for reducing reliance on herbicides.

"We used to think that once a competitive crop canopy closed, you would stop worrying about weed management, safe in the knowledge that you had an effective post-emergence to use at the end of the year.

"You can't do that now, so we're using lots of herbicides together at the start, and I think we underestimate the impact that is having on the crop's ability to suppress weeds. It's something we're looking into at ADAS now," he explains.

This could threaten the attitude to monolithic pre-emergence stacks applied on farms struggling with resistant grassweeds and broad-leaved weeds.

There may be unforeseen consequences of using so many residual herbicides, such as a build-up in the soil, which might force a change in approach.

Cornerstone residual active substance flufenacet is also under scrutiny following the European Union's decision to class it as an endocrine disruptor, prompting a more urgent review of data by Great Britain's approvals system.

Losing flufenacet would be significant and not just for control of highly publicised weeds like blackgrass and ryegrass. John says it would be the less obvious ones that would require attention, with a lot of it used for annual meadow grass control, for example.

"It's all the incidental control of certain weeds that you get from flufenacet being part of the programme that would prompt a re-think if it were withdrawn. It's difficult to predict, so we're going to have to wait and see," he adds.

As ever, if one crop protection option is removed, it can pile more pressure on those remaining and this will require serious consideration should flufenacet disappear.

There have been some positive additions to the herbicide armoury in recent seasons, including cinmethylin (Luximo) and bixlozone (Isoflex), and these must be protected.

"We are going to have to be extra vigilant on resistance management and monitoring, particularly with Luximo if it's used as a flufenacet replacement.

"Diversity is king. It's making sure you understand what modes of action are and mix up your herbicide programmes. You also need a diversity of crops in the rotation that bring in different herbicides and break up weed lifecycles," says John.

Technology will have a role to play in managing resistant weeds too, with more guided mechanical weeders working in arable crops, although alternatives like electric- and heat-based kit are likely to remain confined to higher value sectors – at least for the time being..

Pests: De-risking IPM 'crucial' to reduce insecticides

A shift to IPM is central to Government policy on reducing pesticide use, as outlined in the new National Action Plan (NAP). But de-risking it for growers is crucial, says sentomologist Rothamsted Research Professor Emerita **Lin Field**

As with weed control, pest control has suffered from product losses and the development of resistance in key species.

The R&D challenge in developing new insecticides is arguably tougher than with herbicides or fungicides, because of the specificity required to get an active substance registered – bee safety is a big hurdle – so very few novel insecticides have made it through to market.

This has led to reliance on just a few modes of action, particularly pyrethroids, which are key to controlling a range of pests, particularly aphids vectoring barley yellow dwarf virus (BYDV).

"There is already resistance to pyrethroids in cereal aphids. At present, BYDV is still well controlled in the field, but if that was to change and we get control failures, or we get a new pest without a means of control, we could see significant problems," says Lin.

So, is IPM the answer to reducing reliance on insecticides, negating resistance in pests and helping biodiversity, all while maintaining productivity?

Lin says the idea of walking away from insecticides in the near term is fanciful because it would hit food production. Accelerating IPM adoption alongside insecticides is the right idea but requires the right policies to help.

"It will take time and we need to de-risk it. Deciding not to spray and relying on IPM does involve more risk, so unless we see a step change in what it can offer, it's difficult to get farmers to move that way," she explains.

The Sustainable Farming Incentive (SFI) does offer payments for not applying insecticides to crops. This could be missing sprays in cereals for BYDV control, for example.

However, without widespread use of resistant varieties, it might not cover the cost of yield loss when autumn conditions are conducive to high numbers of aphids.

Dr Julian Smith, science director at Rothamsted's Protecting Crops and the Environment department, suggests that crop insurance schemes, which work in other parts of the world for weather events, could be one solution if applied to pests.

"If you want the farming industry to move away from something, you need to provide that financial buffer, otherwise they will always take the precautionary approach," he adds.

Julian believes for any such scheme to work, collaboration and joined up thinking is needed between government, industry, >>

FIELD VIEW

Brett Pointing
CCC Agronomy/AICC

Working across Dorset, CCC Agronomy's Brett Pointing says the relatively frost-free climate means his clients' crops can suffer significant aphid and BYDV pressure.

An increasing area of BYDV-tolerant winter cereal varieties, such as KWS Feeris winter barley, help manage its impact, but even with tolerance, 30% yield loss is possible when vector and virus pressure is high.

This means insecticides remain key to control strategy and as the region's main vector is the susceptible bird-cherry oat aphid, Rhopalosiphum padi, and not the more resistant grain aphid, Sitobion avenae, pyrethroid insecticides still achieve reasonable control.

But reliance on pyrethroids like lambda-cyhalothrin – sometimes applied twice in the autumn to early drilled winter cereal crops when risk is high – increases the risk of resistance and is a major worry in the short term.

Brett is using decision support systems like the AHDB's BYDV Tool but feels that more information on insect species and viral loading would help reduce insecticide use considerably.

This could be achieved with a greater trap network or cheaper and scalable AI-based smart traps, allowing much more accurate targeting of treatments.

Brett adds that all farms are making efforts to adopt IPM measures but feels the knowledge about how effective they are and how best some are implemented is lacking or not being communicated effectively with agronomists and growers.

"No one likes using insecticides, but the potential damage that can be done means that it can be too risky not to, even if you've done everything else right."

Craig Green CMG Agronomy/AICC

Across Craig Green's area in Norfolk, herbicide resistant blackgrass has been a major challenge, but much research and knowledge transfer in recent years has seen good progress in its management.

That's included more cultural methods such as delayed drilling and spring cropping, plus more residual herbicides early on. The recent introduction of cinmethylin has added a control boost, too.

Herbicide resistant broad-leaved weeds are an increasing challenge with poppy, mayweed, chickweed, and groundsel, all harder to kill with ALS-inhibitor herbicides.

Species such as poppy and groundsel are on the rise as well as they are favoured by reduced tillage systems and are thriving uncontrolled in rotational SFI options.

Craig has adjusted control programmes to hit these weeds early, but where they get through pre-emergence programmes, they are tough to take out.

"Groundsel is not particularly competitive but does make crops look scruffy, which growers don't like. Poppy is similar, although having seeds in grain samples can lead to rejections.

"I think we can do a good job with robust pre-ems, but overall, I think we'll just have to accept a few more of these weeds in crops moving forward," says Craig.

Some of his regenerative growers have invested in mechanical weeders, but tight windows when field conditions are suitable for hoeing limit their usefulness.

More diversity in rotations is one of the

agronomists and farmers, creating better information about what is happening on the ground.

There are successes in these areas of farm-level information, with advisory organisations like AICC and others working with Rothamsted on insect surveys over the past 10-15 years.

The Rothamsted Insect Survey, supported by BBSRC, is another example, gathering near-time data on aphid numbers, as a proxy of risk, and informing farmers directly or via advisory services.

But to really make a difference Julian says this work needs more depth and scale, increasing the number of sampling points and other monitoring tools, including boots on the ground.

Done well, these approaches could catch samples and test for virus presence and insecticide resistance profile and even be used to pick up early warning signs of new aphid genotypes arriving from overseas.

Growers could then access the information to see which crops are at risk in a specific area and take the necessary action.

"It would also create the necessary datasets for insurance companies to buy into for certain crops, pests and spray patterns and you could really start to build into IPM off the back of that.

We already have the capability to do all of this, but currently we don't have the funding or the systematic approach to thinking that is required to get it off the ground," he explains.

Disease: How variety choice can lower fungicide dose

In 2024, wheat growers were reminded how hard it is to manage Septoria with the current fungicide portfolio, as resistance chips away at the efficacy of azole and SDHI fungicides that underpin programmes, says SRUC plant pathologist **Fiona Burnett**

There was no leap in the wrong direction, just fewer Septoria isolates at the sensitive end of the spectrum and a building complexity of isolates in the field,

The wetter end to the season meant that growers struggled to keep control of the disease, particularly on weaker varieties, and it highlights where we are with the current chemistry.

While the Septoria situation is unsurprising, the difficulties growers had controlling brown rust in 2024 were a shock after the C187F mutation – which confers resistance to SDHI benzovindiflupyr – spread across the UK.

Rusts are expected to be unstable when it comes to breaking varietal resistance, but it's rare to have a case where rusts become insensitive to key fungicides.

In barley, net blotch has become particularly problematic, with AHDB fungicide performance curves last year showing a drop in efficacy of key products and growers seeing that play out in commercial crops.

Ramularia is the other barley disease with a history of breaking chemistry, with efficacy of prothioconazole and older SDHIs now greatly reduced.

Mefentrifluconazole offers some control, with new SDHI pydiflumetofen now the leading ramularia fungicide and multisite folpet adding useful activity as part of a programme.

Fiona says overall, growers are arguably in a better place with cereal fungicides than with herbicides and insecticides, now the QiI fungicide fenpicoxamid's new mode of action has joined Septoria programmes.

SDHI isoflucypyram is another option in wheat and pydiflumetofen spans both wheat and barley, although its slightly higher cost will limit use in the lower value barley crop,

FIELD VIEW

most effective ways to manage resistant weeds, but with the decline in break crops like oilseed rape and marginal profitability of other options they are a hard sell for many businesses.

Craig believes in looking at cultivation strategies, with more intense cultivations sometimes necessary to manage weeds, and carefully considering the way herbicides are used.

"We can't expect cheap, generic chemistry to work at lower rates. The recent glyphosate resistance case should be a wake-up call that we need to use good products at the appropriate dose in the right conditions.

"Applying a sublethal dose of any herbicide at the wrong time is asking for trouble."

except where ramularia risk is high.

Even so, the difficulty controlling Septoria last year leads her to stress the importance of varietal resistance in wheat to take the pressure off the chemistry.

"We've had new chemistry arrive, but it still feels like we're running to stay still when it comes to Septoria control.

The variety piece is not a new message, but growers are picking that up and we've seen an uptick in resistance ratings this year, which is good news," she adds.

With barley, it's more challenging, as resistance to key diseases has not improved as much as in wheat and deciding what to plant is more driven by market acceptance.

"You have to be pragmatic, as you're growing to sell the product, but if you do have the opportunity to choose something with a bit more disease resilience, then go for it," she adds.

The use of more robust resistance scores has several advantages, including some flexibility on spray timings should they slip due to wet or windy weather, but key to resistance management is flexibility of dose.

Fiona says there is a slight misconception that low fungicide doses increase the risk of developing resistance, but she says the opposite is true. Using less, both in frequency and dose, prolongs the life of a fungicide.

She urges growers and agronomists to plan programmes well in advance, introducing diversity of modes of action into mixtures, alternating modes of action between spray timings and including multisite options like folpet.

"Having planned out your programme, you can then place orders and moderate dose at application, depending on what you are seeing in the crop. If it's a later drilled crop with a good resistance score, can you cut back?"

Fiona believes alternative products also have a role to play in reducing use of conventional fungicides, with elicitor Iodus (laminarin) applied early to stimulate the crop's natural defences and help cut out the use of a conventional T0, typically an azole and/or strobilurin.

"There are biological or biostimulant products used in crops like soft fruit and potatoes that could make their way into combinable crops, but we need to learn more about how they work and that's something we're doing at SRUC.

It's hard for the user and I think that's where independent organisations like AICC help by doing their own trials and building knowledge on what works and what doesn't," Fiona says.

FIELD VIEW

Ben Boothman

BM Boothman Agronomy/AICC

Yorkshire-based Ben Boothman feels fungicide product losses over recent seasons have had the most significant impact on resistance, particularly multisite chlorothalonil.

In wheat, this has removed a product that was cheap and effective on Septoria, increased the cost of programmes and the reliance on SDHIs; the older ones now being much less effective due to resistance.

On fungicide programme planning, Ben says cost and likely yield response are the main wants for growers, but they are increasingly conscious of the need to consider resistance management too.

The trend to deliver newer products in twin packs is, however, hindering the ability to construct balanced programmes, as it forces users to combine the most effective actives with a weaker partner.

"As independent agronomists, we want to recommend the most cost-effective mixtures that are best for long-term efficacy, but it's not always possible because of the way some products are sold."

While seeing potential in biological or biostimulant products in the future, for now Ben will be leaning on resistant varieties to moderate input use, with the caveat that ratings can quickly change, as highlighted recently with yellow rust appearing on varieties like Dawsum and Champion (8 and 9, respectively).

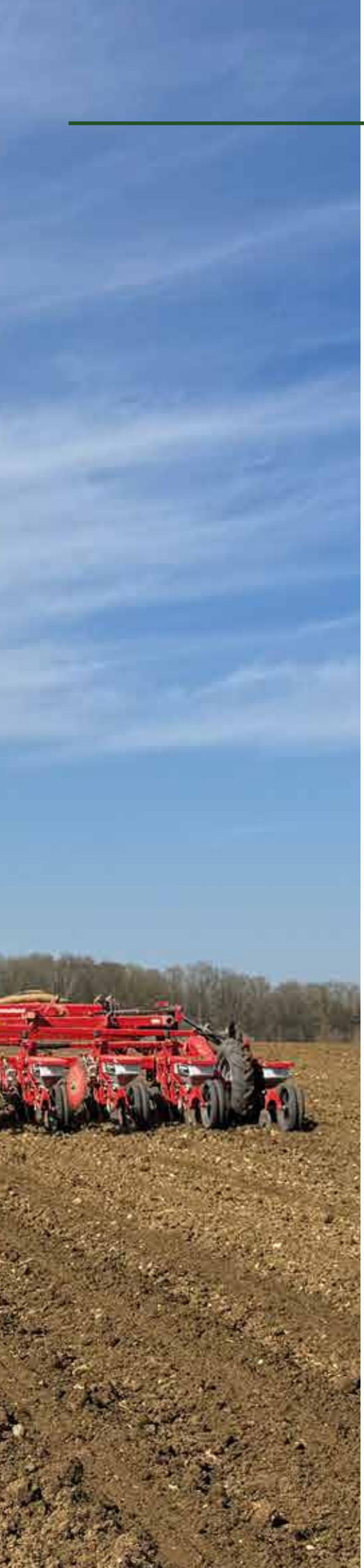
"Don't plan a programme for certain risks and assume things won't change. There's no substitute for walking fields and looking at crops, otherwise you can quickly get caught out."

Academy strengthens the case for independent agronomy

The AICC Academy scheme has gone from strength to strength since it was launched in 2015, helping members to grow their own businesses and future-proof the continued growth of independent agronomy.

The academy is now enhancing the skills of more than 50 agronomists who have completed their BASIS and FACTS qualifications or are in the process of gaining them.

It also provides a sound technical platform to prepare for a career in the independent sector.



How UK agriculture can reach Net Zero

Regenerative farming methods can help UK agriculture reach Net Zero, says AICC member and Nuffield scholar **Chris Taylor**.

Chris has been an AICC member for two years. The ambition behind his Nuffield study was to identify the main contributing factors of greenhouse gas emissions in UK agriculture and find solutions to mitigate their impact, he says.

Many routes to Net Zero outlined at the turn of the decade revolved around tree planting, removing prime agricultural land from production and off shoring UK carbon emissions with imported food from elsewhere in the world.

I believed regenerative agriculture offered a path to Net Zero, which maintained productivity and made UK agriculture more sustainable and resilient in the face of climate change and market uncertainties.

Carbon emissions

One of the issues I realised early on was that carbon emissions are impossible to tangibly comprehend and visualise in everyday life. This has the effect of decoupling the emotion and responsibility for tackling these emissions for many businesses.

For businesses struggling to know where to start or even considering what impact they might have in mitigating climate change, I would recommend a carbon balance on their farm to give a 'snapshot' of their current emissions factors and sequestration potential.

This will give clarity and direction for changes to be implemented that will have a positive impact on their farm business.

A primary take-home message from my study is that the average UK arable farm can associate the main emissions factors with fuel usage, field operations and use of artificial fertilisers.

Regenerative agriculture can address these emissions factors through multiple dynamics but one lesson I lean on every day is the power of nutrient cycling in soils and the importance rotations and cultivation strategies can have on this factor.

The main driver behind this being carbon to nitrogen ratios and how these can be manipulated to improve fertility, inform decisions about cover crops and catch crops and reduce our reliance on artificial fertilisers.

Integrated system

The other aspect important to address is that regenerative agriculture can be manipulated and moulded to suit a purpose, drawing on one or two principles in isolation. This can be misleading and undermine the movement and credibility of regenerative agriculture.

During my studies, the best examples of regenerative farming businesses I visited had integrated the principles so well that it was impossible to separate them out to their constituent parts.

This made me conclude that regenerative farming practices should be fully integrated into a farming system, as these principles don't fulfil their potential used in isolation.

One thing that is undeniable is that the scholarship really challenged me and gave me a lot of time to reflect whilst I was travelling and meeting such inspirational pioneers.

From an agronomy perspective, since starting my career over 10 years ago, I had always given advice and treated customers as if I was farming the land myself, drawing from my experience in farm management positions.

But the one aspect I was adamant about upon my return was that within the UK agronomy sector, we need to disconnect the advice and supply of agricultural inputs and improve transparency in the marketplace.

I am still learning everyday but have a wealth of knowledge and experience from around the world to back me up and provide the confidence required to challenge 'business as usual'.

The Nuffield report 'Do regenerative farming practices pave the way for UK agriculture to meet Net Zero?' can be downloaded at www.nuffieldscholar.org

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Why viticulture advice is highly sought after

Louise Penn, a new entrant with Ceres, shares her thoughts from the field and a new service from independent agronomists.

Being an agronomist right now is a bit of a rollercoaster, but I feel really lucky to be part of it. Farming might still follow the seasons, but everything else feels like it's shifting. Some days it feels like we're in completely uncharted territory.

The weather's a great example. In the five years I've been doing this job, I don't think I've seen two seasons that even vaguely resembled each other. Whether it's extreme rain, harsh droughts, or something totally unexpected, we're constantly adapting.

I've had conversations with colleagues where they say, "I've never seen this before"—and that's both reassuring and a bit alarming.

On top of that, the political landscape has been tough to navigate.

I've tried to use the Sustainable Farming Incentive to build smart, profitable rotations for my clients. But constant changes and the government's decision to abruptly close the scheme to new entrants make it hard to stay enthusiastic.

Farming future

What keeps me going is the bigger picture. Like many in my generation, I'm passionate about where farming is heading. Soil health, nutrition, biodiversity. These aren't just buzzwords, they're key to how we farm in the future.

I truly believe healthy soils produce healthy food, and ultimately, healthier people. We need to reduce pesticide use and grow more nutrient-rich crops – but that's hard when the industry's under so much pressure.

This forward-thinking mindset has led me to branch into viticulture agronomy. Viticulture is the fastest-growing agricultural sector in the UK, with the industry expanding rapidly and wine production expected to double over the next decade.

As more land is planted with vines and new entrants continue to join the sector, there's a growing need for sound, independent advice, yet there are still very few agronomists specialising in this area.

Specialist advice

This is exactly why Ceres Rural has launched a new service line dedicated to vineyard agronomy and specialist grant advice, to help growers establish resilient, productive vineyards and make the most of the funding and support available.

Climate mitigation linked to farm profitability

My approach to independent agronomy is rooted in the strong belief that there is an intrinsic link between environmental sustainability, climate change and farm business performance, writes **Charlotte Cook**, of Indigro.

My background and experience to date has provided me with academic knowledge in these areas, but I feel this is just the beginning of a lifelong journey of learning and development within the agricultural industry.

At Indigro, our approach centres on integrated crop and pest management alongside minimising chemical inputs through thoughtful, sustainable strategies. Much of this advice is supported by independent trials data from the AICC.

We integrate cover crops, organic amendments, balanced rotations, careful variety selection, and intelligent cultivation strategies to build healthier soils, promote strong yields, and maximise farm profitability.

Many of our clients are on a journey to farming regeneratively – encouraging the use of the minimum appropriate cultivations and inputs, alongside maximising diversity and environmental benefits, while maintaining yield and return for the grower.

Whether or not you like the term 'regenerative farming', incorporating these principles will become key to the sustainability of farming in the future.

After many years of successful adoption of regenerative practices and improving soil health, many of our clients are now able to consistently achieve the same yield using fewer inputs and are therefore more profitable.

Independent advisors are in a fantastic position to support these changes on farm, as we are working for the grower to incorporate integrated pest management into every decision.

I'm passionate about helping farmers future-proof their businesses by maintaining profitability and protecting the environment. It's a privilege to work in a field where science, sustainability, and stewardship come together so powerfully.

I've recently been invited to join the AICC Council and I feel privileged to be part of such a dynamic and forward-thinking team.

Looking after vines is very different to the agronomy I do with my arable clients. Firstly, it is a permanent crop which means there is no starting over and ensuring the vine is healthy and resilient to pest and diseases is important all year round.

Vines are incredibly sensitive to soil structure, nutrient balance, and microclimate, and as new vineyards are established there's a steep learning curve when it comes to managing variability.

Late spring frosts pose a serious risk to bud and flower development. Meanwhile, high humidity and increasingly unpredictable weather are driving significant disease pressure, especially from downy mildew, powdery mildew, and botrytis.

Huge potential

This creates the need for proactive, informed agronomy that supports both crop protection and long-term vine health. There is huge potential for viticulture in south-east England and further north on the eastern side of the country.

Counties like Kent, Sussex, Hampshire, and Surrey have strong reputations for high-quality sparkling wine production due to their chalky soils and favourable growing conditions. East Anglia, Dorset, Somerset and Yorkshire are also well-suited.

This is an exciting, if slightly chaotic, time to be in independent agronomy. The AICC has a brilliant group of younger members who are smart, passionate, and genuinely forward-thinking. They are well-supported by experienced and respected members at the top of their game.

I've met some incredible people through the AICC Academy and at the conference, which is helping my confidence for the future. I'm confident the AICC can stay ahead of the curve and continue to be the trusted voice for truly independent advice.

How AICC trials underpin farm profitability

Jack Axtell, of Apex Agronomy, explains how improving yield performance is the driving force behind a series of AICC trials.

When I agreed to write a piece for the magazine, my first instinct was to dive into a detailed rant into the challenges we have faced here in East Anglia this cropping season.

But on second thoughts, I figured it might be more constructive and definitely more enjoyable if I took a different angle (after all, there's enough gloomy news out there already!) and share my experience of joining the AICC Trials Committee.

Working closely alongside John Clarke, I've seen how valuable the AICC trials are to its members but also the committee team involved. Results not only support young agronomists starting out but also benefit seasoned experts to stay at the forefront of delivering the best agronomic advice. This sparked my interest in joining the committee, as I'm driven to broaden my understanding and stay one step ahead of the ever-evolving challenges and opportunities that we face.

Clear objectives

It's been encouraging to witness the level of effort, collaboration and expertise within the committee. Each trial is carefully structured around a clear set of objectives: to benchmark performance against historical data, challenge the limits of existing products and rigorously test new and emerging solutions. By following this structured approach, the findings remain scientifically robust while offering practical value to a range of farming systems.

Looking ahead, I'm particularly excited about the opportunity to gain insight into new chemistry coming through the pipeline. Having access to these actives at an early stage gives us a crucial head start, allowing us to evaluate how these products might integrate into future programmes and give us a competitive edge when they become commercially available.

With little to no disease pressure here in mid-Suffolk this season, we anticipate a very different set of trial results compared to last year. This will offer valuable intelligence on fungicide performance under contrasting conditions. Of particular interest to me this year are the biostimulant trials led by AICC and another led by Adam Horsfield of Apex Agronomy. As a sceptic of many of these products, I am especially keen to see how they perform in a season where the typical disease challenges are largely absent, offering a clear test of their true effectiveness and value.

I have certainly appreciated the opportunity to visit trial sites over the years and would encourage members to make the most of the organised AICC trial days. There's an irreplaceable value in being out in the trials field, seeing the crops, treatments and responses first hand brings a level of understanding that simply can't be replicated through reports or data alone. These visits aren't just about observing treatment plots; they offer a valuable chance to ask questions, challenge thinking and exchange ideas with fellow agronomists.

I'm pleased to say yield improvement is still the driving force behind these trials. It's what underpins farm profitability and shapes the decisions we make. Every trial, every treatment and every conversation are about one thing – finding smarter, more effective and sustainable ways to deliver higher and more consistent yields for our clients. That's what makes these trials matter, and it's what drives progress.

Why continuous learning is the cornerstone of modern agronomy

Ongoing training is vital, says our AICC expert **Chris Tolley**

In a world where agricultural practices are evolving at pace—with new technologies, shifting legislation, and dynamic climate conditions—one constant remains: the need for high-quality training to help navigate these changes.

I've seen first-hand how vital education is – both in my role as director of Agronomy Training, where I run BASIS and FACTS courses, and through my work at Chris Tolley Agronomy, providing independent agronomy advice in the East Midlands.

Working alongside the AICC Academy (AICCA) as an in-house trainer has only reinforced this view. Whether it's soil health, pest resistance, farm financial performance, crop nutrition or sustainable practices, one truth rings clear: those who invest in learning are the ones who thrive.

Academy training: building strong foundations

At the heart of the AICCA ethos is a belief in practical, immersive learning. From day one, academy members move beyond the textbook and into the field—combining theory with hands-on experience, supported by structured mentoring.

The programme is designed to develop confident, independent agronomists capable of analysing data, communicating clearly with clients, and making robust, evidence-based recommendations.

Early in their careers, trainees work towards their BASIS and FACTS qualifications. Many go on to complete the BASIS Diploma in Agronomy while progressing through a series of rolling, in-house modules. Topics include:

- Crop performance and rotation planning
- Application technology and adjuvants
- Advanced nutrient management planning
- Soil science
- Advanced crop-specific agronomy

This layered, long-term approach ensures trainees are not only certified, but capable, adaptable and well-equipped for a rapidly changing industry.

Learning never stops

Structured training isn't just for newcomers. The most successful agronomists I know never stop learning. They attend workshops, study new legislation, and stay plugged into developments in crop science, sustainability, and farm management.

Agronomy is not static, and training isn't a tick box—it's a mindset. The professionals who lead the field are those who stay curious, collaborative, and committed to ongoing development.

Insights from the AICC Conference

This year's AICC Conference brought together members from across the UK, blending the experience of seasoned professionals with the fresh energy of newer entrants. The message was loud and clear: continuous professional development is non-negotiable for those who want to stay relevant and lead with impact.

One of the most talked-about sessions was the AICC Trials Performance Review, which showcased real-world data from the 2024 season – a year marked by erratic disease pressures and tough decisions on inputs. The session presented trial results and demonstrated how agronomists can apply evidence-based insights to their recommendations.

Updates on nitrogen trial results and emerging biostimulants also highlighted how dynamic the technical landscape has become. These sessions underscored a simple truth: the best training bridges the gap between science and field application.

Adapting to a changing policy landscape

Agronomy isn't just about crops and chemistry. Nowhere was this clearer than in the session on break crop sustainability and the Sustainable Farming Incentive (SFI). Questions explored included:

- How will SFI shape crop rotations?
- What are the commercial and agronomic trade-offs?
- How can agronomists best guide clients through policy changes?

Clients increasingly expect their agronomists to provide whole-farm strategy, not just input advice. That means understanding sustainability metrics, financial implications, and the bigger picture. Training in these areas is now just as essential as technical know-how.

Glyphosate Debate: Future-Proofing Agronomic Strategy

One of the most thought-provoking discussions at the conference centred on glyphosate—a tool many view as fundamental to reduced tillage and regenerative systems. Yet its future is uncertain, with mounting regulatory scrutiny and stewardship concerns. Presentations explored:

- Best practices for glyphosate application

- Strategies to manage and mitigate resistance
- The evolving legislative landscape across the UK and EU

What emerged was a shared understanding that agronomists must be prepared—whatever the outcome. That means diversifying strategies, staying ahead of policy, and applying sound, independent judgement in a landscape of change.

A continuous journey

Across every session, one theme stood out: agronomy doesn't stand still. From digital tools and satellite imagery to communication skills and environmental policy, the modern agronomist needs a toolkit that's broad, deep, and constantly updated.

Whether it's through structured programmes like AICCA, independent study, or peer mentoring, ongoing learning is how we stay relevant, resilient, and ready to lead.

Final thoughts: don't let the field pass you by

The pace of change in agriculture isn't slowing. From new pests and resistance patterns to updates in Red Tractor standards, standing still means falling behind.

Training isn't just about ticking boxes for BASIS or FACTS. It's about becoming the best version of yourself—for your clients, your company, and the land you work with.

So, my advice is: embrace the learning. Make time for it and Invest in it. Because in agronomy, growing knowledge is just as important as growing crops.

AICC trials: independently run by our members, for our members

Generating independent research data is vital in supporting AICC members to formulate the best agronomy solutions – and the AICC's trials team is continuing to provide many more insights in 2025.

David Boulton, chairman of AICC's Trials Committee, emphasises the benefit that members gain from the results as soon as they are made available and at an in-depth session at the AICC annual conference.

Decision-making for growers relies on this information which includes:

New trials for 2025

- Cabbage stem flea beetle control in oilseed rape, with a focus on the larval stage of the pest's lifecycle will provide useful insights for members and their growers
- Investigating the strengths and weaknesses of single and combination herbicide product options for controlling broad-leaved weeds in cereals.

On going trials work

- Ongoing blackgrass and Italian ryegrass herbicide trials for an up-to-date indication of product performance. We continue to assess the efficacy of existing actives and products to gain a further season's worth of data, as well as looking at new products and sequences that might help us improve grassweed management in conjunction with cultural techniques.
- Latest fungicide products in wheat and barley, extensive variety trials, nutrition trials, biostimulant trials as mentioned in Jack Axtell's report and other bespoke trials run by members for members.

Introducing Ceres Research: championing independent data-driven solutions

In the ever-evolving landscape of agriculture, independent research is increasingly vital to drive innovation, sustainability and resilience.

As the sector grapples with challenges such as climate change, shifting policies and evolving consumer demands, there is an even greater need for objective, science-based guidance that supports practical decision-making on the ground.

Expertise

At Ceres Research, we are positioning ourselves at the forefront of this movement – championing independent thinking, rigorous research and actionable insights.

We have been recently joined by Dr Alex Setchfield *(pictured above left)* – a qualified biological scientist, having obtained a PhD in mechanistic biology from the University of York in collaboration with Fera. Dr Setchfield holds a first class degree in biology and a masters in industrial biotechnology.

Dr Dannielle Roche *(above right)* also joined the team. Dannielle has a PhD in soil science from Cranfield University. She has a degree in environmental science. and a masters in climate change from the University of East Anglia.

Vision & mission

We are committed to empowering farmers, agronomists and agri-food businesses with evidence-based, data-driven solutions. Our services are designed to support day-to-day operations and to shape long-term strategies that lead to sustainable productivity and environmental stewardship.

Our vision is clear – to be an independent leader in delivering innovative, data-driven solutions across agriculture and the wider rural economy.

In pursuit of this vision, our mission is focused on empowering progressive farmers and the wider food supply chain to achieve sustainable growth, increased productivity and enhanced resilience.

We do this by applying the latest scientific knowledge, leveraging new research, and embracing emerging digital tools and artificial intelligence. At the core of our approach is a commitment to independence and scientific integrity.

We believe unbiased, evidence-led support is essential for clients to make informed decisions that are profitable, responsible and future-proof too.

Core service lines

Ceres Research offers a comprehensive suite of services tailored to meet the diverse needs of the food and farming sectors.

Our work spans four main service lines, each designed to deliver value through a combination of expertise, innovation and real-world relevance. These lines are: Industry Intelligence, Analysis & Review, Technical Training & Events, Research & Development.

Research priorities

Ceres Research is driven by a commitment to addressing the most critical challenges facing the agricultural sector today. Our research priorities reflect a long-term vision for a productive, profitable, and environmentally sustainable industry.

Independent agronomists play a critical role in supporting farmers with impartial, high-quality advice. At Ceres Research, we work closely with members of the AICC (both within Ceres Rural and beyond) to strengthen the value and reach of independent consultancy.

Supporting AICC members

Ceres Research aims to be a leader in independent agricultural research and consultancy. With a commitment to data-driven solutions, collaborative research, and practical impact, we can serve farmers, agronomists, and the wider agri-food sector across the UK.

For members of the AICC, our services provide the opportunity to enhance their own offer, access valuable insights and contribute to shaping a more sustainable future for agriculture.

As the agricultural sector continues to evolve, the role of independent research will only grow in importance.

At Ceres Research, we are dedicated to leading this charge – helping to build a resilient, productive, and environmentally responsible sector for the future.

Farming has a great story – and bright future

Feeding the world while looking after the environment should be celebrated, says **Paul Wilson**

Ask a food consumer of their view of a farmer and they will possibly envisage an old man leaning on a five-bar gate, or someone running a mega-sized intensive unit polluting the environment just for fun.

Farming sometimes gets a bad press. It uses 40% of all land, 70% of fresh water and generates 30% of greenhouse gas (GHG) emissions. But it also feeds 8.2bn people, and employs 27% of the world's workforce.

What's more impressive is that since 1960, the land required to feed one person for a year has fallen from 1.4ha to 0.6ha. Globally, we are supplying more calories per day than we have ever done. These are impressive credentials. But how have we got here and where are we heading?

While in total we now use more land, resources and water, we are feeding vastly more people than we were in 1960 – indeed the global population has almost tripled.

This a major achievement. It benefits society and has come from research and development delivering large technological advances – and from farmers delivering huge efficiency gains in food production.

Productivity

One way these advances are measured is through Total Factor Productivity (TFP) – how well we use resources to produce output. The global numbers are impressive.

One driver has been replacing people (labour) with machinery and technology (capital). In the UK, since 1975, labour productivity has increased by 150%. Tractors, sprayers, cultivators, combines have all increased in capacity and capability, so fewer people are producing much more food.

I challenge any UK farmer to commercially produce broad-acre arable crops now using a horse and one-furrow plough. Globally, agricultural TFP growth has seen countries develop economically and, importantly, enjoy greater living standards.

In recent decades, some have derided the UK's relatively poor agricultural productivity growth. But the broad data hide as much as they reveal. Recent analysis from Defra looked at TFP growth across different farm types.

Paul Wilson addresses the AICC 2025 technical conference earlier this year.

Unsurprisingly, TFP growth in cereals, general cropping and dairying has been impressive – sectors where mechanisation has advanced, data and advice inform decisions and resource use efficiency is king.

The UK uses considerably less fertiliser per ha than 30 years ago and produces more crop output. The amount of other inputs has also fallen in recent years when measured on a per tonne of food produced basis.

Farming has delivered all this and more amid changing policies and regulation – and in a world market subject to international policies and climate variability.

In England there are a raft of food policies, environmental requirements, frameworks, societal pressures (impact of diet on human health) and supply chains seeking to achieve Net Zero targets.

Here again, policies intervene. Coming soon is the UK Carbon Border Adjustment Mechanism (CBAM) tax on fertiliser inputs.

This well-intentioned Net Zero policy is, however, missing the point. This will reduce the UK's comparative advantage in crop production and increase commodity and food imports – without even knowing the carbon footprint of these imports.

One solution is an Agricultural Carbon Border Adjustment Mechanism (Ag-CBAM) to level the playing field and account for the carbon in imports of wheat, barley and many other products.

More crucially, an Ag-CBAM is needed to support global Net Zero ambitions. It will incentivise production in the most carbon efficient parts of the world.

It is only a matter of time until international climate agreements are adapted to account for the carbon consequence of consumption rather than the flawed focus on territorial, or production-based, carbon accounting.

Thinking back to farm level, some farmers are understandably concerned about the raft of drivers, legislation and actions needed to reduce carbon footprints.

Yet if policy makers can deliver a level trade and carbon playing field, then the drive for lower carbon footprints offers opportunities for increased farm profitability.

Agricultural advances

Many practices that seek to reduce carbon footprints will ultimately deliver greater resource use efficiency – precision farming is key to this – both in crop input application and in terms of data interpretation and technical understanding.

Rather than fear the low carbon future we should use this as an opportunity to achieve even greater resource use efficiency and drive down costs.

This brings us back to agricultural advances. A focus on technological change and resource use efficiency will deliver low carbon farming (win), more food (win) and higher farm incomes (win).

A modern farmer is business orientated, technically skilled, cares for the soil and environment, controls costs, is specialised, knowledgeable and professional, and also forward thinking.

This may not be the image in most consumers' minds, but it is the reality and is one UK farmers should be proud of.

Farming gets a bad press but has a great story to tell and a bright future – it's time we focus on this as we look to farmers to feed 10bn of us by 2080.

Paul Wilson is Professor of Agricultural Economics and Director of the Centre for Food Policy and Foresight at Nottingham University.. He is also President of the Agricultural Economics Society and spoke at the AICC Conference in 2025 – where delegates rated him one of the top three speakers.

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