

SUMMER 2020

ARABLE FOCUS

FOR THE POTATOES, CEREALS & OILSEEDS INDUSTRY

**Seeking solutions
for the seed
potato industry**

**Muddy waters of
soil management
clarified**

SEVEN NEW MONITOR FARMS

An introduction to the new Monitor Farms
for 2020, including an in-depth look at the new
Monitor Farm for the South East



Contents

3 Letters

- 4 **Over the hedge**
News from across AHDB

AGRONOMY

- 5 **Students' Union: Barley to better bear (Bere) climate stress**
PhD taps into natural genetic resilience
- 6 **RL for cereals and oilseeds gets a digital boost**
Find out about the digital revolution across the Recommended Lists (RL)
- 9 **Digital disease management solutions for cereals**
Our resources are now far easier to access – thanks to an increasingly digital world
- 10 **Muddy waters of soil management clarified**
Drive management decisions in the field with our new establishment tool and fact-based publications



- 14 **The cost of desiccation without diquat**
The loss of diquat is a real challenge for the potato industry, so what are the alternatives?

STORAGE

- 18 **Maleic hydrazide best practice**
With the withdrawal of CIPC, potato growers need alternatives for sprout suppression. Maleic hydrazide is one option, but how should it be used?

BUSINESS

- 20 **GB potato markets: where are we and why are we here?**
From lifting delays in 2019, to the coronavirus pandemic in 2020, we sift through the uncertainty and unearth what you can control
- 22 **Harvest 2020: what might we expect?**
With these unprecedented times undoubtedly having sizeable implications on markets, we look at the impact of fundamentals, such as weather, on grain markets

EXPORTS

- 24 **Storytelling, Safe Haven and international recognition**
With UK-produced seed potatoes among the best in the world, we explore how to market them on a global scale

INSIGHTS

- 26 **Effective management pays dividends**
Arable farmer Matt Attwood reveals the benefits of taking part in an AHDB leadership and management course
- 28 **Could YEN unlock your yields?**
Hear about the award winners from the 2019 Yield Enhancement Network (YEN) Awards

FARM EXCELLENCE

- 30 **Seeking solutions for the seed potato industry**
Find out what's in store for Scotland's new Strategic Potato (SPot) Farm over the next four years
- 32 **IPM trials at Strategic Cereal Farm East**
The latest insights from our on-farm trials that have integrated pest management (IPM) at their heart
- 34 **Seven new Monitor Farms**
An introduction to the new Monitor Farms for 2020, including an in-depth look at the new Monitor Farm for the South East



Produced for you by:

AHDB, Stoneleigh Park, Kenilworth,
Warwickshire, CV8 2TL

T 024 7669 2051

E comms@ahdb.org.uk

W ahdb.org.uk

@TheAHDB

If you no longer wish to receive this information, please email us on the address above.

© Agriculture and Horticulture Development Board 2020. All rights reserved.

Welcome

Letter from the editor

Welcome to the first edition of Arable Focus, the new Journal for Potatoes and Cereals & Oilseeds. With there being so much common activity, we feel that creating a single magazine is a great opportunity to bring these two sectors closer together, and we hope you will all benefit from the content provided as part of this joined-up approach.

As I write this, we are all experiencing challenges in light of the coronavirus crisis. In recent weeks and months, many parallels have been drawn between these times and those of the First and Second World Wars. Indeed, many have suggested the requirement of a 'national effort' to combat the virus, something which is undoubtedly reminiscent of both these conflicts. Arguably, not since peacetime began has our reliance on farming and agriculture been so vital or so evident. The continual supply of food and sustenance is testament to the hard work of all our farmers and growers up and down the country.

Looking ahead, there is clearly a considerable amount of uncertainty and AHDB's programme of summer events has also been cancelled. However, everyone at AHDB understands the importance of being able to engage with our farmers and growers, so we hope that our greater emphasis on digital, through things such as interactive webinars, will allow this to continue. In the meantime, I hope you enjoy Arable Focus and we look forward to seeing you at events, once these can take place again.

Sophie Freestone
Editor



View from the chair

This year, coronavirus has dominated people's lives and businesses, with supply chains completely distorted and social distancing reshaping daily life. Consequently, a new sense of perspective has been brought to what we do as land managers. This made many of us revalue the pleasure we gain from our everyday working lives, with AHDB immediately responding to the challenge faced by the industry. Most notably, it coordinated the weekly Cereal Liaison Group for the benefit of the entire cereal industry chain, ensuring good communication and awareness of problems, from which quick practical solutions could be found.

We all entered spring with soils battered due to relentless rain from mid-September onwards. Those fortunate enough to establish winter crops will have a head start in repairing the damage as they have roots growing and no need to disturb the soil. Elsewhere, many have had spring drilling programmes they never expected, with a huge degree of the unknown regarding how you restore the soil into a tilth that allows seed placement, germination and growth.

Only time will tell if the less-than-precise act of judgement was right or wrong. As soil biology is embraced, there are so many new avenues, with the Monitor and Strategic Farms well placed to provide vital two-way thinking between the levy payer and AHDB, adapting to regional circumstance, soil types and rotational needs. Add in the dimension of integrated pest management (IPM) and we have an exciting learning curve ahead of us, with AHDB prioritising resources to help growers across the sectors.

Paul Temple
AHDB Board Member Sector
Chair for Cereals & Oilseeds



Over the hedge

News from across AHDB

New Chair joins AHDB

The Government has appointed Nicholas Saphir as the new Chair of the Agriculture and Horticulture Development Board (AHDB), with effect from 1 April 2020, for a three-year term. Mr Saphir took over the role from Sir Peter Kendall, who completed his second term in office at the end of March.

Claim your BASIS and NRoSO points

BASIS and NRoSO CPD points are available for readers of *Arable Focus*. For details on how to claim points for the CPD year 1 June 2020 to 30 May 2021, visit ahdb.org.uk/cpd

Pig farming project underway to tackle ammonia

International agreements on air pollution mean the UK farming industry has to achieve a 16% reduction in ammonia emissions by 2030. However, the pig ammonia emission factors, on which this reduction will be based, are from studies over 20 years old. To redress these dated figures, we have a large project underway to measure the ammonia emissions from different pig buildings in the UK. Indicative trial data suggests emission factors are generally lower than they were 20 years ago.

AHDB Dairy joins Facebook

AHDB Dairy has launched a new Facebook page to help keep farmers up to date with all the latest on markets, research, Strategic Farms and consumer campaigns. Head over to facebook.com/AHDBDairy and give them a like and follow.

Beef research delivers cost saving for farmers and the environment

Our Beef Feed Efficiency Programme focuses on how differences in daily feed intake can vary considerably between sires that grow at the same rate. A new AHDB study has shown that the use of selection index tools could save the industry millions of pounds in annual feed bills and could reduce beef-related greenhouse gas emissions by 27% over a 20-year period. Details of the project can be found at ahdb.org.uk/beef-feed-efficiency-programme

Forty vertical farms to be built across the UK

As part of AHDB's GrowSave initiative, Shockingly Fresh, a Scottish start-up, has developed plans for more than 40 vertical farms in the UK, with planning permission recently received for its first site, a 1.2 ha glasshouse near Offenham in Worcestershire. It is believed that vertical farming could increase output and introduce ways of working that are more cost-effective than traditional British methods.

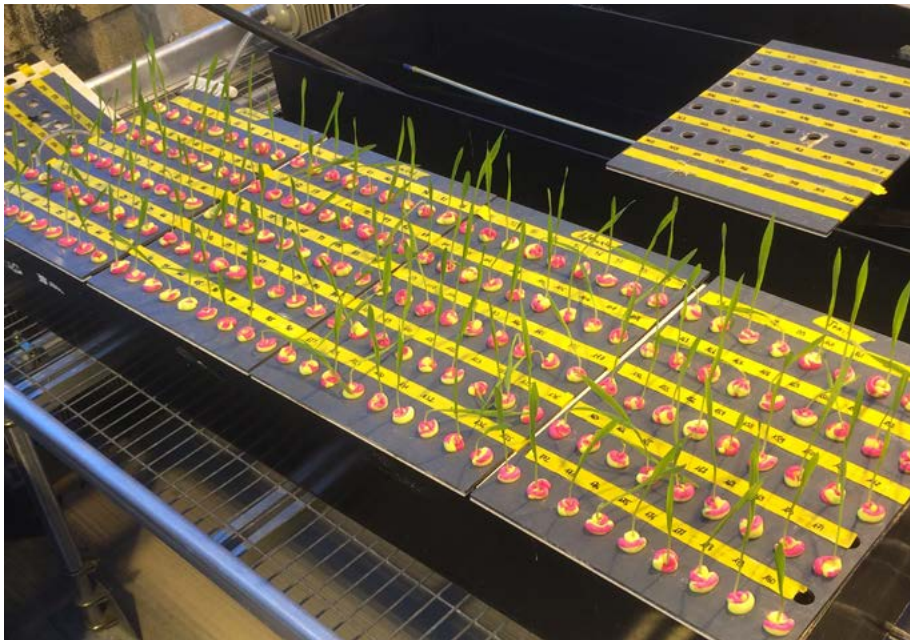
AHDB goes digital

In light of the coronavirus crisis and the subsequent cancellation of events up and down the country, AHDB has turned to digital technology to engage with levy payers. A number of events have been replaced with webinars to ensure that our farmers and growers can still access important information. Alternative digital technologies have also been explored for other events. For more information on these digital events, visit ahdb.org.uk/events



Students' Union: Barley to better bear (Bere) climate stress

PhD taps into natural genetic resilience



Weather-fuelled stresses often shape the success of a growing season. With extreme events becoming the norm, a recently completed AHDB-funded PhD project looked towards close relatives of barley (*Hordeum vulgare*) to locate and tap into natural genetic resilience.

The obvious place to look for genetic solutions is in marginal lands, where crops are adapted for a tough life. It is no surprise that a key area to host such plants is the Highlands and Islands of Scotland. Here, the weather is frequently wet, dark and windy. Many Scots would use the term 'dreich' to describe this type of unpleasant weather.

Student Jonathan Cope turned to Scots Bere, from Bere barley, for inspiration during his four-year study at the James Hutton Institute (JHI). Packed full of

resource-use efficiency traits, this deeply historically rooted barley landrace has grown on marginal land for the last half millennia. Indeed, it can probably lay claim to being Britain's oldest cultivated cereal.

JHI curates a precious heritage spring barley collection, which captures a wide range of genetic diversity and includes Bere lines. Jonathan screened such lines for biotic stress resistance to *Rhynchosporium commune* and abiotic stress resistance to manganese (Mn) deficiency and salt (Na) stress.

Field trials revealed a large variation in rhynchosporium resistance. In fact, Bere touched the extremes, with some lines featuring in the 'most'- and other lines in the 'least'-resistant camps. The result shows why this landrace could provide valuable clues to locate promising sources of resistance to this disease.

Although field trials remain essential for varietal development, there are numerous tools at researchers' disposal these days to screen more lines, more efficiently, with a far greater degree of control. An example is contained within the main image of this article. Each square of this hydroponic system has five rows of nine lines. As part of his PhD, Jonathan fine-tuned the experimental protocols, which included holding each seedling in place with an earbud. With the plants secured, his system allows precise control of the amount of nutrients/salts delivered to each plant.

Compared to elite cultivars, the Bere lines showed increased resistance/tolerance to each of the abiotic stresses. In fact, the population, as a whole, had enhanced Mn-use efficiency, which correlated to an increased accumulation of Mn in the shoots.

Genetic analyses also identified several genomic regions in Bere lines associated with Mn-use efficiency, salt tolerance and rhynchosporium resistance. Specific genes associated with these traits, called 'candidates', were also identified. Such genes and regions are a target for breeding programmes, with resilience traits moved from such landraces to breeding lines (via a process called 'introgression').

Jonathan's report – *Characterising resilience and resource-use efficiency traits from Scots Bere and additional landraces for development of stress tolerant barley (PhD)* – can be accessed via ahdb.org.uk/research

RL for cereals and oilseeds gets a **DIGITAL BOOST**

Find out about the digital revolution across the Recommended Lists (RL), led by Paul Gosling



The AHDB Recommended Lists for cereals and oilseeds (RL) is no stranger to the digital world, with data released online first. Now the RL has capitalised on technological advances to deliver powerful new ways to access and interpret the variety data.

We identified the need for new digital solutions during our review of the RL (see spring 2019 edition of *Grain Outlook*). The recent revolution started with the launch of the variety selection tool during the winter and the app (see advert on page 8) during the summer.

Variety selection tool

It is easy to view the RL like a pack of Top Trumps. Each variety 'card' contains a list of data fields with an associated value. However, the RL is not as simple as this classic card game, because the relative importance of each of these fields depends on you and your farm. For example, if you want to reduce fungicide inputs, you will care more about disease ratings.

This is where the variety selection tool comes in, as it lets you focus on what matters to you (e.g. septoria tritici resistance) far more easily than the static RL tables.

In essence, the tool is an interactive digital version of the RL. The opening view includes all varieties and their default values, with two ways to whittle down the number of varieties: varietal filters and agronomic merit.

Varietal filters

The filters are a simple way to exclude varieties that do not meet your criteria. They allow you to specify market requirements, account for key diseases and reflect preferred agronomic features. Many filters allow you to specify a preferred and precise range (e.g. varieties with a septoria tritici disease rating between 5.9 and 8.1).

Agronomic merit

Once filtered, the remaining varieties can be scrutinised further, via the use of agronomic merit. A relatively new concept to the RL, the agronomic merit score takes account of a variety's resistance to lodging and key diseases (instead of looking at each component in isolation). Once again, the approach can accommodate the relative importance of these features to you, via the use of weightings – see table opposite.

For each variety, a score for each component is calculated (rating x weighting). Scores are then added together to give an agronomic merit score. A chart displays the most promising varieties for your situation. The default view shows five-year UK untreated (no fungicide) yields (t/ha) on the y-axis and agronomic merit on the x-axis. Varieties with the highest



Component	Resistance rating*	Importance	Weighting**	Score (rating x weighting)
Septoria tritici	6	Very high	10	60
Yellow rust	6	High	7	42
Brown rust	8	Low	1	8
Mildew	5	High	7	35
Fusarium ear blight	7	Low	1	7
Lodging (+PGR)	8	Very high	10	80
Lodging (-PGR)	7	Medium	4	28
Agronomic merit				260

*RL resistance ratings use a simple scale: from 1 (least resistant) to 9 (most resistant).

**Ratings and weightings shown for illustrative purposes.

agronomic merit and yield feature in the top-right corner. The tool also shows the LSD value, which can reveal significantly different varieties – those that are more than one LSD apart are significantly different (at the 5% confidence level).

A right-click on any circle unveils additional variety-specific information. Of particular note is the yield-consistency chart. This shows a variety's performance relative to the treated control varieties (set at 100%). Where a variety's performance clusters (by region and year), it indicates its yield is relatively stable.

A user guide and video, on the AHDB website, outline the full potential of the tool. However, a particularly interesting way to cut the data further is with the treatment benefit (TB) view (UK-only data). This provides a good sense of how responsive (yield) a variety is to fungicides. Typically, varieties with higher agronomic merit ratings are less sensitive to fungicide treatment benefits.

For further information, contact:

Paul Gosling
Recommended Lists Manager
paul.gosling@ahdb.org.uk



This simplified chart illustrates the relationship between agronomic merit and yield for two hypothetical varieties

Recommended Lists app

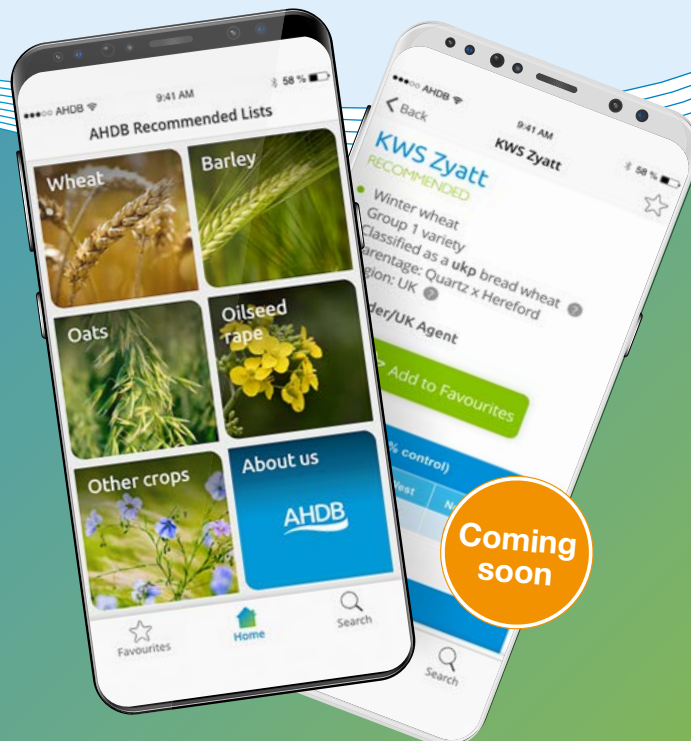
A new powerful and pint-sized way to deliver variety data to your fingertips...



- Features recommended and described varieties
- Free to download (iOS and Android devices)
- Works offline
- Clearly designed menus and tables
- Powerful in-built search function
- 'Favourites' function
- 'Notes' function
- Latest information

ahdb.org.uk/rl

Available on Google Play and App Store





Digital disease management SOLUTIONS FOR CEREALS

Our resources are now far easier to access – thanks to an increasingly digital world

In an increasingly integrated and digital world, AHDB recently made a giant leap: all of our content is now available from a single website. What's more, this sizeable content shift makes it easier for us to deliver integrated pest management (IPM) solutions for the whole rotation.

Cereal disease management is one of the first thematic areas to benefit from the new home. From tools and videos, to web pages and publications, the AHDB website features refreshed and easy-to-navigate content.

This disease development coincided with the launch of a new publication: the AHDB ***Wheat and barley disease management guide***. This release cuts to the chase and gives at-a-glance information on the main disease risk factors and management solutions. However, supporting target disease web pages (see box) dive deeper and include 'nice-to-know' (e.g. full life cycles), as well as 'need-to-know' (e.g. disease symptoms), information. The pages also cover the latest thinking on fungicide performance and fungicide programmes.

Catherine Harries, who manages disease research at AHDB, said: "Our industry embraces digital solutions. In the fast-paced world of crop protection, this is good news. When chemistry is lost, fungicide resistance rears its head or varietal resistance is overcome, we can adapt our guidance accordingly."

A recent change to the guidance relates to the loss of the multisite fungicide chlorothalonil (CTL) in May 2020. The CTL product 'Bravo' has been a standard in our fungicide performance trials for several years. With good control against key diseases, its role in fungicide resistance management and

relatively low cost, it was a popular choice for the cereal spray programme. Alternative multisites can help fill the gap and the guidance explores where these are potentially effective.

Additionally, as part of our fungicide performance project, the UK agrochemical manufacturing industry supplies fungicides in their development phase, so we can release performance information upon registration. Recent examples include the product Revystar XE, which contains a new triazole (mefentrifluconazole) and an established SDHI (fluxapyroxad), which is providing useful activity in trials.

Armed with the fungicide performance facts and a good understanding of pathogens, adapting spray programmes for 2021 will be easier. However, always keep a close eye on varietal disease resistance and fungicide resistance, as both are complex and ever-changing. Through our disease monitoring investment, we will always strive to keep you aware of the latest developments.

Access the latest cereal disease management guidance via ahdb.org.uk/cereal-dmg

For further information, contact:

Catherine Harries
AHDB Crop Protection Scientist
catherine.harries@ahdb.org.uk



DISEASE TARGETS

- Barley yellow dwarf virus (BYDV)
- Brown rust
- Bunt
- Cereal mosaic viruses
- Ergot
- Eyespot
- Fusarium and microdochium
- Loose smut
- Net blotch
- Powdery mildew
- Ramularia
- Rhynchosporium
- Septoria tritici
- Take-all
- Tan spot
- Yellow rust

More pages coming soon

Muddy waters of **SOIL MANAGEMENT** **CLARIFIED**

Drive management decisions in the field with our new establishment tool and fact-based publications

With extreme weather events taking their toll and farming policy poised to better reward farmers for delivering public goods, the muddy waters of soil management are stirring. With opinion often divided on the right track to tread, AHDB has released two fact-based publications, as well as a new tool, to guide decisions in the field.

Principles of soil management guide

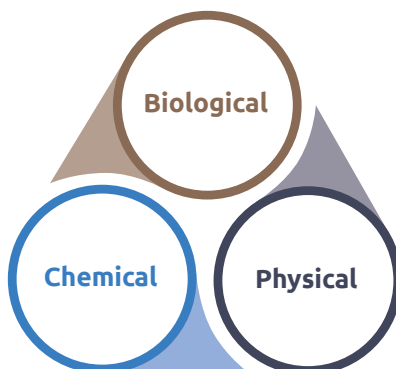
Developed as part of the AHDB/BBRO Soil Biology and Soil Health Partnership, the *Principles of soil management guide* lays down management foundations for soil-based systems. It digs deep into the origins of soils and their classification.

With soil health at its heart, this publication explores the intricate web of relationships between biological (e.g. earthworms, microbes and plant roots), chemical (e.g. pH, nutrients and contaminants) and physical (e.g. soil structure and water balance) soil components.

Armed with a solid understanding of these components, a targeted effort to optimise them can begin. Whether soil is light, medium or heavy, the guide outlines the most important things to consider and provides management actions. Despite the variation in the earth we till (there are about 750 soil series in England and Wales), the following fundamental principles apply in all situations:

Biological

- Feed the soil regularly, through plants and organic inputs
- Move soil only when necessary
- Diversify plants in space and time



Chemical

- Maintain optimum pH
- Apply nutrients (right amounts, in the right place, at the right time)
- Know soil textures and mineral make-up (buffer capacity)

Physical

- Know soil textures and understand limits to workability and trafficability
- Optimise water balance, through drainage (if necessary)
- Minimise compaction and improve soil structure

The guide also delves into common soil-related problems, outlining risk factors, symptoms and solutions. Finally, the guidance covers soil assessment methods.

Did you know?

The smallest classification units are the soil series. Soils in any given series have similar texture, depth and mineralogy. On many farms, there are about three to four soil series, but the number can be far higher than this.



BEFORE REDUCING CULTIVATIONS:

- Determine if the soil type is suitable
- Plan: visit other farms that use reduced tillage; assess current system and equipment needs; consider machinery sharing, contracting or trading in machinery to fund reinvestment
- Start with fields where soil structure and drainage are in a good state
- Assess how often reduced cultivations may have been appropriate over recent seasons
- Manage trafficking and ground pressures: minimise the impact of heavy equipment
- Ideally, carry out all cultivations on friable, workable soil
- Soil-loosen, if necessary
- Grow roots through the soil, whenever possible, to stabilise structure
- Be flexible: change back, if conditions dictate

Ideal



Too dry



Too plastic*

To determine suitability for cultivation, conduct a ribbon test on soil from the surface and at cultivation depth. Avoid working the soil under plastic conditions (*unless mole draining).

Arable soil management guide

Cultivation – any mechanical act to prepare the soil to raise crops – is a feature of many crop production systems. In some situations, ploughing is essential; in others, virtually no soil movement delivers the desired result. Most frequently, a careful combination of biology and metal is the most efficient way to nurture soil structure and remove any barriers to the movement of water, air and roots.

The **Arable soil management: Cultivation and crop establishment** guide shines a light on the factors that influence the need to cultivate or restructure soils. Produced by machinery expert, Andy Newbold, and cultivation specialist, Philip Wright, with contribution from NIAB CUF's Mark Stalham, the guide covers all forms of tillage, from soil restructuring, to ploughing, to no-till.

Establishment approach assessment tool

Ten key factors influence the cultivation decision: rainfall, soil type, management (requirements/capabilities), drainage, residues, cover and catch crops, trafficking, irrigation, weeds and pests. The new Establishment approach assessment tool asks users to score (1–10 scale) the influence of each of these factors within their fields.

The scoring process can help identify areas of improvements. In the first instance, this includes changing management to achieve higher scores. However, it can also show where a change in cultivation approach is worth considering. With this in mind, the guidance also details tillage equipment options and associated pros and cons.

Harry Henderson, a machinery expert at AHDB, said: “When it comes to cultivation, there is no silver bullet. However, these resources will trigger thoughts, spark conversations, show ways to increase soil resilience and identify where a reduction in tillage could potentially be beneficial.”

To access the new resources, as well as information on all of our soil-related activity, visit ahdb.org.uk/greatsoils

For further information, contact:

Amanda Bennett
Resource Management Scientist – Soils
amanda.bennett@ahdb.org.uk

A world of knowledge awaits at **ahdb.org.uk**

You can now find all of AHDB's resources in one place...

Cross-sector

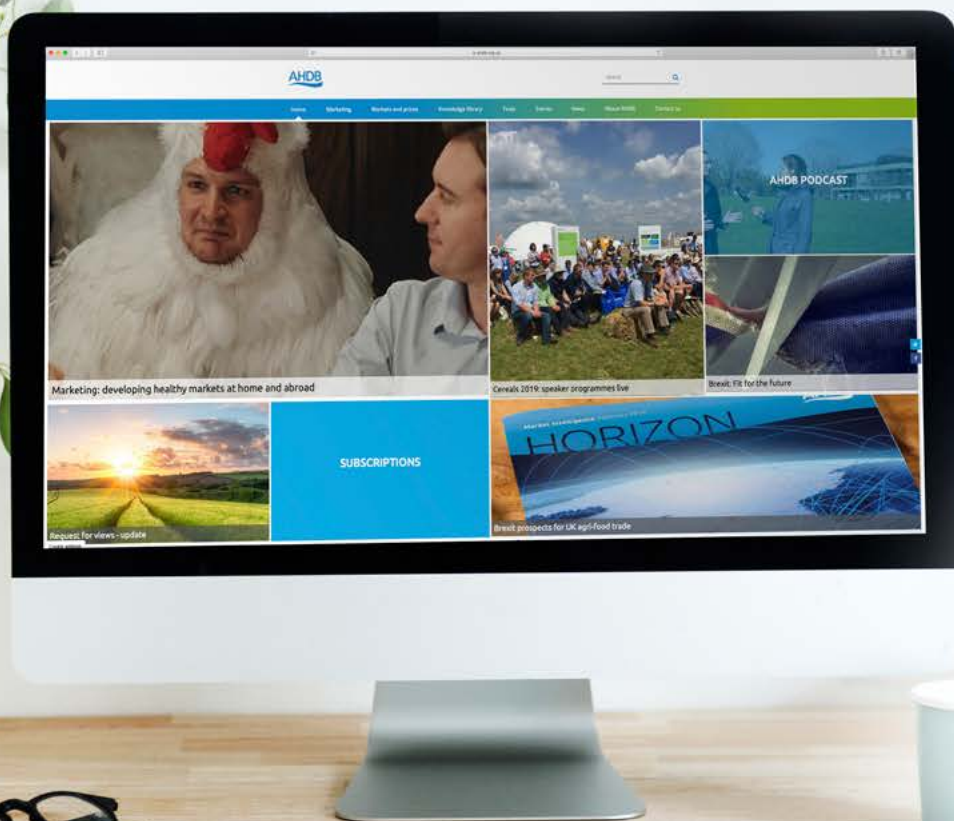
- Nutrients: ahdb.org.uk/rb209
- Pests: ahdb.org.uk/pests
- Weeds: ahdb.org.uk/arableweeds
- Soils: ahdb.org.uk/greatsoils

Potatoes

- Homepage: ahdb.org.uk/potatoes
- Markets: ahdb.org.uk/potato-market-insight
- Storage: ahdb.org.uk/storage-hub
- Blight: ahdb.org.uk/late-blight
- SPot Farms: ahdb.org.uk/strategic-potato-farms

Cereals & oilseeds

- Homepage: ahdb.org.uk/cereals
- Markets: ahdb.org.uk/cereals-oilseeds-markets
- Varieties: ahdb.org.uk/r1
- Diseases (cereals): ahdb.org.uk/cereal-dmg
- Diseases (oilseed rape): ahdb.org.uk/osr-dmg
- Post-harvest: ahdb.org.uk/harvest-toolkit



The cost of desiccation without diquat

The loss of diquat is a real challenge for the potato industry, so what are the alternatives?

The withdrawal of diquat, both a desiccant and herbicide, and the absence of like-for-like herbicide replacements pose a real challenge for growers. Desiccation with Spotlight and/or Gozai straights or combinations, along with flailing, has been investigated through trials and demonstrations across our Strategic Potato (SPot) Farm network. But what is the cost?

Here, Mark Stalham, Head of NIAB CUF, who led the trials, reveals the results, Mark Topliff from our Farm Economics team crunches the numbers and SPot North farm manager Will Gagg gives his views.





Mark Stalham inspects potatoes at SPot Farm North

Chemical desiccation is crucial pre-harvest as it allows potato haulm destruction to take place, which stops the tubers bulking and allows their skins to set, and also reduces the risk of bacteria, fungus and viruses getting into the crop. It is therefore important to investigate potential post-diquat alternatives.

Consequently, our SPot Farm research assessed different combinations of Gozai (pyraflufen-ethyl), Spotlight Plus (carfentrazone-ethyl), Finalsan (pelargonic acid), Saltex and one combination of Spotlight/Gozai as diquat alternatives.

The project evaluated speed of leaf and stem desiccation, skintest and effects on yields and internal defects on different varieties of both ware and seed crops. Actives were also combined with flailing and a hand-simulated haulm puller was applied to the seed experiments.

Post-application grow-on

Most plots received two treatments and applications of straights or combinations of Spotlight and/or Gozai were only two to four days slower in dying off than Reglone. Pelargonic acid (Finalsan) was the slowest-acting of the trialled actives. There were no noted benefits of a third application.

The slightly slower kill-time allowed for a small yield increase compared with Reglone. Although unlikely to have a major impact on maincrop, it is something worth monitoring for those growing to a strict specification for seed or salads.

There were also interesting findings when using these desiccants in conjunction with flailing and haulm pulling. “We found that flail and haulm pulling caused instant death, and even at four weeks after treatment there was no regrowth from any of the different methods used,” said Mark Stalham.

“With the later-maturing varieties, such as Royal, it is more difficult to flail effectively to an even length, which should be between six and eight inches.

“Once the haulm has lodged, it can get stuck in the wheelings, and some flailed stems were up to three feet long.”

In terms of removing leaves, Reglone and Saltex were the most effective, but Saltex's efficacy depended on atmospheric conditions.

Skinset, a key indicator of harvest readiness, was also assessed, using a skinning barrel. Results showed that Spotlight and Gozai combinations were not significantly different three weeks after initial treatment to those using Reglone, flailing, haulm pulling or Saltex.

Yields were also unaffected by treatment type, with typically a 10 t/ha yield increase in undefoliated crops over the three weeks after initial treatment. In addition, there were no significant differences on vascular browning or stem-end necrosis across any of the treatment combinations.

Cost analysis: expect increases

Cost is a key consideration when investigating diquat alternatives and costs are likely to increase in its absence, according to Mark Topliff, Lead Analyst in AHDB's Farm Economics team. "Those growers moving from desiccating with diquat only will see a significant increase in costs per hectare, anything from 150–210%* increases," explained Mark.

"This reduces to 13–15% for growers already using a flail to top the haulm in combination with a PPO inhibitor."

A comparison of desiccation costs can be seen in the table below which shows the costs per hectare of different desiccation methods.

Cost (£/ha)*	Diquat only	2-section flail and diquat	3-section flail and diquat	2-section flail and Spotlight	3-section flail and diquat	Gozai and Spotlight
Chemicals	28	18	18	38	18	100
Application	30	15	15	15	15	45
Flailing	–	124	127	124	127	–
Total	58	156	160	177	180	145
Difference from diquat-only costs				119	122	87
Difference from 2- or 3-section flail and diquat costs				21	20	-11



“This is good news as it is readily available and has limited effects on the next crop”

SPot North farm
manager Will Gagg

Saltex: effective, but not yet approved

The loss of diquat is a massive blow to the potato industry, according to Will Gagg, farm manager for the current SPot Farm North, which has been hosting some of Mark Stalham's NIAB CUF trials on post-diquat desiccation.

Despite the loss of diquat, Will noted that desiccants such as Gozai and Spotlight worked efficiently in the trials. However, Spotlight does not open the crop up, so Saltex could take its place on his farm.

Describing Saltex performing better than he had expected, Will said: "This is good news as it is readily available and has limited effects on the next crop. This is an area we certainly want to follow up next year."

However, with no official recommendations for Saltex, or approval from the Chemicals Regulations Directorate (CRD), Will also urges caution: "We need to do more research into later applications of desiccants. We could perhaps repeat the same trials next year but desiccate indeterminate varieties in September or October."

*A full list of the assumptions used in making our cost calculations, along with our trials protocol, can be found at ahdb.org.uk/potatoes

For further information, contact:

Graham Bannister
Senior Knowledge Exchange Manager – Potatoes
graham.bannister@ahdb.org.uk

Your industry needs you!

Join the AHDB Grower Panel

During good times and bad, it is vital that the industry is provided with timely, relevant and accurate information to help guide business decisions along the right path. AHDB plays a crucial role in providing these key statistics to the industry, from annual potato production figures to grower-held potato storage figures.

The source of this information? AHDB's Grower Panel.

What is the Grower Panel?

The Grower Panel is a key group of potato growers who provide vital information on yields, stocks and production from a selected field under their management. The data is used, in conjunction with information from the planting return, to produce national figures on production, yields and stocks.

What is involved?

- Participate in the Crop Data Survey: Collect a variety of information in relation to one of your fields (30 minutes to complete)
- Participate in the Storage Survey: This bimonthly survey, between November and May, relates to stock levels on your farm (15 minutes to complete)
- Submit your planting return by end of July: This will allow the appropriate information to be compiled and the random selection of a field

What will I get in return?

You will receive £100 upon receipt of all required information for participating and helping to increase the industry's coverage of national and regional statistics.

How do I join?

To join the panel, please submit an expression of interest to AHDB Potatoes via:

- Email: mi@ahdb.org.uk
- Online: potatodatacentre.ahdb.org.uk/join-grower-panel
- Telephone: 02476 478 953





MALEIC HYDRAZIDE

best practice

With the withdrawal of CIPC, potato growers need alternatives for sprout suppression. Maleic hydrazide is one option, but how should it be used?



Maleic hydrazide (MH) will play an integral role in sprout suppression, following the withdrawal of CIPC. Though not a like-for-like replacement, research carried out by AHDB's Sutton Bridge Crop Storage Research team shows MH is an important foundation for the success of other sprout suppressants, when used in combination with them.

Life after CIPC

Without CIPC, there is no single method UK growers can rely on to store potatoes. This calls for more holistic sprout suppression strategies, comprising a number of different approaches. In the future, growers will need to use several actives, such as ethylene and spearmint oil, combined with MH to control sprouting.

MH may be familiar to growers as an active used to control volunteers. It is applied to the crop canopy, while it is growing – not during storage, as was the case with CIPC. Because of this, there are a number of important considerations when applying MH as a sprout suppressant to ensure it is effective.

Using maleic hydrazide

Timing is crucial to MH application: applying too late means that sprout suppression will be less effective because the delay affects the crop's ability to take up MH through its leaves. It is important to read the label carefully and stick rigidly to instructions. A number of MH products are available, in both granular and liquid form.

The crop needs to be actively growing for MH to move from the leaves to the tuber. Care should be taken to make sure the crop isn't stressed. The drought conditions experienced in 2018 had an impact on the efficacy of MH because the hot and dry conditions sometimes meant poor translocation from the leaves to the tuber. As a result, the crop wasn't actively growing when MH was applied.

As MH is a foliar spray, the weather at the time of application can have a significant impact if it hampers uptake through the leaves of the crop. You may want to reconsider application if conditions are too wet or too windy.

In store, keep the crop at the lowest temperature that crop quality allows. For processing crops, this will usually be around 6–9°C and for packing crops, 2–3°C. Reducing storage temperature extends dormancy and, once this has broken, lower storage temperature reduces sprouting pressure.

The range of factors to take into consideration when applying MH means that using it effectively as a sprout suppressant is more complex than using CIPC. However, research has shown that when application of MH is successful, this will potentially delay the need for post-harvest sprout suppressant treatments.

In terms of costs, growers should budget around £2 per tonne for MH, although this will be dependent on overall yield.

Find out more about sprout suppressants

AHDB's Sutton Bridge team is currently researching all available sprout suppressants to provide support for growers after CIPC. You can get the latest information by visiting AHDB's Storage Hub. The hub includes information about available sprout suppressants, storage best practice and tools, as well as a link to our dedicated sprout suppression web page: ahdb.org.uk/sprout-suppression

You can also contact our storage advice line by calling 0800 028 2111 or emailing sbcsr@ahdb.org.uk

You can also book a free consultation with the AHDB Storage Network. Levy payers can call the booking desk on 01406 359419.

EXPERIENCED ADVICE

Nick Badger, Potato Production Manager at Certis, offers advice based on over 15 years' worth of trials and consultation on using MH in the Netherlands:

- Temperatures should be below 25°C. If daytime temperatures are too high, you may want to consider applying in the evening or at night
- Humidity needs to be above 50%
- Allow maximum time for MH to be taken up by the crop: ideally, apply 24 hours before any rain is forecast. In good conditions, MH will be taken up within a few hours after application



GB POTATO MARKETS:

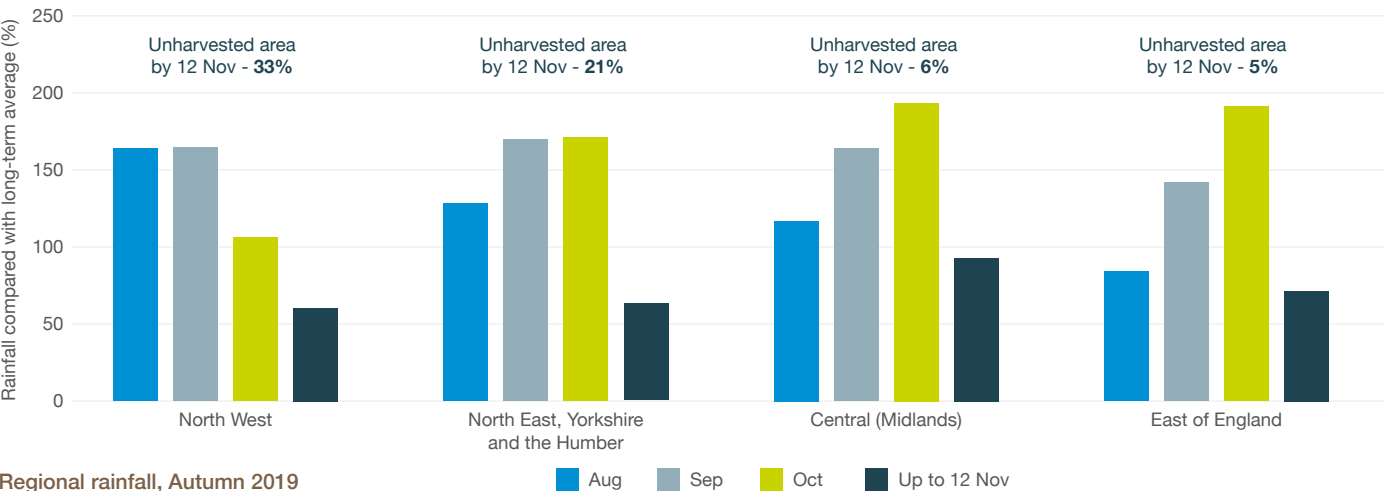
where are we and why are we here?

From lifting delays in 2019, to the coronavirus pandemic in 2020, we sift through the uncertainty and unearth what you can control

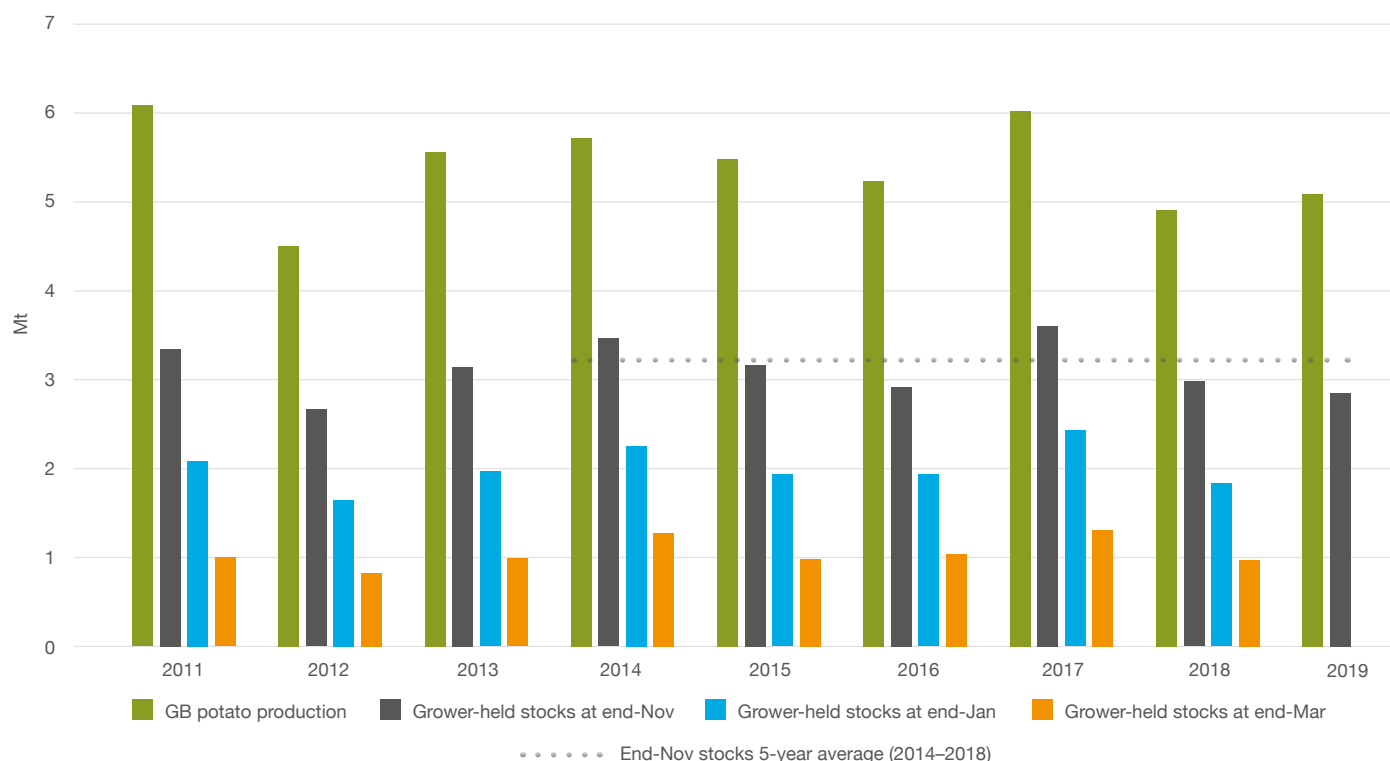
The 2019 potato harvest will certainly be remembered as wet. Following decent conditions throughout the growing period, the rain came in late September and did not stop. Certain regions in the UK recorded their wettest ever months, with flooding all too commonplace for many.

Delays in lifting were well-documented. Different regions felt the impact of varying levels of rainfall, and some sectors were hit harder than others.

While the time lags and potential supply shortages were evident, perhaps the extra costs occurred by growers were less so. Heavy, waterlogged lands were tricky to work, even when they could be accessed. Extra labour was required to lift the crop and, in many cases, additional machinery needed to be purchased or leased to aid harvest. Once lifted, there was often an abundance of wet soil with the crop. Not only would this require extra washing, there was the additional cost of cleaning the equipment afterwards.



Regional rainfall, Autumn 2019
Source: Environment Agency, ADAS, AHDB



End-November 2019 grower-held stock levels

Source: AHDB

This led many growers to prioritise their grain harvests to avoid duplication of effort, thereby delaying the potato-lifting progress even further. Additionally, there was the concern over the quality of the crop moving to store and how well it would keep.

Storage decisions often needed to be more flexible. There were reports of lesser-quality potatoes being front-loaded to the market, trying to circumnavigate storage fears. This resulted in an increase in supply, so many growers accepted the hit on prices to de-risk the potential of ruined stock. Conversely, those who had not been so severely impacted, or managed to lift earlier in the season, were reportedly less motivated to move their better-quality stock, in anticipation of rising prices later in the season. This resulted in a widening price split based on quality.

The end-November stocks survey gave the industry the first indication of the volume of potatoes moved between harvest and the end of November.

Unsurprisingly, we saw a significant rate of drawdown, levelling at 44% of total production. Quality and storage concerns disincentivised many from storing if they had the ability to move the product.

By the end of January, the rate of drawdown had slowed considerably, falling behind both the previous season and the average for the previous five. Growers of better-quality potatoes had the ability to hold and store product with lesser quality and spoiling concerns as the market outlook appeared more level, if not tightening slightly. This led to a higher proportion of growers having stock levels the same as, or above, previous volumes.

Then the coronavirus pandemic hit. The UK, along with many other countries worldwide, went into 'lockdown', bringing the foodservice and chipping market virtually to a standstill. A greater demand was seen for the fresh supplies moving into the retail sector, but after a 'panic-buying'-induced surge, this has subsequently scaled back to more 'normal' levels.

At the time of writing in April, the country remains in lockdown, with no clear view of when restrictions may be eased. This uncertainty is weighing heavily on the industry, as it is with the wider economy. Where possible, some sectors are repurposing their potatoes towards the pre-pack market. This is not an option for all, for reasons including usability, variety and residual sprout suppressant levels.

In addition, planting decisions are being impacted. There is uncertainty over when a sizeable end market may return for certain sectors. Conversely, the worries about labour shortages going forwards and the current settled weather conditions are encouraging farmers to get out onto the fields.

It is vital during these periods of uncertainty to look at what you can control. AHDB's Farmbench is an industry tool that allows growers to calculate their cost of production and, therefore, the ability to manage margins moving forwards.

For further information, contact:

Vikki Campbell
Senior Market Specialist Manager – Arable
vikki.campbell@ahdb.org.uk



HARVEST 2020:

what might we expect?

With these unprecedented times undoubtedly having sizeable implications on markets, we look at the impact of fundamentals, such as weather, on grain markets

This spring, the world became a very different place in the space of just a few weeks, with the coronavirus pandemic sending shock waves around the globe. While these unprecedented times will undoubtedly have sizeable implications on markets, we must not overlook the impacts the fundamentals have on grain markets, specifically weather.

The weather picture in April was very different to that just a few weeks before. Despite the blue skies, the UK was emerging from its wettest winter since the turn of the millennium. With the rain starting at the end of September, there was little respite for many regions until deep into March.

This wet weather played havoc with growers' planting intentions. Traditionally, winter crops would largely be drilled by the end of November, but continued wet weather restricted or prohibited fieldwork, land became too waterlogged to allow viable planting and many crops drilled struggled with establishment and condition.

Given these challenges, the Early Bird Survey (EBS) was rerun at the end of the winter to provide a fuller picture of growers' planting intentions in the autumn and winter. It also provided insight into the area of winter cropping either ripped out and replaced with spring crops or left fallow.

Perhaps unsurprisingly, the area of winter cropping was lower than the previous year, with winter wheat area 17% down and winter barley area back by almost a quarter.

Oilseed rape (OSR) suffered the biggest area loss, almost one-third down on 2019's harvested area. Poor establishment of later-sown crops, coupled with pest damage and reduced ability for spray application, hampered any positive area

growth. With a largely bearish sentiment to the global oilseed complex price, this has muted support for the rapeseed price due to dwindling supply. Consequently, extra expenditure may well suppress diminishing margins, reducing incentive to invest in the crop.

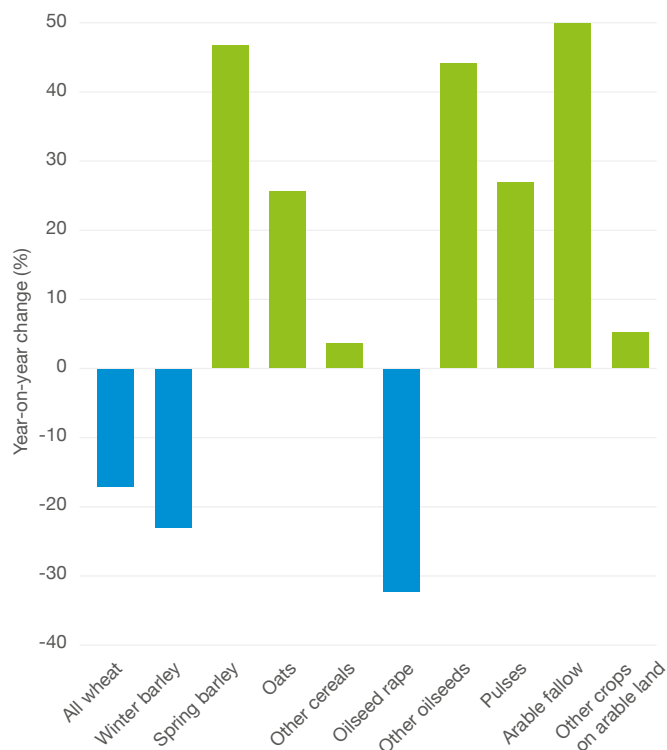
A 'swing to spring'

The EBS rerun showed a much greater intention to plant spring crops, particularly spring barley, than previous seasons. The UK spring barley area is now forecast to increase almost half again, to over 1 Mha. The area to be left fallow also records the same percentage growth. However, cash-flow considerations are likely not allowing this option to be available for all.

Even though the EBS was rerun mid-February, 7% of intended winter wheat had not yet gone into the ground, making this area still 'at risk' of not being drilled. Given that the data collection was up to February 14, the day prior to Storm Dennis' rampage, some of this risk area could have been realised. Incorporating spring wheat, 287 Kha of wheat was left to plant, highlighting that this was the combined wheat area still maintaining a degree of uncertainty.

Should an average wheat yield of the past five years be applied to the potential wheat area range, the UK's wheat production could range from 9.01 Mt to 12.63 Mt, with a mid-range value of 10.74 Mt, as shown by the crop production scenarios graph.

Moving into April, how crops have overwintered becomes more apparent. Published in April, ADAS' end of March crop condition report for AHDB highlighted the detrimental effect of the unprecedented wet winter weather. In addition to scaling

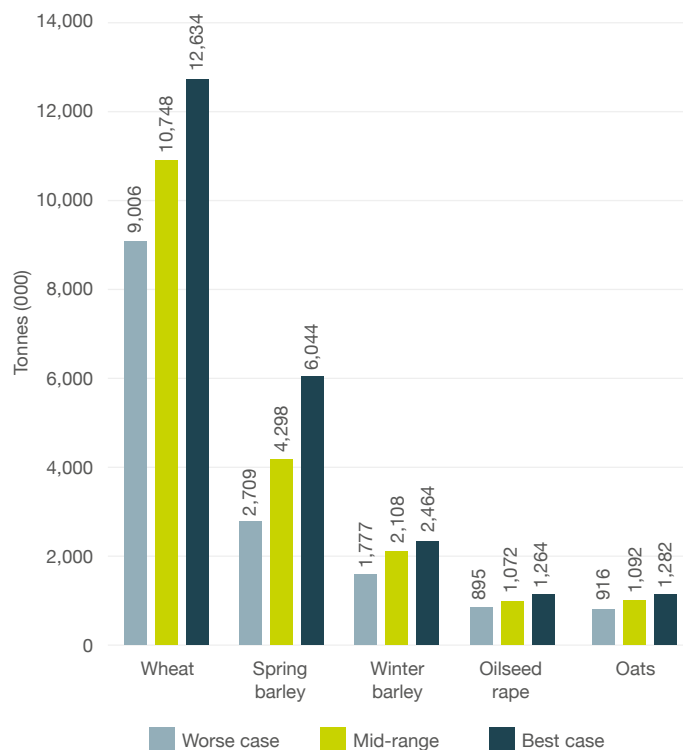


Year-on-year area change (2019 v 2020)

Source: Defra, AHDB, Andersons

back winter crops areas, the successfully drilled crop also recorded a decline in condition on the previous year. However, the nationwide drier conditions seen around April allowed many growers to catch up with spray applications ahead of the upcoming crucial growing months. The table below shows data on crop conditions up to the end of March 2020.

Moving through the 2019/20 growing season, we enter the calendar year with a smaller winter cropping area than a year earlier and with crops faring less well over the winter. However, it is important to remember that there is still time and opportunity for crop conditions to change markedly, with the key growing season ahead. Coupled with this, there is a large wheat carry this season because of ample stocks from the 2019/20 marketing season. In addition, export levels have been muted to date, so much of this stock is still available on the domestic market.



UK crop production scenarios for the 2020/21 season

Source: The Andersons Centre for AHDB

With harvest 2019's record production levels, laboured demand exacerbated by a competitive maize crop and potentially another record-breaking production year ahead, barley is a key watch point, with none of these factors conducive to price support. Additionally, the coronavirus pandemic is causing unprecedented global changes to social, economic and environmental structures. How long this will play out and significantly affect demand levels and channels remains unknown. All we can do as an industry is control the controllable to navigate through these challenging waters.

For further information, contact:

Vikki Campbell
Senior Market Specialist Manager – Arable
vikki.campbell@ahdb.org.uk

	Crop conditions as at end-March 2020 (%)					
	Very poor	Poor	Fair	Good	Excellent	Crop not yet emerged
Winter wheat	7	11	27	40	9	6
Winter barley	2	16	37	35	10	0
Oats	4	10	27	48	5	6
WOSR	15	22	37	23	3	0

Source: ADAS

Storytelling, Safe Haven and **INTERNATIONAL RECOGNITION**

With UK-produced seed potatoes among the best in the world, Patrick Hughes explores how to market them on a global scale



Healthy, high-quality seed potatoes are essential for growing vigorous, high-yielding and marketable potato crops, with UK-produced seed potatoes considered to be among the best in the world. Our dedicated farmers and growers – supported by expert scientists, breeders and inspectors – ensure UK seed is world-leading with a high health status, with breeders developing and supplying varieties that both meet and exceed customer specifications and changing growing conditions.

The commitment of our farmers, investment in plant health and agronomy research all play pivotal roles in the success of UK seed in a global marketplace, but having a quality product or service is often not enough to set you apart. You need to know how to talk about it in a way that differentiates you from your competitors, as well as how to protect seed health for the future. That's why storytelling and biosecurity are so important.

The significance of storytelling

On an international stage, storytelling is no longer an added bonus or a luxury; it is essential to maximise our visibility, attractiveness and impact. Of course, we should be using our high health status and the numerous facts and statistics associated with our industry

to inform our international audience, but we should also focus on making our seed potato industry more thoughtful, memorable and real. We should look to wrap our messages into a story that transports people to our wonderful landscape, simplifies often complex messages and instils an emotional response.

One of the many benefits our seed potato industry has is the huge range of varieties that are available, all bred for specific growing conditions, regions, markets and end uses. There is a long, proud history of potato science and breeding from these shores. It enables modern-day breeders to use over 100 years of breeding science, knowledge and heritage to produce varieties that address the challenges now faced by growers around the world.

These varieties help growers produce crops that are resistant to key diseases and pests and that are suitable for widely differing climatic conditions. The varieties produced are suitable for the many purposes the market demands; whether it's for table, pre-pack, crisping or processing.

It is this combination of heritage, skill, science, breeding and growing that is too often overlooked. We need to let our world-class offering be sold by the people producing the products and the environment in which they are grown.

When we tell the story of the UK potato industry to our intended audience, we therefore require a little bit of 'added value' that can create a real point of difference.

Creating a 'Safe Haven'

As discussed, the health of Britain's national seed potato crop is fundamental to the sustainability of the British potato industry and a key selling point to our international customers.

It is therefore essential that we protect our British seed from pests and pathogens. If allowed to enter the British seed supply chain, they would prove difficult to eradicate and would harm the entire British potato supply chain.

In order to provide an extra level of biosecurity, the British seed industry established the Safe Haven Certification Scheme (SHCS) in 2004, initially to minimise the risk of infection from ring rot. This scheme also provides protection against other bacterial diseases of potatoes, such as brown rot, and soilborne pests, such as root knot nematode.

The scheme presently covers 60% of all seed production in the UK and is sufficiently embedded into the sector that we can use it as one of the points of 'added value'. The scheme provides



reassurance and can be used to create a real point of difference between UK seed potato production and those of our competitors.

The SHCS is simple, practical and robust, offering strong protection from imported diseases for the whole industry. The scheme has been created from a series of scientifically robust protocols that ensure best practice for seed growing and handling, and requires businesses, who are members of the scheme, to be audited annually to ensure compliance. This provides the British seed industry with enhanced traceability and improved best practice.

The 'ring fence' provided by the scheme also ensures that all seed within the scheme is only grown from Safe Haven-sourced seed or disease-free nuclear stock, which helps protect against any potato-affecting pests and diseases that are not found in Britain.

The SHCS is supported by organisations across the potato industry. This is because it offers major advantages, with minimal inconvenience for all concerned:

- Simple, effective, scientifically proven scheme
- Enhanced traceability
- A major contributor to the security of the British potato industry
- Further enhances Britain's reputation as a high-quality seed supplier
- Practical protection against major threats
- Robust procedures, leading to peace of mind

Unfortunately, there are not many outside the sector that fully appreciate the complexities of the industry and

the control measures in place that contribute to maintaining these high-quality products.

Looking to the future

Moving ahead, storytelling will become the mainstay of how we showcase what we have to offer. The combination of heritage, skill, science, breeding and growing is often overlooked, but these are exactly the factors, alongside the scientifically robust and practical SHCS, that will help to sell our world-class potato offering on a global scale.

For further information, contact:

Patrick Hughes
Head of Potato Export Development
patrick.hughes@ahdb.org.uk

Effective management **PAYS DIVIDENDS**

Arable farmer Matt Attwood reveals the benefits of taking part in an AHDB leadership and management course

Every manager's job is unique, but they all depend upon the basic need to work with and through other people. Those who master this art form usually produce the most outstanding results.

AHDB offers farmers and growers subsidised access to leadership and management courses, with the first cohort now sporting new qualifications. Here, we speak to one arable farmer who shares his thoughts.

Q. Hi Matt, could you please introduce yourself to our readers?

A. I am Matt Attwood. I am 29 years old and the fourth generation to work on the family farm in Kent. After studying for a BSc in Real Estate at the University of Reading, I returned home full-time in 2011.

I have learnt a lot along the way and have helped oversee the expansion of the business. I am now responsible for the day-to-day management of the 3,100 ha arable business, split over two sites.

Q. You have just completed the Effective Manager Programme; what have you learnt?

A. I learnt to make fewer assumptions and, as a result, improved my professional communication skills. It was helpful to discuss both business and staff management techniques with peers.

Q. What challenges did you hope to meet by doing the course? Are you more confident these can now be tackled?

A. I am acutely aware that a business of this scale needs people on board to make it thrive, so developing staff motivation, involvement and communication was key. I hoped to improve my management skills and to challenge myself by discussing my business with peers. This collaboration has helped me to evaluate where my business is and, in turn, give me ideas for future development – both personally and for my business itself.

Q. Can you put a value on how much this course has helped your business?

A. Until you put plans into practice, this is difficult to quantify. Walk into any business in a non-farming sector and you will find different people in charge of finance, HR, operations and purchasing, among other things. Walk into any farming business and you will generally find one person juggling all these things.

If time is money, then the course has helped me analyse what jobs I did that could be delegated, freeing up my time for more appropriate things. You tend to collect jobs as you go along, such as ordering spare parts or loading lorries, that other staff are more than capable of doing.

Q. What does the future hold with your career and progression within the agricultural sector?

A. UK farming is undeniably facing some big changes, be that post-Brexit, post-subsidies, tariff-free world trade or lack of overseas labour. I cannot imagine the industry looking the same in 10 years' time, so I plan to continue to develop the business. I want to turn it into a dynamic commercial operation by embracing technology, being sympathetic to the environment, and putting profitability at the core of the strategy.

Q. What do you have planned to do next?

A. I plan to continue to develop my skills through running my business – who knows what the future holds.



MANAGEMENT AND LEADERSHIP COURSES

If you're keen to develop your people management skills, improve your professional standing or are taking your first steps into management, we have courses for you.

AHDB runs two Institute of Leadership and Management (ILM)-accredited courses to help new and aspiring managers and supervisors develop their skills: the 14-month Professional Manager Development Scheme (PMDS) and the four-day Effective Manager Programme.

For further information or to register, please email: skills@ahdb.org.uk

“ If time is money, then the course has helped me analyse what jobs I did that could be delegated, freeing up my time for more appropriate things ”



Could YEN unlock your yields?

Hear about the award winners from the 2019 Yield Enhancement Network (YEN) Awards

“ The UK is not only blessed with a productive climate but with some smart farmers and an excellent support industry. YEN farms regularly produce yields that – in terms of energy conversion – far exceed those in other climates with more solar energy to exploit ”

The Yield Enhancement Network (YEN) Awards 2019 featured some of the best examples of farmers ‘sharing to learn’ and debated more competition entries and crop comparisons than ever before.

Top oilseed yields in 2019 were record-breakers and cereal yields were only just short of the records achieved in 2015.

Entrants established excellent crops with better shoot numbers than ever in spring. Despite dull summer weather in 2019 hampering full realisation of this early potential, entrants achieved high proportions of their crops’ potentials. Winning yields exceeded 16 t/ha with cereals and 7 t/ha with oilseeds.



Roger Sylvester-Bradley, ADAS’ Head of Crop Performance, who leads YEN, said: “The best YEN yields have almost doubled the national average. The challenge is to pinpoint how such farms sustain these high yields. YEN data shows that this has little to do with high use of fertilisers and chemicals; it is much more to do with inspired soil and crop husbandry, plus attention to detail.”

Winter wheat

Best Field Yield

GOLD: Mark Stubbs (pictured above – left), Lincolnshire (sponsored by Hutchinsons) – **16.3 t/ha**

SILVER: Richard Wainwright, North Yorkshire (independent entry) – **15.2 t/ha**

BRONZE: David Passmore, Oxfordshire (independent entry) – **14.8 t/ha**



Alex Wilcox (left)

Spring barley

Having developed specific estimates of its potential, spring barley awards were made for the first time this year. ADAS' Sarah Kendall said: "YEN's new winning spring barley was a crop of Laureate that achieved an excellent 10.7 t/ha, with a grain N of 1.8%."

"On average, YEN entrants achieved 8.1 t/ha – more than 2 t/ha above the UK farm average."

"Potential yields of spring barley in 2019 averaged around 14 t/ha, so there is still plenty of scope for improvement. Achieving both high yield and high quality is especially important for spring barley, so this new YEN will focus on achieving both in the future."

Best Field Yield

GOLD: Alex Wilcox, Norfolk
(sponsored by Hutchinsons) – **10.7 t/ha**

Best Percentage of Potential Field Yield

GOLD: Alex Wilcox, Norfolk
(sponsored by Hutchinsons) – **72% of 14.9 t/ha**

Oilseed rape

With regard to oilseed rape, Pete Berry, Head of Crop Physiology at ADAS, commented: "The top three oilseed rape yields all exceeded 6.5 t/ha and the winner unofficially exceeded the current world record."

"This is a tremendous achievement by these entrants, given that the seed filling conditions were restricted by dull and rainy weather in June. The average gross output yield across all the entrants in 2019 was over 5 t/ha, compared with the national average seed yield this year of about 3.4 t/ha."

"The Oilseed YEN has now run for three years and has had more than 150 entrants. Their data will be incredibly valuable for identifying factors that are associated with high oilseed yields."

Best Field Yield (gross output)

GOLD: Richard Budd, Kent (independent entry) – **7.19 t/ha**

SILVER: Richard Wainwright, North Yorkshire
(sponsored by DEKALB) – **6.82 t/ha**

BRONZE: Mark Stubbs, Lincolnshire
(sponsored by Hutchinsons) – **6.77 t/ha**

ESSEX FARMER WINS YEN WHEAT QUALITY AWARD 2019

The importance of the supply chain working together, particularly during this challenging growing season, was highlighted at the AHDB Milling Wheat Conference, which took place on 27 February in Cambridgeshire. Sarah Clarke, ADAS Research Scientist, said: "Variety choice and nutrition are both key to achieving bread-making quality. Growers can benchmark and learn more about their quality from entering the YEN Wheat Quality Competition and can also think about carrying out tramline trials for nutrition programmes to see what could be achieved on their farm."

At the conference, the ADAS Yield Enhancement Network (YEN) Wheat Quality Award winner for harvest 2019 was awarded to Essex farmer James Perry, whose entry was sponsored by AHDB. The awards, sponsored by nabim, recognise excellence and innovation in achieving high yield and quality in Group 1 milling wheats.

The 2019 YEN Wheat Quality Award winners are:

FIRST PRIZE: James Perry, Essex (sponsored by AHDB)

SECOND PRIZE: Ian Rudge, Bedfordshire
(sponsored by Hutchinsons)

THIRD PRIZE: Trevor Pierce, Kent (sponsored by Bayer)



ADAS YEN Wheat Quality Award winners 2019 – Trevor Pierce (left), Ian Rudge (centre) and James Perry (right)

James' entry yielded 12.6 t/ha, with a protein yield of 1.5 t/ha. In the assessment of the entry, it was noted that not only did this entry yield well but high quality was seen in the grain through to the final loaf.

James said: "We are a small farm but have a large contracting portfolio. This means we can invest in up-to-date and large kit."

"We use a self-propelled 24 m sprayer, even though we only cover 300 acres a year on our own farm. When the time comes to put on fungicides or other applications, we can go at exactly the right time."

"This year, we looked closely at the YEN report for any shortfalls on nutrients. We decided to use a different variety and this field had some farmyard manure applied to it. It was all about attention to detail and doing the right things on time."

SEEKING SOLUTIONS for the seed potato industry

Find out what's in store over the next four years at Scotland's new Strategic Potato (SPot) Farm, which will be working with Claire Hodge



A family-run farm in Montrose has become one of the newest additions to the Farm Excellence programme as the new Strategic Potato (SPot) Farm in Scotland.

Over the next four years, Milton of Mathers Farm, which is situated in St Cyrus, Montrose, and is run by Jim Reid, together with his brother Ron and father Curly, will conduct trials focused on desiccation, PCN, cultivation, nutrition, seed spacing, storage and seed treatment.

A family affair

Farming has always been at the core of their family, and has passed from generation to generation, something which motivates Jim to do more for the industry to help potato growers find solutions to the current challenges they face. Describing himself as a problem-solver, Jim is eager to find answers to farming challenges through the programme to help the wider industry overcome these uncertain times.

On his farm, Jim grows 140 ha of malting barley, 80 ha of winter barley, 20 ha of winter oilseed rape and 80 ha of potatoes. Some of this is grown on his own land and some on rented fields across the region, with Jim trying to achieve a rotation period of seven to eight years.

Strengthening partnerships

In addition to working with AHDB experts, McCain and Scottish Agronomy will also be involved in this new Strategic Potato Farm as partners. Jim's farm is one of more than 60 farms in Scotland that provide McCain with quality seed potato for use by ware growers across England.

"We are only seven miles away from McCain's depots, and we have been one of their seed potato suppliers since 1986, when they first came to Scotland," said Jim.

"We have a very close relationship with them, and we are delighted to work with them on the Strategic Farm programme as partners."

Challenging times

In recent months, the potato industry has lost the use of both diquat and CIPC, with heavy rainfall also increasing the pressure on growers, something of which Jim is all too aware: "The loss of diquat represents a big challenge for the potato industry, but it will prove to be even more difficult for us, the seed growers."

"Flailing might not be the best solution for us, as we are concerned about the risk of spreading diseases, especially if the weather is wet. An IPM approach will be the best way forward."

With regards to desiccation, multiple studies have already been carried out at Milton of Mathers Farm. "In the last decade, we have been looking for a plan B for desiccation," explained Jim.

As part of the Strategic Farm programme, further desiccation trials will take place. These will include comparison of fertiliser regimes and an investigation into the impact of cultivations.

"We are happy to have the extra support from AHDB and believe we will find a solution. We hope to learn as much as possible from this project and share it with the rest of the industry," said Jim.

PCN studies will also be carried out at Jim's farm, with 10-litre soil samples taken from different parts of the land, which will be tracked using GPS. This method, known as the Dutch method, allows scientists to identify the exact location of PCN and only apply treatment to the affected area. Therefore, this helps to bring the land back into rotation more quickly than if an overall treatment is applied.

Moving forward

Being involved in the Farm Excellence programme as a Strategic Potato Farm might not be a simple task, particularly in challenging times such as these, but it will always prove to be rewarding. The work on Jim's farm will help to answer essential questions and move the potato industry forward during these volatile times.

“ We are happy to have the extra support from AHDB and believe we will find a solution. We hope to learn as much as possible from this project and share it with the rest of the industry ”

For further information, contact:

Claire Hodge
Senior Knowledge Exchange
Manager – Arable
claire.hodge@ahdb.org.uk



Ron (left) and Jim Reid (right)



IPM TRIALS at Strategic Cereal Farm East

Emily Pope, AHDB Senior Knowledge Transfer Manager, provides the latest insights from our on-farm trials that have integrated pest management (IPM) at their heart



Integrated pest management (IPM) of cereal diseases, balancing the use of chemical and non-chemical control methods, has always been a particular challenge. Varietal resistance is the foundation of any fungicide programme and, although its use is sensible, it is not always easy to get right.

Historically, the more resistant varieties had a significant yield penalty and, from time to time, have experienced sudden breakdown of varietal resistance to rust, which tended to put growers off reducing fungicide use on these varieties.



However, the yield penalty is much less in wheat now and with new varieties coming onto the Recommended Lists (RL) with high resistant ratings, it is time to look again at how we manage disease in wheat. The big question is how far you can actually cut fungicide use on these more resistant varieties and still have good disease control.

Managed lower inputs

The managed lower-input trial at the Strategic Cereal Farm East, run by Brian Barker (pictured opposite), started in 2018 to investigate the interaction between fungicides and varietal susceptibility. Now in its second year, the trial, which covers approximately 18 ha, includes five varieties: Siskin, Shabras, Graham, Sanitago and Crispin. Each variety is managed with four fungicide treatments – untreated, low, medium and high.

Paul Gosling, who manages AHDB's Recommended Lists, said: "This demonstration looks at the interaction between fungicides and varietal susceptibility.

"The varieties range from those that are quite susceptible to disease, through to some of the most resistant varieties we have got at the moment."

Drilled on 31 October 2019 and rolled, the harvest 2020 trial is being monitored by the field team at ADAS. Soil and plant characteristics, including disease assessments, will be assessed throughout the year.

Following harvest, a full cost-benefit analysis will be completed, with Brian adding: "As farmers, we are getting asked to produce more with less.

"Lowering inputs through the season is critical and we need to try and do this in a practical way. The varieties have been chosen because their yield score on the Recommended List is within two points of each other, but their disease package is slightly different."

"Establishment has been slow; wheel-mark emergence is patchy, but, generally, plant coverage is OK."

Pests and natural enemies

The team is also monitoring pests and natural enemies in this trial, as part of a network of fields across the farm to demonstrate within- and between-field variations in populations.

Slugs have been monitored using chicken-feed-baited traps set shortly after emergence and assessed after two weeks. Natural enemies have also been monitored using pitfall traps over the same time period, placed at 25 m intervals along two transects measuring 100 m in length; one at the field edge and a second 100 m into the crop. In the summer, aphids and their natural enemies will be monitored using plant assessments, recording the abundance per plant at the end of May, mid-June and the end of June.

An important part of IPM, insect monitoring can help determine crop risk and support management decisions. Pitfall traps can be used to monitor ground-active insects, mainly beetles and spiders. You need a plastic cup or yogurt pot, hand trowel, container and the AHDB *Encyclopaedia of pests and natural enemies* to identify your catch. Access the guide by visiting ahdb.org.uk/pests

Once you have chosen a site that will not be disturbed, dig a small hole and insert the empty cup so that the top is level with the soil surface. Place some small rocks in the base of the cup to act as shelter for smaller insects (otherwise the beetles might eat each other!). It is best to leave the trap overnight, as many species are nocturnal. Ensure the rocks cannot be used by the beetles to climb up and escape. The Natural History Museum has a useful guide and video on how to make a pitfall trap, which can be accessed by visiting nhm.ac.uk/discover/how-to-make-pitfall-trap-to-catch-insects

Do you want to learn more about the range of trials across our Strategic Cereal Farm network? Visit ahdb.org.uk/farm-excellence for more information.

For further information, contact:

Emily Pope

Senior Knowledge Transfer
Manager – Cereals & Oilseeds
emily.pope@ahdb.org.uk

Pterostichus melanarius, also known as a ground beetle, is an important natural enemy for the biological control of several pest species, including slugs



SEVEN NEW MONITOR FARMS

Richard Meredith's Knowledge Exchange team introduce the new Monitor Farms for 2020, including an in-depth look at the new Monitor Farm for the South East



Seven new farms have joined AHDB's Farm Excellence network as Monitor Farms for the next three years. These new Monitor Farms will host meetings for local farmers and the industry to discuss locally relevant challenges, share ideas and identify ways to improve their businesses.

Since 2014, AHDB Cereals & Oilseeds has worked with 42 host farms across England, Wales and Northern Ireland. Here, we introduce the seven new AHDB Monitor Farms.

SOUTH WEST: **Salisbury Monitor Farm**

Ben Jeans is manager and partner at Chalk Pyt Farm, an 830 ha mixed, family farming enterprise. There are 530 ha of arable crops, including maize, a herd of 180 dairy cows, a sheep enterprise and extensive stewardship schemes. Ben wants to make his business more adaptable, keep improving soil health and reduce inputs by continuing to integrate the livestock and arable parts of his business.



Ben Jeans (left) and Rob Waterston (right)

WEST & WALES: **Hereford Monitor Farm**

Jack Hopkins, Rob Beaumont, Martin Carr and Adam Lewis are teaming up to take on the mantle of the Hereford Monitor Farm. They are looking to increase the resilience of their businesses against the many challenges that farmers are facing. Their collaboration will allow them to make in-depth comparisons of their businesses and discuss a wide variety of topics so local farmers can share knowledge and best practice.

NORTH WEST: **Penrith Monitor Farm**

James Turner, alongside trainee farm manager, Henry Scholefield, manages Brackenburgh Home Farms, an 800 ha mixed farm, consisting of arable, dairy, hill cattle, sheep and pigs. The arable rotation includes winter wheat and barley, oilseed rape, spring beans, oats, stubble turnips and grass leys. James and Henry are keen to embrace new advice and incentives to be more sustainable.

NORTH EAST: **Chathill Monitor Farm**

Pip Robson runs Chathill Farm, a mixed farm, totalling over 1,200 ha of owned, tenanted and contracted land. Pip's enterprises include 480 ha of arable cropping, beef, sheep, a straw pelleting plant and contracting. The soil varies from reclaimed moorland to heavy clay and his cultivation policy varies from ploughing to minimum tillage. Pip is keen to learn from other people's experiences to continue to grow his business while remaining profitable.

EAST MIDLANDS: **Wainfleet Monitor Farm**

Gary and Debbie Willoughby have built up their business at Primrose Dairy Farm to include 170 ha arable and 950 ha of contract spraying and combining. They want to look at collaboration, shared machinery and succession, and would like to explore ways to improve soil health and trial new cultivations to move away from an entirely plough-based system.

EAST ANGLIA: **Wisbech Monitor Farm**

Andrew and Sam Melton farm 1,400 ha of wheat, barley, oilseed rape, beans and sugar beet on silty clay loam at Peartree Farm. They operate minimum tillage and full-inversion cultivation systems and have recently invested in a zero-tillage drill. They want to investigate using zero tillage and cover crops to improve soil health and have ambitions to reduce cost of production and emissions, without affecting profitability or yield.

SOUTH EAST: **Newbury Monitor Farm**

Rob Waterston is the farm manager for the Welford Park Estate which covers 1072 ha. His role involves the management of 864 ha of arable land of which 224 ha are under a contract farming agreement. Rob's ambitions are to develop a no-till farming system that is sustainable, viable and carbon-neutral. Rob wants to improve water efficiency and reduce reliance on agrochemicals by improving rotation and soil health.

For further information, contact:

Richard Meredith
Head of Arable Knowledge Exchange
richard.meredith@ahdb.org.uk



How a notorious grass weed changed the outlook of a new monitor farmer

A serious black-grass problem prompted a big rethink for grower Rob Waterston at Newbury Monitor Farm – the latest addition to our Farm Excellence programme in the South East.

In 2015, the issue became so bad it resulted in crop losses, forcing Rob to change his farm management.

“In the past, we were too reliant on chemistry and failed to spot the early warning signs,” said Rob. “It came to the point where we couldn’t continue as we were and had to make changes.”

The experience meant Rob made a series of changes over the last five years. While still very much a work in progress, the new strategy comprises an integrated approach to farm management, prioritising soil resilience. Rob has reduced his use of chemistry and machinery, while incorporating sustainable farming methods.

One such method is the introduction of cover crops for Ecological Funding Areas (EFAs) and Environmental Stewardship Schemes (ESS). The cover crops reduce leaching of valuable nutrients, improve soil structure, drainage and organic matter levels, aid black-grass control and increase soil biodiversity.

Prioritising the soil is particularly important in the case of the River Lambourn, which runs through the estate. It is a rare chalk water stream and Rob has placed grass buffers to mitigate erosion.

Over the last few years, Rob has increasingly used organic sources for nutrients to reduce his need for chemistry. He uses sewage sludge provided by Thames Water and chops straw behind the combine. Variable-rate application of phosphorus and potash reduces overapplication.

No stranger to taking risks, Rob has omitted fungicides altogether from a crop of winter wheat this year in an on-farm trial. He will tailor nitrogen applications and maximise varietal resistance based on recommendations made by his agronomist.

Asked why he became a monitor farmer, Rob said that he was already familiar with the programme, having attended a number of meetings hosted by Julian Gold, the former Wantage monitor farmer.

“The focus on knowledge exchange at the Monitor Farm meetings is very valuable. There’s always something you can learn from speaking to another farmer,” said Rob.

Rob is keen to share his own journey in the hope that others will learn from his experience. His desire to build a resilient business is sure to resonate with fellow growers in the current uncertain times.

For more information about Monitor Farms, visit ahdb.org.uk/monitor-farms





AHDB goes LIVE & DIGITAL

The coronavirus (COVID-19) outbreak has changed how we interact with each other and, like much of society, we are adjusting to a 'new normal'. We took the difficult decision to cancel all events up to and including 30 June 2020.

However, we are running some events and webinars online, which are listed below. Register and tune in to continue learning and sharing best practice.

AHDB POTATOES WEBINARS

Storage webinars

- **9 June:** Store cleaning and best-practice to reduce CIPC residue
- **23 June:** Post-CIPC sprout control for the processing market
- **30 June:** Post-CIPC sprout control for the fresh market

Agromony and markets webinars

- **17 June:** In-field weed management for potato crops
- **6–9 July:** Potato showcase week, one webinar each day, covering: markets, research, Strategic Farms and partnership working
- **19 August:** In-field haulm destruction – applications
- **16 September:** In-field haulm destruction – effects

Follow the conversation on twitter:



Full details, agendas and registration
via ahdb.org.uk/events

AHDB CEREALS & OILSEEDS WEBINARS

- **16 June** (9–10am): Soil health and function in arable farming systems
- **16 June** (7–8pm): South West Monitor Farm Summer Meeting
- **19 June** (9–10:30am): East Anglia Monitor Farm Summer Meeting
- **23 June** (7–8pm): West and Wales Arable Update
- **24 June** (9–10am): Ultimate guide to the wheat Recommended List
- **24 June** (7–8pm): Ultimate guide to the barley & OSR Recommended List
- **25 June** (7–8pm): NW&NI Monitor Farm Summer Meeting
- **1 July** (7–8pm): Pre-harvest
- **2 July** (7–8pm): North East Monitor Farm Summer Meeting

DISCOVER OUR PODCASTS

Beat the isolation with our easy-listen podcasts – your perfect tractor cab companion.

Keep up to date with the latest news and stories, providing practical know-how to help you make better decisions and improve your business performance.

- **Sector playlists** – targeted content on agronomy and business management
- **Market Intelligence updates** – discussing latest trends and market dynamics
- **Current affairs** – activity from across wider AHDB teams

Visit ahdb.org.uk/podcast to view playlists and listen