



RL fungicide programme design



Grain market insights



Natural capital checklist

Contents

- 2 Welcome from Tom Clarke
- 3 RL fungicide programmes
- 4 Sustainable malting barley
- 5 Planting and Variety Survey
- 6 Farm Assurance Review findings
- 7 Next steps for RB209
- 8 Natural capital checklist
- 9 Hidden costs of SFI
- 10 Grappling glyphosate resistance
- 11 Searching the seedbank
- 12 Unlock RL and research power

More focus

If Arable Focus whets your appetite, head to our website for more content: ahdb.org.uk/arable-focus

More people

Discover the team behind Arable Focus: ahdb.org.uk/meet-the-team

BASIS NRºSO

Claim your BASIS and NRoSO points

Readers of Arable Focus can claim BASIS and NRoSO CPD points via: ahdb.org.uk/cpd

AHDB

Produced for you by:

AHDB Middlemarch Business Park Siskin Parkway East Coventry CV3 4PE

T 024 7669 2051 E comms@ahdb.org.uk W ahdb.org.uk

If you no longer wish to receive this information, please email us at comms@ahdb.org.uk

AHDB is a statutory levy board, funded by farmers, growers and others in the supply chain. We equip the industry with easy to use, practical know-how which they can apply straight away to make better decisions and improve their performance. For further information, please visit ahdb.org.uk

© Agriculture and Horticulture Development Board 2025. All rights reserved.

Cover image © Paul Slater

Welcome

Following the seemingly endless wet weather and high crop losses last year, fortunes look better for harvest 2025. As always, it will not be plain sailing. For example, we saw some unusual levels of yellow rust at some of our Recommended Lists (RL) trial sites in April (see Page 3).



Change keeps us all on our toes, which includes adapting to shifting government priorities, such as the closure of new applications to the Sustainable Farming Incentive (SFI) in England. Add high production costs and volatile markets to the mix, and it all adds stress to farm businesses, which includes concerns about returns and cash flows.

The world is also becoming much more unpredictable, but we are on your side and will support you. For instance, we will play our full part in reforming farm assurance to make it work for everyone (see Page 6). We will invest in the research you need (see back page) and pilot ways to measure the benefit of arable farming to the environment (see Page 8). Ultimately, our evidence will give both farmers and buyers confidence in home-grown cereals and oilseeds and help the Government make better and fairer policy.

AHDB Cereals & Oilseeds focus areas (2025/26)*

- Support arable farming to maximise returns
- Deliver independent research and evidence
- Develop better cooperation in the supply chain
- Anticipate future challenges

Our commitment to UK arable farming and domestic food production is rock solid. We will work with all stakeholders to unlock value for levy payers. Please stay tuned for updates and insights as we navigate this season together. Let us continue to innovate, adapt and thrive in the face of uncertainty.

Tom Clarke

Cereals & Oilseeds Sector Council Chair and AHDB Board Member

For further information, visit: ahdb.org.uk/cereals-oilseeds

*For each focus area, we have set clear targets to ensure we deliver to levy payers.

Stay connected on social media

For real-time updates delivered directly to your news feed, be sure to follow us on social media:

@AHDB Cereals

AHDB Cereals & Oilseeds

@AHDB Cereals

AHDBCerealsOilseeds

Join us at an event near you

Our Engagement team hosts meetings across Great Britain, where you can learn about a variety of topics and connect with our team in person. Book onto an event: ahdb.org.uk/events

RL fungicide programme design

Paul Gosling, Senior Manager for the Recommended Lists, explains how we set the fungicide programmes for the Recommended Lists for cereals and oilseeds (RL) trials.

The 'belt-and-braces' fungicide programmes used in RL trials comply with regulations but do not reflect commercial practice. Is this a problem? Compare the average cost of the RL winter wheat fungicide programme (£260/ha) with the average cost of a commercial programme (£116/ha*). You may conclude that fungicide-treated trial yields are irrelevant.

Certainly, the average RL winter wheat fungicide-treated control yield of 10.8 t/ha (2020–2024) is far higher than the five-year average commercial wheat yield of 7.3 t/ha. However, there are many reasons for this gap in performance:

- We avoid fields with obvious problems (e.g. weedy fields)
- We sow trials in the best parts of the fields (e.g. not on compacted headlands)
- We discard unrepresentative plots (e.g. plots that establish poorly)
- Alleyways between plots benefit yields (e.g. less resource competition)

Is it better to think about margins?

These days, more farmers consider margins, as well as yields (according to recent RL reviews). From this viewpoint, the AHDB/ADAS wheat fungicide margin challenge (harvests 2019–2021) delivered fascinating results.

In the challenge, farmers designed fungicide programmes for a single variety in randomised plot trials, which also included fungicide 'untreated' and 'blockbuster' plots based on RL protocols. The highest-margin programmes frequently yielded close to (even above) the blockbuster programme, demonstrating that the RL fungicide programme produces similar yields to good farm practice.

The programmes also produced a large spread in yields, even for a single fungicide cost point. This illustrates why it would be extremely difficult to pick a 'farm standard' programme for the RL trials (which deal with dozens of varieties, with different strengths and weaknesses, over dozens of sites).

Why use such an intensive programme?

We aim to keep disease below 10% infection in all varieties and all trials (from Cornwall to Aberdeenshire). This helps reveal variety potential over a range of environmental conditions without variable disease pressures confounding the results.

Each December, BASIS-registered agronomists refine the RL fungicide protocols. As the same core programme is applied across all trials and varieties, the fungicides work harder in some varieties and locations than others (to level the playing field). For example, rust fungicides used on varieties with a disease rating of 8 or 9 are unlikely to add to their yields (see pullout box below), but they are needed to protect the weaker varieties. Similarly, robust doses are needed, which also adds cost (with diminishing yield returns).

A recent review of RL fungicide programmes concluded that the current approach is best to provide robust data to help farmers select and manage varieties when combined with fungicide-untreated yields and disease resistance ratings.

Access the full version of this article at ahdb.org.uk/rl-trials

*Source: John Nix Farm Management Pocketbook 2024

Winter wheat yellow rust

Unusual observations of yellow rust on several winter wheat varieties in some RL trials this spring mean varieties may not perform in line with RL disease ratings. If you see unexpected levels of rust, send a diseased leaf sample to the UK Cereal Pathogen Virulence Survey (UKCPVS).

ahdb.org.uk/ukcpvs



Maltsters and growers forge green partnerships



The Maltsters' Association of Great Britain (MAGB) explains how it is helping to foster a sustainable future for malting barley production.

The malting industry wants to reduce its environmental impact and maintain high-quality production standards.

Malting – the process of converting barley into malt for brewing and distilling – involves several stages. The process, which uses large amounts of water and energy, has already been optimised as much as possible. The production of the raw material – malting barley – is now in the spotlight.

The MAGB Environmental Strategy outlines commitments to sustainability from MAGB and members' malting businesses. Some companies have set ambitious targets, which include reaching net zero by 2030.

Barley contributes up to 65% of the carbon footprint in the final malt, with nitrogen fertiliser accounting for a large amount (up to 43%). As a result, key focus points are to source low-carbon fertilisers and trial alternative nitrogen

sources, including solids arising from anaerobic digestate processes.

At the most basic level, careful farm management and following farm standards, such as those set by Red Tractor and Scottish Quality Crops, will help optimise inputs and minimise waste. Many companies are working with growers to help them go further. This includes adopting regenerative agricultural practices and promoting these across supply chains. When applied optimally, such practices have the potential to reduce greenhouse gas emissions and enhance soil health and improve biodiversity.

The malting industry sources its raw material from the UK, often working with the same farmers for many years, which helps implement new ways of working. Grower groups have also been established by some companies to share innovation and best practices.

Maltsters are also supporting research initiatives, such as work at the International Barley Hub (based at the James Hutton Institute). For example, a recent PhD project explored companion cropping by undersowing short, herbaceous legumes in barley crops. The work aimed to reduce nitrogen fertiliser requirements through biological nitrogen fixation, and herbicide applications, by increasing competition with weeds. The approach also helps to limit soil erosion by providing continuous soil cover.

Sustainability in malting is a multifaceted challenge. By focusing on sustainable barley production, optimising malting processes, measuring and reducing emissions and fostering collaboration, the malting industry can significantly reduce its environmental impact.

For further information, visit ukmalt.com





Harvest 2025 insights

Millie Askew, Lead Analyst, provides an overview of the Planting and Variety Survey (PVS), including its benefits and how your input is essential.

The PVS is the only annual pre-harvest survey that provides a strong and early estimate of what might be available from the upcoming cereals and oilseed rape harvest in the UK.

We are conducting the harvest 2025 survey earlier than usual and will release results online on 10 June 2025 (ahdb.org.uk/planting-survey). We will also discuss the main findings at Cereals 2025 (11–12 June 2025, Lincolnshire) on the AHDB stand. This means the results will be out several weeks earlier, compared to the harvest 2024 results.

In addition to providing data on the UK harvest areas for wheat, barley, oats and oilseed rape crops, the survey gathers information on varietal composition. This helps us estimate the planted areas by specific end-use groups, such as

UK Flour Millers (UKFM) wheat milling groups and malting or non-malting approved barley. Once again, we will also gather data to gauge the potential impact of agri-environment schemes on cropping areas.

Through providing an early, accurate and reliable picture of the domestic markets for cereals and oilseeds, the PVS results can help you plan for next season, including making better marketing decisions.

However, its success depends on your support. The more that take part, the better the results. Last year, we received over 1,000 valid responses, and we are grateful to everyone who took part, whether online or by post.

Once again, we have posted forms to levy payers. Please keep an eye open

for your copy. The postal route is particularly important, as it generates the largest number of responses.

Last year, the survey forecast the lowest cereals and oilseed rape areas for over two decades, following a challenging growing season. This year, prospects look generally better. We hope to deliver a more upbeat set of results in June.

How to take part

Complete the PVS online before 16 May 2025: ahdb.org.uk/PVS25

Return postal forms by 12 May 2025.

Note: The survey opened on 7 April 2025.

Farm Assurance Review findings

An independent review of all relevant farm assurance schemes in the UK has made nine strategic recommendations. James Taylor, AHDB Head of Farm Assurance, outlines the main findings and the next steps.

The nine-month review provided opportunities for farmers and industry stakeholders to have their say on fundamental questions. It identified how schemes can adapt to changing requirements, ultimately ensuring they remain fit for purpose.

Overseen by an independent commission, the review made nine strategic recommendations:

- Review and improve communication with farmers in all schemes
- Reduce and simplify on-farm audits (while ensuring more consistent delivery)
- Let farmers drive the development of standards (resetting and/or restating scheme structures, where necessary)
- Set out environmental ambitions for farm assurance (via a new industry-led initiative)
- Only include regulatory requirements in farm assurance when a form of 'earned recognition' has been agreed by the Government
- Increase collaboration between UK farm assurance schemes
- Ensure that schemes better position the UK farming industry in world markets (including competition with imports)
- Make better use of technology
- Implement all recommendations on Red Tractor scheme governance from the Campbell Tickell report

The review culminated in the delivery of a meticulously considered report earlier this year. It detailed 56 operational recommendations, with AHDB cited as potentially having a key leadership in some areas.

In April, the AHDB board and sector councils published a detailed response to the review. It confirmed our strong commitment to change to ensure that assurance works for everyone.

Farm assurance is integral to a safe and transparent food and feed supply chain. We are optimistic about the opportunities and remain committed to working with all stakeholders to develop farm assurance solutions that can deliver for, and be trusted by, our levy payers.

Access the full report and the latest information online at ahdb.org.uk/farm-assurance-review

The Farm Assurance Review was jointly commissioned by the National Farmers' Union (NFU) and AHDB, along with NFU Cymru, the Ulster Farmers' Union (UFU) and NFU Scotland (NFUS). An independent reporter has been appointed to monitor the delivery of the review's recommendations.

Digital passport for grain

The latest business case for a digital passport for grain is available on the AHDB website. Projected costs are similar to the paper passport. A digital system will help modernise grain supply chains and potentially save the industry money in the long term.

ahdb.org.uk/digital-passport





Next steps for RB209

Amanda Bennett, Senior Environment Manager, explains how the AHDB Nutrient Management Guide (RB209) will adapt in order to remain the industry standard for nutrient management guidance.

In 2024, hundreds of people expressed views on what RB209 does well and how it could be improved. 'Nutrition' is also the most frequently cited topic in the research ideas letterbox (see Page 12). The UK Crop Nutrient Management Partnership and the dedicated RB209 review steering committee have now analysed the feedback and identified the main priorities.

Nutrient use efficiency (highest priority)

The initial priorities are to agree on a common language and define the contribution of the many routes to nutrient use efficiency. This covers nutrient availability (from soils and organic materials) and nutrient inputs (such as tailoring nutrition via crop measurements, precision technologies and novel materials). As the greatest nutrient use efficiency benefits often come from good agronomic practice, we will also continue to promote debate on how to tailor nutrient management, including at Monitor Farms and Strategic Cereal Farms.

Nutrient management plans

We will ensure that RB209 guidance works with nutrient management plans (no matter the format). This will include compatibility with dynamic plans that help account for growing-season nuances, such as the increasingly unpredictable weather.

Nutrients across the rotations

We will consider farm nutrient balances across diverse rotations, including the provision of better evidence of nutrients that enter and leave a system. In terms of offtakes, we will work to strengthen evidence on grain nutrient analyses. In terms of inputs, we will provide greater precision on nutrient values from organic materials. We have already started work in this area. For example, we recently released an online tool that calculates the value of organic materials. We have also commissioned new research to improve information on nutrient release from cover crops.

Delivering value

We will always make sure RB209 focuses on productivity (not compliance). We will also continue to support the publication of RB209 data in both electronic (PDF) and printed formats. We will use more images, videos and web pages to help you put the guidance into practice. We will also work closer with software providers to improve how they access, use and recognise RB209 data.

Other areas

You also requested many other improvements, including:

- · Better soil health resources
- Enhanced micronutrient guidance
- Updated maize guidance (for forage or anaerobic digestion)
- Improved guidance for grass and forage crops

The diversity of crops considered by RB209 and the complexity of UK farming systems mean collaborative partnerships will need strengthening to fund and deliver the research required and translate findings into practice.

Access the full article and further information at ahdb.org.uk/rb209



Natural capital checklist

Laura James outlines a ten-point checklist of considerations before committing to natural capital markets.

According to the Government's natural capital accounts, the value of the UK's ecosystem services was about £1.8 trillion in 2022. Such eye-watering sums underpin the fervent interest in natural capital markets, which are developing at pace and increasingly embedded in supply chains, government policy and finance. Making the most of these markets is about understanding the facts, keeping a cool head and making good business decisions.

Ten-point checklist

1. Put your farm first

Invest in your own natural capital to strengthen your farm's productivity and sustainability first. For example, build natural assets that improve soil health, reduce costs and increase adaptability.

2. Record baselines

Establish how much natural capital you have and what condition it is in.

3. Look beyond carbon

Consider the other public goods that you provide, such as biodiversity restoration and water quality enhancement.

4. Consider long-term impacts

Be aware that a decision can impact your land for many years, including how you manage it (and associated costs), its value and tax implications.

5. Be sceptical (but not cynical)

Only work with people or companies you trust to negotiate mutually beneficial agreements.

6. Make deals watertight

Ensure all expectations and commitments are understood and agreed before contracts are signed.

7. Be prepared to measure (again)

Understand any measurement, reporting and verification (MRV) processes, which may include the use of specific tools or calculators.

8. Be prepared to change

Understand your obligations to meet any changes during the term of the agreement and your ability to get out if unforeseen circumstances occur.

9. Don't go it alone

Talk with other farmers and farm cluster groups about how they are approaching market opportunities.

10. Keep learning

When it comes to these emerging markets, remember everyone is on a steep learning curve.

This checklist is based on discussions from a recent AHDB roadshow, with a more detailed article available via ahdb.org.uk/natural-capital-roadshow

The full article also covers:

- Natural capital language and barriers
- Key information and resources
- How to work with farming groups to explore opportunities
- Information about the AHDB
 Environmental Baselining Pilot, which
 uses accurate on-farm data and
 evidence to safeguard the future of
 UK agriculture with fair recognition
 and reward

Laura James is an AHDB Senior Knowledge Transfer Manager. She has secured a 2025 Nuffield Farming Scholarship to explore barriers to nature markets in agriculture.

Groundswell 2025

We put evidence at the heart of nature-based farming. Find out more at Groundswell (2–3 July 2025, Hertfordshire).

Environmental baselining pilot

ahdb.org.uk/baselining

170 4 gg farms

3 nations

c.36,000 hectares

1 unique opportunity

supported by





Does sustainable farming strengthen IPM?

Actions under sustainable farming schemes must be carefully combined with integrated pest management (IPM) to avoid unexpected issues. Emma Willis, Environment Scientist, explains.

What are sustainable farming incentives?

Although the UK's devolved governments are taking different approaches, the schemes reward farmers for carrying out actions that are likely to benefit the environment. The biggest scheme is the Sustainable Farming Incentive (SFI), which covers England. In March, the Government unexpectedly put new applications into this scheme on hold. While we wait for news of a new offer, we can reflect on the lessons so far.

IPM uses a wide variety of chemical and non-chemical approaches to manage pests, weeds and diseases. Although sustainable farming actions tend to be compatible with it, there are some caveats.

How do incentives support IPM?

Some options feature IPM at their core and have been extremely popular. In the SFI 2024 offer, this included CIPM1, which requires a farm to have an IPM plan. Other options need in-field actions. such as growing flower-rich grass areas (CIPM2) or a companion crop (CIPM3) and avoiding insecticide use (CIPM4). By helping to boost biodiversity, including the number of natural pest predators, such options can help prevent issues (which is the foundation of IPM).

How do incentives impede IPM?

There is no doubt that carefully selected and implemented actions positively impact IPM. However, sustainable farming actions are broad and can result in unintended consequences. For example, in the SFI 2024 offer, the no-till farming option (SOH1) restricts cultivation options for three years, which limits opportunities to mechanically destroy weeds and bury weed seeds. This option could increase problems in some fields, especially those already burdened by grass weeds, and put additional pressure on glyphosate (see Page 10). Additionally, options that increase plant diversity and use overwinter stubbles can potentially increase crop pest and disease risks across the rotation.

How can you prepare?

A lack of timeline and budgets for new options in England means planning is virtually impossible. However, when new options are unveiled, hopefully some will feel familiar to previous offers.

To date, one of the main lessons is that carefully selected options will help stabilise farm business incomes, especially when the actions required are already being carried out (fully or in part). For example, many farms already have IPM plans to efficiently tackle pest, weed and disease challenges. Payment for having a plan is a bonus.

The AHDB website features a wide range of analysis to help you identify the right options for your business. As scheme opportunities can change quickly, the website provides the latest information and clarifies the farming implications. You can access this information via our IPM page: ahdb.org.uk/ipm

Did you know?

The 2025 Pesticides National Action Plan (NAP) will help the **UK Government meet statutory** obligations associated with pesticide regulations, which includes continuing to encourage IPM uptake.



Grappling glyphosate resistance

Jason Pole, Technical Content Manager, examines what the first UK case of glyphosate resistance means for management.

When the UK Weed Resistance Action Group (WRAG) identified a population of Italian rye-grass (Lolium multiflorum) with resistance to glyphosate at the maximum label rate and others with decreased sensitivity, few were shocked. In fact, many were surprised by how long it took to reach our shores.

All cases were associated with situations that were very high risk for resistance:

- Continuous monoculture
- High weed infestations
- Insufficient cultivation
- Over two applications
- Insufficient dose

Proactive measures

In 2015, AHDB and WRAG issued the first iteration of guidance to reduce the risk of glyphosate resistance in the UK.

Very high control levels of Italian rye-grass are required, especially as it produces more seeds per plant than black-grass, which remain viable in the soil for longer (over five years).

Most seeds (on or near the surface) germinate in the autumn and targeted

cultivations can help mitigate resistance risks (e.g. in stale seedbeds).

As seedlings emerge beyond autumn, it may tempt the use of glyphosate multiple times ahead of spring cereals (especially when drilled late). In terms of resistance, this is a risky strategy. It is critical to monitor for survivors and be prepared to use metal to uproot them.

Glyphosate dose is also key. Based on AHDB research, annual grasses typically require a minimum of 540 g a.i./ha for seedlings up to two to three leaves, 720 g a.i./ha when tillering and 1,080 g a.i./ha when flowering. 'Minimum' is the key word, with higher doses needed in suboptimal conditions (if permitted on product labels).

The herbicide favours actively growing weeds (warm conditions and moist soils) before rapid stem extension (as less gets to the roots after this stage). It is also important not to apply it when rain is expected (within a few hours).

The AHDB website has further information about glyphosate efficacy: ahdb.org.uk/glyphosate

Reactive measures

Spotting resistance early will help stop a situation spiralling out of control. Look out for:

- A gradual decline in control (may occur over several years)
- Healthy plants (patches) beside dead plants of the same species
- Poor control of one susceptible species when other susceptible species are well controlled

To destroy survivors, use an alternative method (not glyphosate), such as cultivating or hand-roguing. If resistance is suspected, get plant or seed samples tested (the cause may not be resistance).

As always, hygiene is important. Clean equipment and plan straw movements to avoid spreading seeds (across fields and farms). In very high-risk situations, it may be necessary to remove and incinerate straw (and ensure any farm-saved seed is clean) or wholecrop before seeds are shed.

Read the full article: ahdb.org.uk/glyphosate-resistance



Searching the seedbank

Strategic Cereal Farm East wants to decrease its dependence on herbicides. Henny Lowth, Senior Knowledge Transfer Manager, discusses how on-farm trials are helping.

Hosted by David Jones, Strategic Cereal Farm East (Morley Farms) grows combinable crops and sugar beet. With the farm's black-grass populations under control. Italian rye-grass has become the biggest headache, with the threat of glyphosate resistance contributing to it.

Seedbank investment

As emerged weeds potentially only represent 5-10% of the total population, the trials at the farm include an in-depth analysis of the farm's seedbanks.

Quadrats (square frames that define a specific area) are being used to help map the distribution of weeds on the surface. To indicate the abundance, diversity and distribution of weed seeds in the seedbank, the researchers are counting emerged weeds in a series of soil samples over five months.

On average, weed seedling density was around 18 plants/m² (mainly Italian rye-grass). In contrast, seedbank density (up to 20 cm depth) was as high as 119,000 seeds per m², with a relatively wide diversity of species found at depth.

A new approach

John Cussans (ADAS), who helps manage the weed trials, says we need to rethink our relationship with weeds, which includes embracing a 'good' seedbank - many species at similar levels, with seeds evenly distributed throughout the soil profile. He says the trick is to avoid creating a niche that allows one species to dominate. As a rule of thumb, the more homogeneous the management, the stronger the niche produced.

A profile of a field's seedbank can provide clues about previous management and guide future choices. The researchers are testing DIY approaches to seedbank studies, including a basic 'windowsill' test.

Even the creation of a mental map based on field histories (cropping, cultivation and weed burdens) could generate a useful profile of the seedbank.

Next steps

Historically, large quantities of weed seeds were ploughed in at the farm,

so intensive cultivations could bring these seeds to the surface.

The weed seedbank studies will include more fields for the harvest 2025 trials, which include inter-row hoe and weed surfer tests.

Ultimately, David wants to quantify the benefits of controls, in isolation and in combination, to start developing guidance similar to that available for black-grass.

The report also examines how environmental stewardship impacts weed pressures and two other trial topics: nitrogen use efficiency (NUE) and Barlev vellow dwarf virus (BYDV) management in winter wheat.

Access the full version of this article at ahdb.org.uk/seedbank-studies

Cereals Event 2025

Discover how we independently test tools for farm businesses, including a new risk assessment tool for BYDV. Visit the AHDB stand at Cereals 2025 (11-12 June, Lincolnshire).

cerealsevent.co.uk



Unlock more with AHDB



Select your next variety

You can now unlock the power of the Recommended Lists (RL) in more ways to find the variety that's right for you:

- Analyse the latest data with the RL variety selection tool
- Create bespoke lists with RL interactive
- Put the latest data in your pocket with the RL app
- Get information at your fingertips with the RL booklet

To see your next variety in action, visit an RL variety open day:

- 18 June Cambridgeshire
- 1 July Fife

To learn more about the RL and how it can help your business, scan the QR code or visit: ahdb.org.uk/rl



Tell us your research priorities

Through our Letterbox scheme, you've told us your ideas* for unlocking the power of our research and knowledge exchange investment.

So far, we've received more than 1,000 ideas on many topics, including nutrition, integrated pest management, soil health, crop diversity and the environment. But we'd like to hear more.

Find out more about the Letterbox scheme at ahdb.org.uk/research-ideas

You can email your ideas to us at research.ideas@ahdb.org.uk

*Although we welcome ideas from non-levy payers, we do not accept speculative research proposals.