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JULY/AUGUST 2023

REVIEW

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Editor's letter

SUMMER days are definitely here - and I say that despite some pretty impressive thunderstorms we've witnessed here in the Midlands!

As temperatures rise, unfortunately so does wireworm feeding activity. With that in mind, take a look at our feature in which Martyn Cox updates us on the latest findings of ongoing work to understand and control this persistent pest. Scientists, agronomists and growers are collaborating to find out more about different species and forms of control, while comparing to historic findings and data.

Wireworm isn't the only thing to be vigilant on this season. Black dot also increases if crops are left in the ground too long and for various reasons, preparing crops ready for harvest this year is going to be challenging. Check out our feature on haulm destruction for recent advice and updates, and consider some of the tips Andrew Goodinson offers in our harvest preparation feature.

Timing and application rate are key to getting the best from maleic hydrazide this season, and we talk to experts from product manufacturers, as well as suppliers and agronomists, in our two MH reports.

We also bring you a professional profile on Vanessa Richardson, Deputy Director General of the Potato Processors' Association (PPA) as well as news, machinery and agtech updates.

And as we put this issue to press, we prepare for some not-to-be-missed diary dates. First, the UK's only field-based show, Potatoes In Practice, which we preview on page 12, then the submission period for entries to the National Potato Awards, for which nominations can now be submitted providing they reach the organiser before the end of August. It's a great chance to reward people in the industry and earn an accolade for your business.



Stephanie Cornwall
Editor

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Changes to waste exemptions

ENGLISH growers and suppliers need to be mindful of changes to waste exemptions which include introducing charges, changing exemption conditions and decommissioning certain exemptions from April 2024.

The Environment Agency is due to consult on this at the end of this year. It is understood that there will be a small charge for the registration or renewal of waste exemptions for a period of three years. There will also be a charge to pay for frontline compliance activity.

First director for innovation centre

PROFESSOR Ian Toth has been named first Director of the National Potato Innovation Centre by the James Hutton Institute and will head up flagship initiatives carried out at the Scottish research institute that focusses on the sustainable use of land, crops, and natural resources.

Ian is the first director of the centre which is being planned to accelerate potato breeding and discovery, resilient production systems and innovations.

A plant pathologist specialising in potato diseases, Ian is Director of Scotland's Plant Health Centre – the multi-organisation virtual operation led by Hutton and funded by the Scottish Government, to help tackle plant health in the country. In 2020 he received the 'British Potato Industry Award' for lifetime contribution to the industry and will become President of the European Association for Potato Research (EAPR) in 2024.

He said the NPIC's detailed operational plans are now firmly in place with funding established, positioning it to become one of the world's leading potato research facilities.

Its efforts will centre on improved potato pest and disease control and making the global industry more climate and environment friendly with less waste.



Cloddy ridges trigger slug alert

SLUG risk will be high this year where crops have been planted into cloddy seed-beds and potato producers are being urged to protect against the pest as soon as tubers reach golf ball size.

Growers battled wet soil conditions in the spring, with persistent rain in March and April limiting opportunities to get seed into the ground. John Keer of Richard Austin Agriculture says some tried to force progress, which resulted in cloddy seed-beds on bodied soils.

"When you plant under marginal conditions, you aren't going to get top quality or yield and there is very little you can do to row it back during the season. The last few springs have given us model planting conditions, but this season there are clearly a lot of crops that have been mauled in," said John.

He believes the prevalence of clod and lack of finer tilth will significantly increase slug pressure.

"Wherever there's clod, the slugs just love those surrounding channels, which enable them to move around more freely. They will inevitably be more of an issue this year," he said.



Large gathering at Euro-wide potato congress

THE European potato community, which gathered for the Europatat Congress 2023 in Gdansk, Poland earlier this month, had more than 100 participants from more than 14 different European and non-European countries.

The first Polish edition of Europatat's annual event focused on the impact of current geopolitics for international agri-food trade and on the effect of EU's Green Deal's goals and new consumption trends for the potato sector inside and outside Europe. It was co-organised by Europatat and the Polish Potato Federation.



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Growers open their gates as annual event picks up pace

FOURTEEN potato farms, and others who grow potatoes alongside other crops, took part in this year's LEAF Open Farm Sunday (LOFS), the annual event held to connect British communities with growers and food production.

Every event showcased the industry, including the science and technology involved. Visitors to the working farms were able to talk directly with growers and understand what is involved in production, while various activities and stands were also on offer.

Chris and Mary Suckling and son Harry, who farm at Holbrook Farm on the Shotley Peninsula in Suffolk, first held an Open Farm Sunday last year. They said they were so overwhelmed by the response they were keen to take part again this year. It enabled them to raise money for the East Anglian Air Ambulance which Chris credits with saving his leg several years ago when he was crushed between a potato harvester and a trailer.



Agflation peaks as corrosive effects linger

LATEST estimates from Andersons Agflation suggest that agricultural input prices in May 2023 were 3% lower than in May 2022. Agricultural output prices currently stand at -2.3%. This is in sharp contrast to food prices (depicted by CPI Food), which in May 2023 were estimated to have risen by 18.7% year-on-year.

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Protecting water supply for crops

EXTREME weather events, increased demand for water use, plus environmental legislation continues to put pressure on water availability, growers are urged to review their irrigation.

Fiona Law-Eadie, Senior Agronomist at Crop4Sight, said: "There's a fine line between giving crops sufficient water and damaging crops by over-irrigating. Efficient irrigation maintains the correct soil moisture for crop demand throughout the growing season and is a key factor in producing high-yielding, quality potato crops.

"Excessive irrigation that keeps soil near field capacity for substantial periods can aggravate disease, quality issues, impede root growth, reduce nitrogen uptake and damage soil. These factors all contribute to unprofitable crops, costing growers money."



Supplier demonstrates renewable tech

JRO Griffiths, which supplies potatoes to Walker's crisps, in collaboration with Calibrate Energy Engineering, recently invited other growers and suppliers to its farm in Walcot near Telford to see renewable technologies in action.

Brothers Robin and Ian Griffiths produce 40,000 tonnes of potatoes annually and have been supplying Walker's for three decades. The business recently invested

in eco-technology which provides a simultaneous heat and chill system.

During the recent open day, the system was demonstrated, showing how it warms water for the potato washer, provides warming for the grading shed and washdown and runs the site power management, which the supplier says is providing 65% overall energy efficiency.



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An exciting new phase

Evolving show reflects industry developments.

WITH all the signs pointing to a bumper British Potato at Harrogate this November, the show is entering a new phase, with fresh organisers taking the reins and looking to continue its evolution to meet changing industry needs.

Pundits were right to say that the coronavirus would change events, but wrong about how, as live events are surging back bigger and stronger than ever, according to Sally Dodds, Head of Events at Warners Group Publications which is now steering the show.

“Websites, emails and mobile phones may be the backbone of modern day-to-day business, but nothing beats stepping back from the rockface once in a while and seeing what’s new first hand,” she said. “Added to which, many have been keen to tell us how much they value the whole industry being together in one place, and others rate the importance of being able to make and renew acquaintances and to look key suppliers and customers in the eye.”

Sally is well placed to judge the continuing growth of events as she leads a specialist team delivering dozens of successful events across multiple industries. Not that potatoes are an entirely new venture for the company which is also the publisher of *Potato Review*.

“Our aim is to combine this potato industry knowledge with events know-how and some fresh ideas, to ensure the event continues to develop alongside the industry as it always has,” Sally said.

When those who were active in the industry in the 50s, 60s and 70s look at the industry now, it’s unrecognisable. Of course, grower numbers are much reduced, but the scale of their operations are often vast and the technical complexity is world-leading. Vertical integration also means a very high proportion of the crop is earmarked for a specific destination long before rowing up starts.

The show reflects this evolution. As older participants will recall, its origins were in the Government-backed post-war drive for mechanisation. Huge planting and harvesting demonstrations were staged as a result, with thousands of visitors, each of whom generally counted their potato interests in dozens of acres, rather than the hundreds and thousands commonplace now.

As the industry developed and the drive for yield intensified, agronomic exhibits started to join the mechanical ones and crop trial plots also became commonplace.

Widespread industry rationalisation and vertical integration was also then reflected at

the show, where exhibitor ranks were swelled by those packing and, increasingly, processing the crop. The consequent demand for year-round, consistent quality supply to keep giant production lines running saw huge growth in storage capabilities and supply chain planning.

This widening focus continued at such a pace, when the show transferred to its popular long-term ‘home’ at Harrogate in 2005, it changed from its traditional planting or harvesting timings to a firm November fixture – favoured by participants as a time when generally the harvest is safely in and attention is turning to next year’s plans.

Since widening to a whole potato business focus, show evolution has continued with crop production exhibits being joined by an ever-expanding range of post farm expertise. So, while growers will be catching up on everything from varieties to sprout suppression, factory staff will be exploring developments as diverse as water treatment, haulage and the very latest in optical sorting and whole crop utilisation.

In some ways this makes British Potato a hybrid between a conventional show and a technical conference in that total attendance reflects overall industry numbers and is lower than say, a typical consumer-focused event. But the spending power of typical visitors is

mind boggling – and that applies whether it's someone who grows the crop or a business concerned with its post farm handling.

“You don't get tyre kickers, you just get a continuous stream of current and potential customers and sometimes you go the whole day without once getting off your own stand,” is how one long time exhibitor summed up the event when the new organisers started introducing themselves as working alongside the retiring show organiser Steve Wellbeloved to deliver this November's event.

“These days you also see whole farm teams coming along, such is the scale of their operations. As a storage company that means we're often talking direct to store managers, while machinery companies are able to liaise directly with harvester or sprayer operators and crop buyers are talking to those who oversee huge production tonnages,” another commented.

Visitor survey feedback also relishes the diversity: “Something I especially love about British Potato is that everyone there talks potatoes but they can be from any part of the industry – from a soil scientist to a global buyer for a fast food chain.”

This whole-industry-together mantra is summed up perfectly by two new bookings processed while this update was being written – snapping up almost the very last of the available

indoor stands. For BioAtlantis Ltd, the focus is on improving crop performance, while for Egatec A/S it's about how the resulting crop is dealt with via packhouse automation.

Both these exhibitors are entirely new to the show. Indeed, a fifth of exhibitor visitors that will meet this November weren't at the last show, while numerous regulars are also planning important new product and services launches. “This continuous growth and new

blood is yet another example of how the show continues to evolve alongside the innovative industry it serves,” Sally said.

For free visitor tickets and to plan your visit, see www.bp2023.co.uk and check out the exhibitors at www.potatoreview.com/information/BP2023-stands.

To enquire about one of the last few available stands at the show email bpinfo@warnersgroup.co.uk **PR**



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Philip Wright and James Pick shared findings and advice.

◀ Clive Wood from Kings Crops stressed the importance of understanding and ensuring growers picked 'the right catch'.

The Regen Journey

Growers' conference looks in depth at the environmental and economic challenges in potato production and the best ways to adapt to new practices.

REGENERATIVE growing was the focus at the R S Cockerill Growers Conference at Sandburn Hall, near York recently.

While planters would usually be back in the shed by May, Managing Director Rufus Pilgrim said there was plenty of interest and engagement in the subject.

"It's firmly the direction of travel as we delve further into the environmental and economic challenges in potato production going forward. Livestock integration, cover cropping, min-til are all phrases amongst many that come to mind when the 'regen' word gets mentioned. We wanted to bust a few myths," said Rufus.

"To the uninitiated the resource intensity of potatoes doesn't easily lend itself to regenerative production, and that's before you

consider that many crops are grown on rented land. Many are already on the regenerative journey, but this was an opportunity to educate and support our grower base.

"We asked some of the country's subject experts to define regenerative farming for us, and the steps they'd take to get us further down the road on our regenerative farming journey."

The discussion initially revolved around the depleted sprout suppressant armoury. Geoff Hailstone of UPL reminded growers how to get the best from Maleic Hydrazide, which is still considered to be an important tool in storing processing potatoes.

Clive Wood from Kings Crops said cover crops are now "the poster child" for regenerative farming, stressing the importance of understanding exactly which soil-borne

pests and diseases you are trying to target, then prescribing the "right catch" and cover crops to match the specific issue.

"Legislation and access to support is changing, and there is much that we can do for effective bio fumigation and soil improvement," he said.

Soil guru Philip Wright from Wright Resolutions then went on to speak about his understanding of regenerative farming.

He highlighted some of the simple practices that could be implemented to reduce tillage, certainly on lighter soils like those in the Vale of York, combined with optimal cover crop management.

Phil discussed how reducing tillage intensity drives better aggregate stability, consequently building resilience across the rotation and allowing for faster recovery after potato crops.



‘Still a place for potatoes’

It’s what happens in between potato crops that’s crucial, Nuffield Scholar James Pick said in the final talk.

James shared findings from his study ‘Can maincrop potatoes be grown in a regenerative system?’. Increasing regularity of extreme weather events and static yields have led him to see what he could learn to mitigate this. He found that with careful rotational management, and mindful of inputs, the overall rotational balance can be redressed.

“There is a place for potatoes!” he said, to the relief of those present.

Supply chain co-operation

“Whatever your level of participation, the economics of potato production still come

into play. To quote ‘You can’t go green if you’re in the red’. It will take cooperation and collaboration throughout the supply chain for sustainable potato production going forward,” Rufus said after those present had heard from all the speakers.

“Getting some sheep might not suit your situation. You don’t have to adopt all of these practices instantly to subscribe to the regenerative farming club.

“See what fits you and your existing systems, then adapt. It’s time to get on board for productivity improvement, building resilience against weather extremes, invasive pests and diseases, without it costing the earth.” PR

“To the uninitiated the resource intensity of potatoes doesn’t easily lend itself to regenerative production.”

Rufus Pilgrim, Managing Director, R S Cockerill

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Potatoes In Practice

Resilience will be the key theme at forthcoming show.

ORGANISERS of Potatoes in Practice, the largest field-based potato event in the UK, are gearing up to welcome visitors to the 2023 event, which will bring together variety demonstrations, research and trade exhibits in one place.

Taking place on Thursday, August 10th from 9am until 4pm, the event is staged at Balruddery Farm, Invergowrie, and brings together key players within potato production, from growers and agronomists to commercial breeders and researchers, to demonstrate and discuss key industry issues.

This year's theme highlights resilience in the face of a changing environmental and financial climate and will showcase a range of research and innovative changes taking place in the potato industry.

Potatoes in Practice is supported and promoted by The James Hutton Institute, and partnered with Scotland's Rural College (SRUC) and Agrii.

The event brings together variety demonstrations, research and trade exhibits in one place, making it an essential date in the potato industry calendar. Talks and trade stands will provide various forms of information and solutions.

In the field, commercial breeders will showcase the latest varieties, agronomists will demonstrate what's new in crop protection and researchers will discuss their most recent findings. All those participating will be on hand to share their knowledge and give advice to visitors.

There will also be demonstrations, both moving and static, by machinery manufacturers and dealers. **PR**





Third sponsor for biennial celebration

Nominate an entry before August 31st and help us highlight the past two years' achievements.

THOSE in the UK potato industry have just over three months left to recommend someone for one or more of the national potato industry awards.

Held in conjunction with the British Potato Industry show, the awards celebrate all that is good in the industry, and provide an opportunity to put forward achievements, introductions and good practice that make people proud.

There are 10 award categories which are listed overleaf. These celebrate everything from growers' personal achievements, to new innovations, environmental breakthroughs and many more actions throughout the supply chain.

Closing date for entries is August 31st. Judging will take place in early October and the shortlist will be announced soon after.

Nufarm UK has just been announced as a new sponsor for the awards, joining existing sponsors McCain Foods and JD Cooling.

A provider of agronomy solutions and herbicides, Nufarm will be well known to many growers. Nufarm is a global crop protection and seed technology company that has been helping growers fight disease, weeds and pests for more than 100 years.

The company has a strong focus on sustainability so will particularly be looking forward to seeing what new innovations and environmental entries are submitted for the awards.

"Accelerating agricultural innovation is essential to sustainably meeting the nutrition and energy needs of a growing population and rapidly changing economies. So too is utilising technology that has vastly improved agricultural productivity in recent decades that has helped feed billions, such as crop protection products," a company spokesman announced.

The company has just released impressive half-year profit figures, having seen a 7% increase in net profit overall.

Nufarm Managing Director and CEO, Greg Hunt, said: "Nufarm has a clear strategy for growth which is based on operational excellence and increasing the proportion of our business contributed by higher margin products driven by our innovations in seeds and crop protection. We are seeing the benefits of our strategy in 1H23. Industry fundamentals remain strong, with agriculture 'mega trends' supporting the growth of crop protection, seeds and sustainable agricultural technologies."

Further sponsorship opportunities are available and if you require more information about these, Hayley Comey will be happy to discuss.

To find out how to enter yourself or a nominee for the NPI Awards, visit www.potatoreview.com/national-potato-industry-awards or email Editor Stephanie Cornwall on stephanie.cornwall@warnersgroup.co.uk.

For more details on sponsorship packages or general information about the event, contact Hayley Comey. Email her at hayleyc@warnersgroup.co.uk.



CATEGORIES FOR THE 2023 AWARDS



INDIVIDUALS, companies and teams can be entered into one or more of the newly-launched award categories for 2023.

Some of the categories may feature more than one winner to account for different scales and criteria. **Please see individual categories for more details, and for further information contact Hayley Comey (Tel: +44 1778 392445 Email: hayleyc@warnersgroup.co.uk).**

The 10 award categories are as follows:

1. GROWER/GROWING MANAGER OF 2022-2023

We're looking for nominations for any grower, or Manager of a growing business, who has made a standout contribution to the potato industry, has overcome specific challenges that are worthy of applauding, or whose actions are deemed to be a good example to others in the industry.

This can include a specific growing method or plan, partnerships with research agencies, participation in projects or trials, contribution to their local community or the industry as a whole or long-term achievements

Anyone can make a nomination, and explain why they think this person is worthy of an award. It's also possible to self-nominate. We won't disclose where the recommendation came from.

2. BEST INNOVATION 2022-2023

CAN you tell us about a piece of agri-tech, a new research method, or a time-saving practice that's helping improve yield, profits or day-to-day practices?

We're keen to hear about any innovations that are already providing a positive impact within the potato supply chain or that could be a game-changer for the future.

If you, or someone you know, has come up with an innovation you feel has the potential to bring an improvement in terms of time-saving, cost-minimising, labour saving, sustainability or other goals, please let us know. It doesn't matter how small or large the innovation or

investment is – we will judge on merit and potential and may announce more than one winner depending on the scale involved.

3. BEST ENVIRONMENTAL/SUSTAINABILITY INITIATIVE

The NPIA2021 Environmental Award recognises outstanding individuals and organisations from any sector of the potato industry who've contributed in some way to the protection of the environment or sustainability.

Any grower, advisor or company demonstrating best practice or stewardship initiatives is eligible for the award, as well as companies and suppliers who have introduced a practice or product that has made a notable impact on environmental performance.

We want to hear about the greenest businesses, growers, advisors and suppliers so that we can recognise and reward change across all aspects of purpose-driven sustainability, social impact, the countryside or community.

4. BEST MARKETING WORK / BEST MARKETING CAMPAIGN 2022-2023

GOOD marketing is frequently taken for granted, but where would we be without those timely reminders, solutions and advisories that seem to pop up when they're most needed?

This award aims to reward the most effective marketing strategies, companies and people, showcasing the industry's most innovative and ground-breaking campaigns and the finest minds. If it's used for any of the following, we want to hear your recommendations

- Innovative packaging
- Novel branding
- New varieties
- Consumer influence
- Seasonal activities
- New-to-market products

Smaller campaigns/contributions: It's not just the bigger campaigns we're interested in. We're also looking to reward

those who have also helped to build awareness of their own small business offerings, new-to-market products or, like last year's winner, helped to raise awareness through their own newsletter or website.

There may be more than one winner in this section, again dependent on the scale of the operation, so don't be humble – let us know if you think there is something that deserves recognition, be that a new/re-worked website, a catalogue or your own published photography.

5. MACHINERY AND IMPLEMENTS

MACHINERY that has simplified or improved field operations from cultivation and planting to irrigation and harvesting, as well those used for washing, handling, sorting, grading and transportation is a key contributor to the success of our UK potato industry, and the darling of all those looking to save time, improve quality and maximise profitability.

Can you recommend something that fits ANY ONE OR MORE of the following criteria: 1. New machinery introduced to the market since January 2021; 2. Machinery that has been upgraded with new features, over the past two years that has made a notable impact. What reasons and feedback can you give about its contribution to growers, suppliers, packers or retailers?

6. AGRONOMY

WE all know an agronomist who has gone above and beyond with their efforts and advice, whether it's been working with individual growers or part of a collaboration over the past two years.

Can you nominate someone you think deserves recognition for their efforts or achievements? Would you like to put yourself forward for something you are proud of and would like to share?

If so, let us know what you feel is noteworthy about this individual agronomist or agronomist's consultancy and why you think this nominee merits

special recognition by submitting an entry for the Agronomist Award in the 2021 National Potato Industry Awards.

7. HESCOTT-MEREDITH MEMORIAL AWARD

NAMED in memory of Potato Review's founding member, Bob Meredith, and his daughter Hazel Hescott, who sadly lost her battle with cancer last year, this award will be presented to an individual, group, or company who have provided a standout scientific contribution that will assist one or more sector of the potato industry. This can have resulted in one of the following: Sustainable growing; improved soil health; storage longevity; prolonged life or resilience within retail/transport; variety resilience.

8. BEST YOUNG ACHIEVER

This award seeks to recognise the best and brightest young people already working within the potato industry, as those leaving college

and university who have already demonstrated that they have made, or can make, a significant contribution to their chosen career within potato supply. Open to those aged 16 to 30, this award could be made to any of the following:

- Someone who has already made a contribution to research or agtech as a student
- Someone who has entered the industry as an apprentice/trainee
- Someone who has directly embarked on a role and is making positive changes

Dependant on the number and variety of entries, there may be more than one award in this category.

9. STORAGE/ REFRIGERATION ACHIEVER

With energy costs a key concern for businesses and consumers alike, 'keeping your cool' while crops are in store has never been more challenging. Add to that the loss of chemical solutions that prolong the lifespan of potatoes, and it's a year where perhaps one of the potato

industry's biggest battles lies within storage.

- Who has made the biggest impact in this area?
- What have they done to keep down costs?
- How have they helped to prolong the life of tubers?
- Is there some other way in which they have contributed to this part of the potato's journey?

Let us know who you feel is the biggest achiever in this category.

10. BRITISH POTATO INDUSTRY AWARD

The British Potato Industry Award is for outstanding contribution to the potato sector, in effect a lifetime's achievement. It was inaugurated in 1997 and has been awarded annually. It was originally administered by the British Potato Council and subsequently by the Potato sector of AHDB, before being incorporated within the National Potato Industry Awards run by Potato Review. **PR**

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GB POTATOES

New lead sought for the most resilient of teams ...

In this month's column, **Alex Godfrey** of RJ & AE Godfrey and a GB Potatoes board member discusses the determination that keeps the UK potato industry going, and explains the qualities needed by the GBP's new Chief Executive.

When I'm asked to describe potato growers the first word that springs to mind is "resilient". A well-known search engine's definition of that word, "able to withstand or recover quickly from difficult conditions", could have been written with potato growers in mind.

Various parts of the industry regularly bounce back from extreme weather events or conditions, pest and disease pressure, erratic and shifting consumer demands, whether owing to a pandemic or other longer term trends. We're still here.

Of course that bigger picture disguises what is going on on the ground. Not every business bounces back. There are no up-to-date statistics on the number of potato growers in Great Britain, or the planted area, but we can be certain that both figures are significantly lower than they were 20 or 30 years ago. That flows from a tapestry of individual business decisions – some more voluntary than others – to close or stop growing potatoes.

Those decisions haven't been limited to growers. They have taken place across the length of the supply chain.

In any sector of the economy, businesses come and go, and it's right that they do. Well-managed, innovative and efficient businesses thrive while those that are poorly run, or neglect their customers' wants and needs fall by the wayside. No doubt our industry has had its share of the latter, but there are also many who have done everything (well, most things) right, but have been hit by an event or circumstance completely beyond their control and beyond the boundary of their resilience.

If there's one certainty beyond death and taxes, it's that more shocks will come, so it's vital that as individual businesses we develop our ability to bounce back.

GB Potatoes is a key part of cultivating resilience at both a wider industry level and in supply chain and farm businesses. The organisation is building momentum, but still requires support from across the potato sector to allow it to fulfil its key functions of defending the industry against external threats, enabling



businesses to work together to solve problems and speaking to government and others to head off threats from regulation.

It won't prevent every nasty surprise, but as an insurance policy against quite a few it represents excellent value.

Of course, key to its success will be quality of leadership, and so it is exciting that GB Potatoes is now beginning the process of recruiting a Chief Executive. The position will be part time, in keeping with the organisation's mission to be lean and efficient, and requires an individual with vision who is motivated, passionate, and – yes – resilient.

If that describes you or someone you know, then now is the time to get in touch with the Chair, Mark Taylor (chair@gb-potatoes.co.uk). The role comes with the opportunity to shape GB Potatoes in these early days of its development, and to be a key player in the British potato industry in the years to come.

The Chief Executive will work with Mark and the Governing Board to deliver for the GB Potatoes membership, which is open to the whole potato industry. They will have direct input into the scope of work carried out by GB Potatoes and will be accountable for making sure the organisation responds to its members' needs. It is definitely an exciting role for the right candidate, and an exciting time for GB Potatoes and the industry to take this crucial step towards future resilience. **PR**

Our Aims:

- Provide an "Umbrella" organization that supports and coordinates activity that affects all GB potato supply chains and provides significantly greater impact over an individual or sector working alone
- Stimulate and mobilise the GB potato industry to ensure we are able to innovate and have access to funding to allow cross industry collaboration to reduce the risk of the sector fragmenting
- Establish an organization that is a trusted and respected voice capable of representing the industry with government and regulators
- Ensure the sector has a representative body that supports the industry with suitable horizon scanning capability to manage threats
- Establish a structure that supports collaborative work programmes amongst partner groups

Key immediate functions:

- **DEFEND:** Stand ready to defend the reputation of the industry when required
 - Re-instate reputational and crisis management function
- **SPEAK:** Be the single point of industry contact for government, regulators & the media
 - Coordinated and pro-active support for the industry
 - Engage on the immediate priority issues affecting the GB Potato Sector
- **ENABLE:** provide the platform for members to work in partnership on projects of mutual interest
 - Immediate need to support Blight & Aphid monitoring programmes
 - Facilitate conversations and ensure effective applications for available funding to support priority industry need.
- **KNOW:** be aware of cross industry research and development activity, current and historic, to reduce duplication and bring together mutual interest groups.
- **COMMUNICATE:** provide forums for the whole industry to come together to tackle the current challenges

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‘Late planting may bring extra challenges’

Andrew Goodinson says now is a good time for planning for the 2023 harvest, thinking through preparations in the field and the impact of nutrition strategies.

THIS year, given the late planting most growers are having to contend with, lower N application rates may be necessary because the crop will still need to senesce at the same time.

Although savings of 30–40 kg N/ha could be possible, achieving them may be complicated because of the need to use N to keep foliage green and reduce stress and infections such as *Alternaria*, so growers may still opt to apply a top dressing with 40 kg N as a liquid methylated urea product.

Closing up seed rates may be advisable, because later planting can mean seed sets fewer tubers so potentially giving a lower yield as well as a lower tuber count which can be important especially in crisping potatoes.

Although physiological seed age can affect when potato crops mature and start to senesce, many growers do not have access to

this information because most seed potatoes are purchased as a commodity, Andrew says.

Varietal determinacy important to devising strategy

As determinate varieties have short haulm longevity, chemical desiccants such as Gozai (pyraflufen-ethyl) or Spotlight (carfentrazone-ethyl) work well to open up the crop and start the senescence process.

When the variety is determinate and already senescing, if the first application of a desiccant opens it up sufficiently, a second desiccant may be applied after seven days and flailing may not be necessary, he said. However, indeterminate varieties continue growing, and as they do not start to senesce by themselves, they need managing to stop leaf and haulm stem growth prior to harvesting and kick-start skinset. →



Andrew Goodinson is an agronomist and potato specialist at Hutchinsons, who is also part of the Nutrition Strategy Group, and potato strategy group. Based in Herefordshire, Andrew has been working for crop production specialists Hutchinsons for 17 years and looks after nearly 8000 ha of farmland, ranging from Cirencester, to the Welsh borders, south Shropshire and Worcester.



“It is important to keep water rates between 300 – 400l/ha for the applications to work well and trigger senescence – opting for forward and back facing nozzles is a good idea for the best results.”

Some varieties, such as Markies and Royal, can have a lot of green foliage to remove, particularly when they have been grown on fertile soils and if the stolon attachment is still too strong at lifting it can result in mechanical damage and bruising.

Moreover, when the crop is a later maturing variety, it can be more difficult to flail effectively to an even length because the haulm can be lying down into the furrow, making it difficult for the topper blades to reach, he adds.

“This highlights the importance of applying a pre-flail spray with Gozai and/or Spotlight in a mix with Ranman (cyazofamid), to

prevent tuber blight. We always like to carefully check the crop to make sure it is dying off and there is no regrowth at the base of the stem,” said Andrew.

“If the operator did not use sufficient water volumes, or perhaps was a little fast through the field, the crop may need another application of desiccant, always making sure maximum application rates have not been exceeded.

“It is important to keep water rates between 300 – 400l/ha for the applications to work well and trigger senescence – opting for forward and back facing nozzles is a good idea for the best results.”

For indeterminate varieties, 400l/ha of water remains more appropriate, he notes, emphasising that the amount of active ingredient (ai) remains the same, it is just the amount of water which changes.

“The optimum time for desiccant application is between late morning and late afternoon on a sunny day. Of course this is not always possible, and if conditions are dull they still work but timings tend to be slower.”

Desiccation normally takes around seven days and is then followed by flailing, and then another application of the desiccant targeting the stalks and prevent further growth.

“Flails should be set up leave about 8in (20cm) of stem which facilitate uptake the second application of a desiccant. The machinery should also move the flailed haulm off tops of ridges and into the furrows so the spray hits the stems more effectively”

Really vigorous crops may need up to three applications of a desiccant, he adds, warning that care must be taken to ensure that maximum dosage per crop hectare (ha) is not exceeded throughout the season.

“For example, if you are using Spotlight Plus for desiccation you have to comply with a 1.0l/ha maximum individual dose, with a maximum total dose of 1.6l/ha.”

If Gozai is being used, any applications which were applied for weed control need to be included as part of the allowed total dose, which may mean a reduction in rates for repeat treatments for desiccation. It is important to ensure desiccation is done well because we can get regrowth from the base of the haulm in most seasons, which is usually due to variety or poor application and/or coverage.”

Training harvester operators

Good training of staff can make a real difference to final results, he says, noting that if they are new to the job, understanding the consequences of moving away from best practice can help keep them on track.

“It is important that the tractor and harvester do not damage the ridges before lifting from them,” said Andrew, noting that some growers choose to windrow, lifting and placing tubers onto another bed to help skinset and curing. However, he adds, if not done carefully, the extra handling can cause more damage.

Ensuring operators know the implications of bruised tubers and mechanical damage and how they can develop into rots once they in-store, is also important. If dry matter levels are high, tubers may be susceptible to broken skin surface which can open the door to pathogens such as fusarium and wet rots, so extra care may be needed, particularly when harvesting temperatures are high.

“Losses from bruising can cost the grower £200/ha, so ensuring they know how to take samples from different stages of the harvesting process to determine where damage is being done.

“For example if the damage is being done at the top of the harvester web, adjustments may need to be made there, but this would not help if it is occurring on the haul separator.”

Attention to detail in machinery set-up to minimise damage

Now is a good time to review hardware, and whether it needs repairing or improvements, and taking time to train new operators, says Andrew.

Tubers damaged during harvest can soon make a dent in profit margins, he stressed.

“Prior to starting harvest, it is always a good idea to check equipment such as the flail, making sure that the blades are sharp, and the flail should be set to cut between 15 and 20cm above the ridge top, and the haulm should fall to the bottom of the furrow. If they are worn out, or the operator is going too fast you can an uneven chop and stolon end damage on potatoes,” he says.

Checking grader belts to ensure no tears or excessive drops, as well as ensuring potato boxes are in good order, can also help keep harvesting on track.



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He also recommends revising machinery for sharp points, and any roller damage which may resulting in pinching or slicing. In addition, correct setting of the share height ensuring haulm rollers are not set too aggressively can help minimise damage.

“Understanding the variety being harvested also helps the harvester operator assess how deep the discs should go. This is because some varieties set the daughter tubers around the mother while others are set below.”

Bruising can also cause losses, so he recommends minimising drop heights and where possible using mats or cushions to keep handling as gentle as possible.

Keeping a close eye on tubers can help identify problems which can be dealt with in a timely manner, so he advises taking samples taken at different steps of harvesting process at different times throughout the day. These should then be hot boxed for twelve hours at between 32 -34 deg° C. →



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More frequent periods of prolonged heat stress is suppressing potato crop yields. QUANTIS biostimulant can provide proven protection from damaging effects, for higher production.

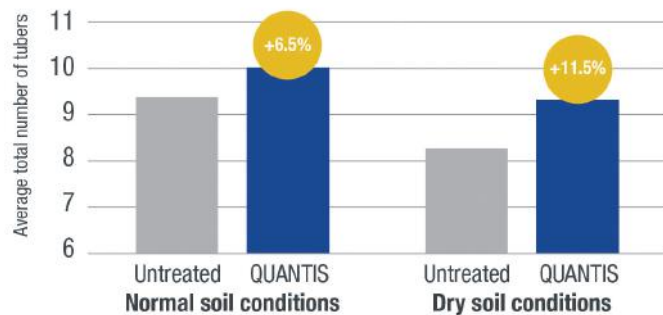
Potato crops across the UK have already been subjected to heat stress conditions, in many areas at severe levels for protracted periods. Crops that had been protected by Quantis have a better chance to recover without prolonged effects, but when heat rises again, treatment will be required in all crops to build resilience to yield limiting effects, advises Syngenta Technical Manager, Andy Cunningham.

Potatoes are especially susceptible to effects of heat stress through the tuber bulking phase.

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Source: Wageningen University & Research. Pot trial 2022

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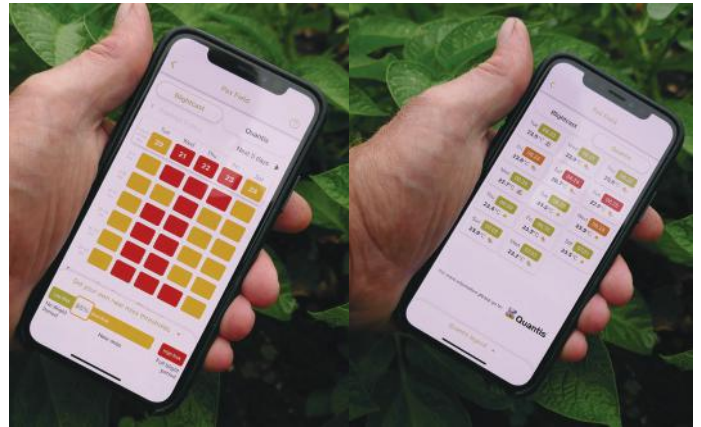
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- Repeat application if heat event occurs more than two weeks later

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“If there are a lot of tubers with mechanical damage it could be that desiccation and haulm separation have not been given time to fully complete, so it is often a good idea to lift another field first and give the crop more time and then come back to it.”

Practical plans to decide which fields to lift first

Well-planned lifting starts well before planting, says Andrew, noting that it is a good idea to have planted some crops in fields with lighter soils and others in heavier soil-type land so that lifting can continue whether it is wet or dry.

“Weather conditions may mean you need some flexibility on which field to lift, so growing the potato crops across different soil types can often mean you can make a start on one field. However, if land is infested with PCN, I would suggest leaving these fields until last to minimise spread by machinery to other fields.”

Planning for less than good lifting conditions

Weather at lifting is not always good, and wet weather means tubers can come in cold from the field, leading to more bruising as it takes more agitation to remove the soil.

In addition, if the air temperature remains warm, stores can quickly become humid, and he suggests therefore it is important that the store fans are switched on at loading to help dry and cure the skins, warning that otherwise bacterial soft rots may occur.

“The elements of the disease triangle are environment, inoculum and potato. If you are lifting under difficult conditions, good skin-set is crucial to ensure the triangle is not completed.

“Ensuring tubers achieve good skinset takes between three and five weeks between burn

down and lifting, but this can vary according to soil type, variety, and applied N. If you have a set date for lifting, it is often a good idea to work backwards from date for lifting to work out when to burn down.” **PR**

Reflections from the 2022 growing season

Although lessons learned from last year remain important, the 2023 season is setting up to be very different, with the cold wet spring holding up planting. However, he points out, the season is impossible to predict, as conditions may change and become dry and hot, with soils capping and cracking as they dry out.

“Ideally, soil temperatures at harvest should be between 10 -20 deg°C, but last year we were harvesting when it was still well in the 20°Cs, and we were in very dry soils when ideal soil moisture deficit (SMD) for harvesting is around 50mm.

“This meant we moved very little soil and the harvesters covered the ground swiftly with the result that it was difficult to get cushioning on the web.

“To ameliorate the threat of bruising and mechanical damage, many growers who did not have the means to irrigate the crop prior to lifting used water sprayers on the harvester and the top of the grading hopper.”

He adds that because of the dry spring in 2022, planting preparations were very good, so fewer growers invested in destoning and declodding, which could have come back to bite them at harvest by causing mechanical damage.

“Last year, many of the potato crops were already senescing naturally by harvest, particularly determinate varieties such as Lady Claire. As a result, skin set was reasonably good.

“However, with crops which were going in to long term storage, there were concerns about maleic hydrazide (MH) uptake, because the haulm needs to be green and turgid enough for the chemical to be distributed into all the tubers.

“This is important because during storage there needs to be a minimum of 16ppm for sprout suppression to work.

“Fortunately, however, most growers managed to get it on in time before senescence passed that vital stage.”





Project leader Dr David Cooke.

The fight goes on

Funding has been secured for 2023 season of Fight Against Blight programme at the James Hutton Institute.

THE James Hutton Institute has secured funding from a consortium of partners to continue its Fight Against Blight (FAB) project.

The FAB project helps protect potato crops by alerting growers across the UK to late blight outbreaks via a website populated by “FAB Scouts”, a network of agronomists, growers and industry representatives who submit field samples from suspected late blight outbreaks around the country.

Blight has already been reported in parts of England owing to the cool damp weather experienced in May, but with conditions

looking set for a drier spell, the risks are expected to decline over the coming week.

The 2023 program will include both the annual sampling of late blight outbreaks and the characterisation of pathogen populations. In work led by Dr Alison Lees, fungicide sensitivity testing will be carried out once again for active ingredients prioritised by the industry.

Pathogen DNA captured on FTA cards will allow rapid in-season feedback on genotypes to scouts throughout the season which, in combination with an end of season report, will ensure the potato industry is kept informed on the best-practice for late blight management.





“With concerns about resistance to CAA fungicides related to the new genotype EU_43_A1 ... early detection of any new arrivals to GB crops is going to be crucial to building effective IPM programs.”

Dr David Cooke, Project leader

Project leader Dr David Cooke of the James Hutton Institute said: “The continuation of FAB is great news for growers and the sector more widely, and also for the longer-term research effort that supports this area.

“With concerns about resistance to CAA fungicides related to the new genotype EU_43_A1 on the continent last year, the early detection of any new arrivals to GB crops is going to be crucial to building effective IPM programs for 2023 potato crops.”

In another key development, BlightSpy has relaunched at Hutton. The BlightSpy webpage provides crucial data on current and forecast weather conditions that are conducive to late blight. The system maps local blight risk based on Hutton criteria, up to eight days in advance.

This interface complements the FAB monitoring tool, and supports decision-making for effective blight management. It can be accessed at <https://blightspy.huttonltd.com/#/forecast>

Head of James Hutton Limited, Jonathan Snape, said: “We thank the industry sponsors

for their support in recognising the value of this initiative that informs the UK potato industry on late blight management.”

Previously-registered FAB Scouts will automatically receive sampling packs and registration instructions, while new scouts wishing to register and submit samples, or any scouts with other queries, should contact fab@hutton.ac.uk. The dedicated website <https://blight.hutton.ac.uk/> is available and all outbreaks to date have been uploaded.

Any sample packs, prepaid envelopes and FTA cards from previous seasons can still be used. **PR**

Fight against Blight sponsorship has been provided by:

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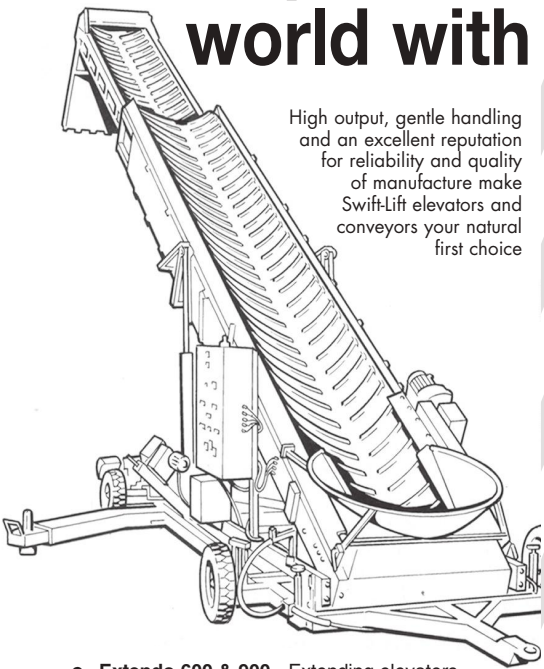
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Processors feel the pinch

As energy costs have soared, companies look at ways to minimise production costs.

As energy is such an expensive commodity right now, snack makers are looking at how they can reduce the costs of frying potato products, while also looking at meeting looming climate change deadlines.

In a recent article published in 'Snacks', Fredrik Ronnberg, Sales and Marketing Manager with Rosenqvists Food Technologies said: "Producing potato chips requires a lot of energy. Considering the current supply and cost situation for energy, this poses the biggest challenge for the snacks industry."

Bobby Kane, General Manager with Heat and Control, which manufactures industrial food processing equipment, believes there is likely to be a shift away from gas towards alternative energy sources, and this will vary by region and country.

"In a major frying system, 90% of gas use is around the fryer. How do we take that to zero? We have to reduce energy needed in the fryer," he said in a recent interview with Michelle Knott of Snacks magazine.

Green hydrogen, biomass boilers and electrification might all be contenders, depending on local conditions, he said. Surrounding infrastructure and market conditions could present obstacles however.

"It's one thing electrifying stuff like small pellet fryers, but if it's a 3,000kg/h potato chip plant, I doubt electrification is a long-term solution because it takes a lot of power for a fryer to drive off all that water," he said. "For now, we're still quoting a standard system for most customers because commercially that's the only way they can operate."

Collaborations

Rosenqvists Food Technologies takes part in several EU-funded development projects to optimise energy supply to European processors, and a key focus is opportunities for crisps/chips production.

"There are some exciting projects ongoing to significantly lower the carbon footprint," said Fredrik. "We are aware of plans to utilise recovered energy from the processing line and convert this to high temperature steam to create a fully circular energy system. Concept ideas for heat pumps are being investigated and could prove interesting for the future."

Holistic solutions that make better use of available energy may mean looking further afield than factory gates, he said.

"There are other already-tested ideas for some processors to collaborate with local partners where energy can be re-used, for example local heating systems, greenhouses or some other type of production. We also learn about initiatives for solar panels and production of biogas from potato waste streams."

For now, frying equipment suppliers are helping system operators optimise existing installations and giving out energy saving advice, as well as looking at energy-saving features for future production lines.

TNA Solutions' Arnaud Jansse said one example is optimising thermal oil temperatures in the indirect heated thermal oil systems, enabling a gas burner can be operated more economically. "The fryer is creating lots of hot vapours, so a decent heat recovery system to utilise this heat somewhere else in the production line is something that needs to be considered."

Minimising surface water on slices of potato entering a fryer can reduce required energy in production, and the temptation might be to dry away as much as possible, but care will be needed in order to ensure potato slices slide off each other rather than clumping, said Fredrik.

Other cost-saving tips include insulation of the fryer hood and choosing potato varieties with the optimum dry matter content. **PR**

Source: Snacks (www.thesnacksmagazine.com)

"It's one thing electrifying stuff like small pellet fryers, but if it's a 3,000kg/h potato chip plant, I doubt electrification is a long-term solution."

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AGRONOMY INTELLIGENCE

Haulm destruction: Don't delay

Getting potato crops ready for harvest could be a challenge this year, with many growing areas a month behind the norm. *Potato Review* gets some advice on how to deal with the likely challenges of haulm destruction in a late season.

GROWERS should buy themselves as much time as possible at the back end of this season, with an early-as-possible start to haulm destruction key to avoiding loss of quality and a messy harvest.

After a relatively dry winter, it looked like it would be an easy planting period for potato growers across Britain this spring, but persistent rain in March and April disrupted and delayed fieldwork.

This could push many into a late start to haulm destruction programmes and all the problems it can bring, including tuber disease and pest damage, and detriment to soil structure as the weather deteriorates.

SPUD Agronomy's John Sarup says there is also the potential for excess nitrogen being taken up by crops after the recent rain following a long dry spell, making haulm much more vigorous and difficult to kill in an efficient manner.

He says that as planting moves into May, an accepted rule of thumb suggests that total nitrogen balances should have been reduced by about 10kg N/ha/week to counter this risk.

"Where you haven't done that, canopies could get very big. More recently, where it's been dry and growers top dressed prilled nitrogen, the rain [at the end of June] could see that all taken up rapidly and cause the same problem," said John. →



John Sarup

Kathryn Styan



Advising on potato crops across Worcestershire and Gloucestershire, Agrii agronomist Kathryn Styan agrees that excess nitrogen does pose a significant risk to efficient haulm destruction as maincrops reach maturity.

She says any temptation to push yield or tuber size with excessive top-dressed nitrogen application should be resisted, particularly where more indeterminate varieties are being grown.

“I’m reluctant to apply extra N because of how difficult it can be to stop the crop at the end of the season. That’s the key thing in any year – make sure you haven’t overapplied and it will help with desiccation,” she added.

Close monitoring

Regular monitoring of crop size and quality is going to be crucial to ensure growers begin haulm destruction programmes at the earliest opportunity, avoiding any further delays.

For processing crops, this would be starting the process as soon as target dry matter content is reached whereas for packing potatoes optimising the target size fraction is the primary focus.

There are reports of rhizoctonia and free-living nematode (FLN) damage across the potato area, resulting in uneven crop development, which should be considered when assessing crops for haulm destruction timing.

“It will have caused significant variation in tuber size distribution across affected areas, which may confuse decision making. It’s about

getting a representative picture of what’s happening across the whole field and making an informed decision,” John said.

Growers are reminded that wireworm feeding activity will ramp up from late-August/early-September, while risk of tuber diseases such as black dot also increases if crops are left in the ground too long.

“Just don’t waste any time getting started. If there is a season when access to a flail is needed, it could be this one, as it can buy you a good week to a fortnight when killing the crop.

“Also bear in mind that the PPO inhibitors work best in warm, bright and sunny conditions, so the later you leave it, the greater the risk of them not working as efficiently as they can in increasingly dull weather,” says John.

Pre-flail treatment

So, what is the best way to set about programmes in a late season?

Where “topy” crops have taken up excess nitrogen, John says it could be a season to

consider an application of a PPO inhibitor like Gozai (pyraflufen-ethyl) plus methylated seed oil (MSO) a week before going in with the flail.

This can kick-start the physical processes of skin set and stolon detachment and reduces the amount of green material for the flail and subsequent herbicide applications to deal with later.

Several years of manufacturer Certis Belchim’s trials with the product suggest Gozai has the edge on defoliation, consistently providing a 50-60% removal of green leaf and about 10% stem death when applied to a healthy haulm.

This is one of the reasons why John typically opts for Gozai + MSO first in the programme, along with its longer harvest interval of 14-days, compared to the 7-days of alternative PPO inhibitor Spotlight (carfentrazone-ethyl) which he sees better suited to follow up sprays.

“In most situations, I will use 0.8-litres/ha of Gozai with oil just after the flail, then 1-litre/ha of Spotlight 7-10 days after that. I tend to do the second application as routine, rather than wait to see if there is regrowth.

“Once regrowth has started, you’ve lost another week, so it avoids any further delays to the desiccation process.”

Chemical only

While it could be a season to utilise a flail to speed up haulm destruction, he acknowledges there are still growers that prefer a chemical only desiccation programme.

In these situations, he typically advises two 0.8-litre/ha applications of Gozai with oil seven days apart due to its strength on foliage, followed by 1-litre/ha of Spotlight seven days later to kill stems.

“That still leaves you with 0.6-litre/ha of Spotlight as a fourth application if it’s needed.”

In any programme, Certis Belchim’s Technical Manager James Cheesman stresses the importance of water rates when using PPO inhibitors, with coverage key to maximising efficacy of the contact-acting herbicides.

For a pre-flail treatment or the first application in a chemical-only burn down, 400-litres/ha has performed best in the company’s trials, while 300-litres/ha is more suitable for post-flail applications in flail and spray programmes.

“Just don’t waste any time getting started. If there is a season when access to a flail is needed, it could be this one, as it can buy you a good week to a fortnight when killing the crop.”

“While Gozai stipulates 200-litres/ha on the label, the work we have done comparing 200-litres/ha versus 400-litres/ha has shown it make a big difference, particularly on the first spray. It’s a slower job, but the patience required pays off.”

“While Gozai stipulates 200-litres/ha on the label, the work we have done comparing 200-litres/ha versus 400-litres/ha has shown it make a big difference, particularly on the first spray. It’s a slower job, but the patience required pays off,” James said.

UV light

Kathryn stresses the importance of correct application and along with urging her clients to use high water rates, advises application early in the morning of what is set to be a sunny day.

“We find that having higher UV light intensity on the crop and weeds after products like Gozai and Spotlight have been applied is very important for killing leaf and stem,” she said. “For stem desiccation, another important factor is leaving 15-20cm of stem above ground. There’s a temptation to top them off

too short, but you need that length of stem to get good stem coverage.”

Maintaining late blight protection – particularly against the zoospores that cause tuber infection – is crucial until the haulm is completely dead.

Kathryn favours inclusion of Ranman Top (cyazofamid), with the first Gozai application after flailing, for its strength on tuber blight control and protection against foliar blight. It’s also a mixture backed by the manufacturer.

“If you get a blighted potato in a box, it’s going to do a lot of damage, whatever market you are growing for. It’s not something to take a chance with,” Kathryn said.

John adds that amisulbrom products Shinkon and Gachinko, plus Infinito (fluopicolide + propamocarb hydrochloride), provide alternative tuber blight-active options to apply with desiccant sprays at the back end.

“Just be mindful of maximum number of applications where products have been used earlier in the programme,” he said. **PR**

Potato haulm destruction – key points

- Wet spring could delay start of haulm destruction and subsequent harvest
- Excessive nitrogen uptake causing large canopies also a risk
- Monitor crops closely and start desiccation as soon quality/size targets reached
- Flail and spray preferable to a chemical only approach in a late season
- Pre-flail application of Gozai + MSO could help where canopies are large
- Use Gozai as first spray in all systems for its strong defoliation activity
- Use high water rates for optimum coverage of foliage and stems
- Apply PPO inhibitors early on a warm, bright, and sunny day
- Maintain protection against foliar and tuber blight until all haulm is dead

James Cheesman



WIREWORM

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No more wiggle room for pesky invader

Wireworm like grassland - as we move towards fewer cultivations and a regenerative world, the problem is only going one way. But some good news is coming out of latest UK studies. *Stephanie Cornwall* caught up with Martyn Cox who is on a mission to understand and control the pest.

SINCE key pesticide Mocap (ethoprophos) was withdrawn from the market in 2019, growers' ability to control the pest wireworm has taken a severe hit.

Since then, scientists, agronomists and growers have been pooling their resources to find the best ways to keep the pest from destroying potato crops – with the UK having previously lagged behind other countries in terms of research.

Understanding the pest, its different species, and impact on various locations has been a key focus and challenge for many years

for Agronomist Martyn Cox, a Norfolk-based potato specialist who runs Blackthorn Arable, and his experience and knowledge have led to him being a partner on two UK collaborations.

The Cambridge University Potato Growers Research Association (CUPGRA) requested a thorough review into the problem in 2020 as problems were seen to be increasing. Martyn, along with NIAB CUF Senior Research Associate, Dr Marc Allison, began looking at how to improve risk assessment, identify knowledge gaps and carry out work to validate the findings. Marc retired last year.



Cupgra carried out further work into varieties and damage in 2022, the findings from which were rolled into work this year aiming to identify if the current thinking on glycoalkaloids and sugars is correct or misleading. Martyn has produced guidance for members on bait trapping and monitoring using pheromones (These are available from the Cupgra website).

Martyn is also a partner on the Enigma project, an industry-wide collaboration launched last year which is working together to understand wireworm and its changing patterns of damage in greater detail.

Those collaborating on Enigma include representatives from Syngenta, Frontier, G's Fresh, Elveden Estate, Pearce Seeds, Inov3PT and Blackthorn Arable.

He has trawled through scientific archives and white papers dating right back to 1920. "A massive amount of work was done on the pest following World War II. They obviously saw it coming!" he said.

25-year battle

Arable wireworm, which is not linked to grassland, re-appeared on the radar about 25 years ago. Wireworms are the larvae of click beetles and there are more than 70 species in Britain but only a few are crop pests.

Martyn has studied the pest and its effects in many countries, in an effort to get to know its habits and the approach taken outside the UK.

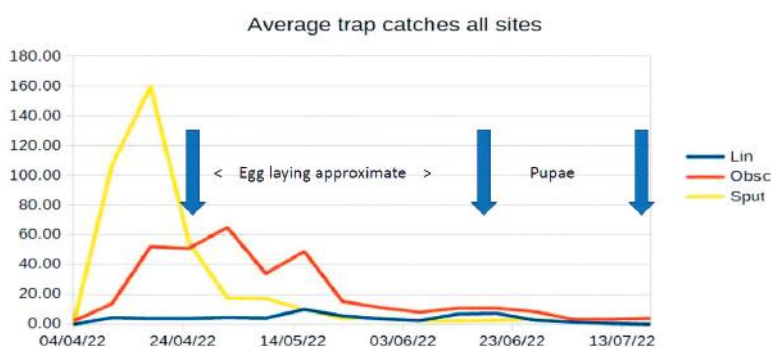
"It became apparent that it was becoming a real problem across Europe," he said, adding: "It could be that the climate has changed, our practices, or that species have changed."

Understanding of their diet is improving, as well as information about the lifespan of larvae and adults, and that knowledge could help with future control, Martyn said. Studies in Europe suggest the length of their lifecycle in the UK is decreasing.

"Wireworm can survive for between six and 12 months without food, and they are a problem in Canada so they can even survive the country's harsh winter."



THE PEST – ADULT ACTIVITY



However, their ability to survive for long periods without a food source, and withstand colder temperatures, is more of a challenge.

"Wireworm can survive for between six and 12 months without food, and they are a problem in Canada so they can even survive the country's harsh winter," said Martyn.

Lifespan and species

Adult click beetles emerge from the soil and breed in the spring, surviving until late summer. From May to July, the eggs hatch and the larvae, which grow to be around 4mm long, have a lifespan of around four years depending on the species and heat levels. In their fourth year, between July and August, the larvae pupate, a process which lasts between two and three weeks.

During the autumn, adult beetles remain below the soil surface right through until spring.

While other species of Agriotes exist in the UK and the larvae of other genera can be found in UK soils, Martyn said three members of the genus Agriotes are our main problem and responsible for most damage in potatoes. These are *A. lineatus*, *A. obscurus* and *A. sputator*.

"Although Agriotes are the dominant species, this is not always the case. A survey between 1938 and 1942 found many non

Agriotes in the fens and just last year, bait traps found up to 90% non-Agriotes in Norfolk fen soil," said Martyn.

While larvae of other genera have also been found in UK soils, it's difficult to establish what their exact pest status is, as less is known about them and identification to species is difficult / impossible without DNA methods, he added, whereas Agriotes larvae are easy to identify as they have two spots on their tail end.

Why is it getting worse?

Wireworm infestations have been increasing because of several factors. Martyn said the situation could be summarised by "The Four Cs", namely cultivation, cropping, chemicals and climate.

As well as there now being fewer insecticides in soil, we cultivate less, a warming climate increases activity and may be decreasing the length of the life cycle.

More green cover in the autumn/winter and more grassy habitats are also contributing to the problem.

Identifying risk

Timing has been found to be key when it comes to identifying risk, and previous guidance has been found to be out-of-date or less relevant to current day problems.

"When it comes to identifying risk, we have learned that it is not just what you do, it is when you do it that matters," said Martyn, adding: "Risk assessment guidelines were not good enough, because the landscape has changed so much."

Problems exist where no history of grass is known, no cover crops have been introduced, and ploughing or cultivation takes place every year. The areas most at risk of infestation have been found to be where there is no autumn cultivation (Aug/Sept), some green cover (often just weedy stubbles), permanent grass nearby, where there are surface water bodies (rivers, reservoirs) and where there have been lots of cereals in the rotation.

Previous cropping can be confusing and needs careful analysis. →



“Try to exert population control two to three years ahead of the crop at least. Learn how to identify the risk, and matching the potato harvest date and end use to the risk should be an integral part of future IPM.”

“Did you have some vegetation on the land during most of April- November and little or no soil movement in early autumn? If so, this is a prime spot for wireworm infestation,” said Martyn.

Identifying a population

When looking for wireworm infestation, core sampling is not advised as it is not sensitive enough and bait trapping provides a better overview. But it doesn't work well if the temperature is less than 8 deg C, Martyn advised.

“Bait trapping was very unreliable, but we know the critical conditions now,” he said. “Activity is reduced below 8C in the soil. Soil must not be saturated, or very dry.

“Trapping in spring on a rising temperature above 8C or in autumn works well.” He added that soil capable of holding moisture presents a higher risk.

This year, adult trapping is taking place in lots of different counties, as well as at Harper, SAC, NIAB, Fera and Rothamsted. “It just shows what can be done with some effort,” said Martyn. “This will help our knowledge of the species and their activity.”

When bait trapping, a 50/50 wheat maize mix was found to be most effective, with a fine mesh used to hold the bait.

When it comes to adult trapping, previous UK experience over the past 20 years has not been good either, Martyn and Marc's literature research showed. There was poor correlation between adult and larval abundance in sites.

“When it's come to comparing strategies, mass trapping of adult males was found to be ineffective while biocontrol can be slow and extremely variable.”

Attempts to predict damage levels from the number of larvae present also met with little success. “This is because their are simply too many variables,” said Martyn.

However, their own work has thrown up new findings.

By monitoring adult activity there is the potential to disturb sensitive stages of wireworm development, for example by cultivations, or when using insecticides in other crops, and identify a risk in two to three years' time.

Strategy

Going forward, potato growers need to be bait trapping and identifying risk two to three years ahead of planting.

Ultimately, the aim should be to attempt to break the pest's lifecycle. By cultivating in May and June, eggs can be prevented from becoming juveniles. As the juveniles must feed, autumn cultivation is critical.

Using buckwheat as a cover crop to suppress or reduce weeds and improve soil health has also been found to have an effect on populations, Martyn said.

Varieties

Variety damage varies considerably, with Maris Peer and Marfona being the most vulnerable. Innovator, Estima, Maris Piper, King Edward, Electra and Nectar also saw more than 70% tuber damage.

“However, while some varieties are definitely worse than others, they all get damaged,” Martyn said, stressing that variety choice is no ‘silver bullet’.

During the CUPGRA-commissioned project, between two and three times as much damage was observed in some varieties. Tubers with low sugar and high glycoalkaloid (naturally occurring compounds found in potatoes) concentration are thought to be less popular as wireworm feeding sites but glycoalkaloid levels are extremely variable, said Martyn, and, despite many believing that low-sugar content varieties are not at risk, some can still be badly damaged.

He says crop duration is at least as important, probably more so, than variety choice. Damage increases with crop duration and severe damage is possible by July.

Breakthroughs

There is definitely light at the end of the tunnel now, as some of the work and trials carried out are starting to bear fruit.

In 2022 CUPGRA work showed that the percentage of damaged tubers more than doubled in six weeks and was more than 30% on August 6th.

“Management practices have changed and we have arrived at a situation in the UK where we have something quite robust,” he said.

One key piece of advice he offers is to test soils from the beginning of September to the end of November.

“Instead of going in in the spring, go in the autumn. Lifting early also reduces crop damage - if you harvest six weeks earlier, it can make all the difference to the crops going into stores.”

Ignorance is not bliss when it comes to identifying wireworm damage on tubers and while it may seem obvious, the importance of washing them can't be stressed highly enough, said Martyn.

Going forward, IPM requires very good knowledge of the problem.

“Try to exert population control two to three years ahead of the crop at least. Learn how to identify the risk, and matching the potato harvest date and end use to the risk should be an integral part of future IPM. Damage can easily double in a month, and chitting can speed up development. More susceptible varieties should also be avoided during later lifting slots,” Martyn concluded. **PR**

Risk assessment

In order to improve the overall risk assessment, five key steps are necessary:

- Identify the population level (bait-trap, observe).
- Learn about the adult activity (pheromone traps).
- Identify damage earlier in crops. Wash tubers.
- Consider market tolerance and dual purpose varieties
- Lift earlier

Autumn management tips:

- Create a plant-free situation after a cereal crop for a month.
- Cultivation, followed by the right cover crop eg buckwheat.
- Consider biofumigant for neonates + wilts + PCN etc.
- Weedy stubbles help juvenile survival.
- Count down the years to the next crop.

Wireworm facts:

- Wireworm are the larvae of click beetles
- Around 10,000 species worldwide
- Around 70 species / 38 genera in UK, few are crop pests
- They can survive on a range of food types



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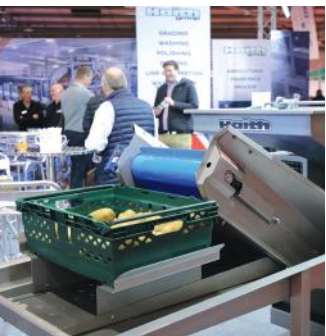
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Steering the sector post-Brexit

The role of the UK Potato Processors' Association (PPA) has never been more important than it is today says Deputy Director General.



THE British savoury snacks market remains the biggest in Europe, and, with the advent of Brexit, is now distancing itself from EU rules and trading regulations, according to the PPA's Deputy Director General, Vanessa Richardson.

Representing crispers and chippers, the UK Potato Processors' Association (PPA) is a member of the European trade bodies ESA (European Snacks Association) and EUPPA (European Potato Processors' Association).

Vanessa says this enables it to keep track of developments in EU markets, many of which still greatly impact on the UK. In a recent interview with 'Snacks', which keeps all suppliers in the snacks industry informed about recent developments, Vanessa outlined the pivotal role played by PPA and some of

the key challenges it is helping the sector to address in the current climate.

"Brexit has presented some unprecedented challenges for our industry, which were aggravated by the Covid pandemic and the war in Ukraine," said Vanessa. She went on to add: "Our close relationship with ESA and EUPPA gives us the ability to advise our members (and often the government itself as some access to EU discussions have been lost) of the wider commercial environment and regulatory developments in the EU."

PPA has been closely monitoring developments on plant protection products. Vanessa said risk assessments, authorisations and setting of limits are happening at different speeds in the UK and EU and the Food Standards Agency (FSA) has seen its remit expand dramatically.

"Other key areas we are having to deal with are acrylamide, official controls, labelling, additives and flavouring. Unfortunately there are more to come," she said. "It is increasingly challenging."

The biggest UK-specific challenges looming for the sector are the imminent scrapping of around 600 EU laws, she said.

"This is of great concern to us as our food law in the UK is almost completely based on EU law. The potential for error, the magnitude of the work and the speed at which it needs to be concluded, is great.

"Other areas are the labelling implications of the proposed Windsor Framework for goods sold in Northern Ireland, the Food Data Transparency Partnership and, of course, the Internal Market Act and regulatory divergence within the UK."



“The sector needs eyes, ears and a strong voice at both an EU and UK level to ensure that businesses are able to navigate through the red tape and continue to do business.”

Precision breeding and gene editing, as well as restrictions on the promotion of ‘less healthy’ foods also have the potential to ‘diverge’ she said.

On the whole, both the UK and EU are working towards the same environmental goals but the approaches being taken are different, with the UK struggling to comply with Extended Producer Responsibility (EPR) and Plastic Packaging Tax (PPT) while the EU is working on the Packaging and Packaging Waste Regulation, Vanessa said.

The most recent success to be celebrated by the association was UK authorisation of the active substance 1,4-DMN, a key substance used for storing processing potatoes. The potato processing sector was also the only one to achieve realistic calorie reduction targets with UK government proposals on calorie and salt reduction.

With new challenges surrounding precision genetic engineering and the loss of active substances, the association is playing a pivotal role, said Vanessa.

“The sector needs eyes, ears and a strong voice at both an EU and UK level to ensure that businesses are able to navigate through the red tape and continue to do business. We are here to help deliver that. The association has a strong future as long as there are issues and the willpower to address them. **PR**”

**Extract from an interview with ‘Snacks’ magazine.*

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Getting the best from MH

As a maleic hydrazide product is put through its paces in Belgium trials, growers are advised not to forget the rotational benefits it can bring.

RESULTS from a Certis Belchim trial at the company's Belgium demonstration site near Londerzeel underline the importance of maleic hydrazide in volunteer potato control.

Since the withdrawal of chlorpropham (CIPC) across Europe, many growers storing potatoes have been convinced to start sprout suppression in the field with a foliar application of growth regulator maleic hydrazide.

Applied three to five weeks prior to haulm destruction, it is widely regarded as being the only tool at growers' disposal that gives residual control of internal and external tuber sprouting in potato stores, delaying the need for in-store treatments, with the efficacy of maleic hydrazide lasting up to four months from store loading.

Certis Belchim's Global Crop Manager for potatoes and beets, Ed Bingham, acknowledges the importance of maleic hydrazide in sprout suppression programmes, by providing a solid foundation treatment to any stored crop.

Fewer herbicides

However, there are increasingly fewer approved herbicides to remove potato volunteers in other

crops, particularly in veg, and the value of a well-timed MH application to help minimise volunteers should not be underestimated.

"They host diseases like aphid-borne virus, late blight and soil-borne *Rhizoctonia*, and can maintain levels of pests like potato cyst nematode (PCN) in the soil between potatoes. Applying Crown MH – whether the crop is destined for storage or not – will help reduce the numbers of volunteers, which is important for your own and your neighbours' future crops," he said.

To test this point, Ed and the Certis Belchim team at Londerzeel set up a trial where three varieties, Milva, Fontaine and Innovator, were treated with Crown MH last August on a farm in the Netherlands.

Being a relatively indeterminate variety, Milva was still green at the time of application, Fontaine less so, and the very determinate Innovator starting to senesce in the hot, dry summer experienced across Europe.

The harvested tubers were stored and any less than 25mm in diameter replanted at Londerzeel to assess efficacy of Crown MH for reducing the emergence of potato volunteers the following season.



Crown MH is a liquid maleic hydrazide formulation that can be supplied in IBCs with a closed transfer system, which increases operational efficiency when spraying.

"We found that in the Milva, we achieved 100% control of volunteers, about 95% control in Fontaine and even in the senescing Innovator, we are still seeing 85% control, even in a challenging season for Crown MH application," said Ed.

On top of the significant integrated pest management (IPM) benefits for potato crops in the rotation, achieving this high levels of volunteer control can also help strengthen ties with existing landlords where renting land.

"Space for potato crops is also finite and there's a lot of competition for land. Showing that you use Crown MH in your crops could help swing things in your favour when negotiating contracts with new landlords."

Application importance

The slightly different results depending on the determinacy of the potato variety demonstrate the importance of timing on the uptake and efficacy of maleic hydrazide.

One of the key requirements for prompt application between five and three weeks prior to haulm destruction is a healthy and actively growing canopy, helping the plant absorb the active substance and move it down to tubers.

Maleic hydrazide uptake is also improved if the spray solution dries slowly on the leaf, so it should be applied in cool conditions when relative humidity is greater than 50% and no rain is forecast or irrigation scheduled for at least 24 hours after application.

High water rates of 300-500-litres/ha are also advised to maximise coverage and uptake.

Ed says that all the environmental criteria for optimum uptake do not align often, or for long, so efficiency in a farm's spraying operation is key to making the most of the limited windows of opportunity.

Crown MH is supplied in 600-litre intermediate bulk containers (IBCs) with the coupling for

Wisdom Systems' Fastran 850 closed transfer system to pump product into the sprayer tank.

Time saving

With just some minor modifications to a crop sprayer's venturi arrangement, including a dry-lock coupling, the system's flow meter accurately measures the desired amount into the tank and saves significant time during filling.

This is opposed to ripping and tipping 5kg bags into the induction hopper when using granular product.

Crown MH's anti-foaming formulation is another attractive proposition for sprayer operators, allowing them to fill the tank faster and fuller.

"We've often seen that where operators have switched from granules to liquid, they find the bulk pack and closed transfer system so much easier to use they never go back."

"The time savings allow them to do more loads in a shift, which increases the chances of getting good uptake and efficacy for sprout suppression and volunteer control," says Ed.

He concludes that the liquid formulation has been seen to keep the leaf slightly wetter for longer compared to other formulations, which is an advantage in hotter, drier summers.

"It helps with uptake if we get those extreme condition when crops are stressed, like we saw in the UK last year." **PR**

Application checklist

- Treat healthy and actively growing crops
- Apply 3-5 weeks before haulm destruction
- Spray on a cool evening when RH is >50% and no rain forecast for 24 hours
- Use high water volume, 300-500-litres/ha recommended
- Reduce sprayer forward speed to 8-12kph to maximise coverage



Crown MH treated vs untreated tubers.



Differences in volunteer control were seen between three varieties with varying determinacy, highlighting the importance of applying to a healthy and actively growing crop for best efficacy.

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The crucial component

Timing and application rate are key to getting the best from maleic hydrazide, say potato supplier and technical expert. They share their tips with *Potato Review*.



CROP protection manufacturer UPL has reminded potato growers of the importance of maleic hydrazide in sprout control and has issued best practice guidance to maximise its effect this season.

Maleic hydrazide is found in UPL's potato plant growth regulator, Fazor, as well as other products such as Certis's Crown MH, and is widely regarded as being crucial in potato sprout control programmes.

Jonathan Kemp of Mercian Ltd, the largest supplier of potatoes to the crisping industry in the UK, believes that a grower's potato sprout control programme should begin with an in-crop application of Fazor. He said it is 'the most important application for potato storage' and, if unused, growers can find it difficult to manage their crop storage.

Geoff Hailstone, UPL's Potato Technical Expert, said to help maximise the value of maleic hydrazide this season, timing and application rates are key.

"Ninety per cent of growers are using maleic hydrazide," said Geoff. "It has become essential to start a sprout control programme, and because it is applied to the crop, it is the most cost-effective method. Typically, the first application of Argos (orange oil) will not be necessary until two to three months after storage if the crop has had an application of Fazor.

"Without this, an application of Argos might be needed within two to six weeks, or even sooner following a hot growth season. In addition, crops treated with Fazor have a lower risk of secondary growth, reduced internal sprouting in store, and it significantly reduces volunteer potatoes in the following crops."

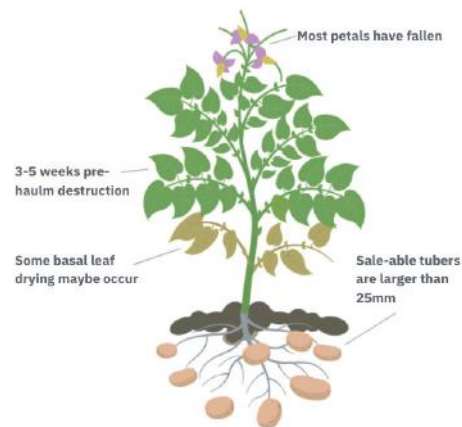
Like all plant growth regulators, timing the application for the correct growth stage is crucial. It is important that maleic hydrazide is properly absorbed and translocated to the growth points of the tubers.

Geoff advises an application when the saleable tubers are larger than 25mm, at the first signs of the lowest leaves senescing, when some flowers are still present but most have fallen, and three to five weeks before haulm destruction.

"Getting the correct timing can be tricky, especially when growers are juggling blight spray programmes and irrigation, but growers must prioritise because they only have one opportunity to get it right. In particular, the tuber size must be correct because if Fazor is applied too early, it may prevent tuber development and cause loss of yield," he said.

"This is because maleic hydrazide stops cell division but not cell expansion. Once tubers have reached 25mm in size, the cell division is complete, and there is no negative effect on the yield."

"When it comes to application, Fazor should not be tank mixed with any other products. It should not be applied less than



24 hours before irrigation or rainfall, and only in the evening if the daytime temperatures exceed 25°C. I would recommend a water volume between 350 and 550 litres per hectare to get the optimum crop coverage.

"Where ideal application conditions are not possible, there is still very valuable sprout suppression from maleic hydrazide levels of three or four parts per million, but if growers are able to follow this guidance, then they will have achieved a significant milestone in ensuring their potato crop has the best possible marketable quality." **PR**

"Maleic hydrazide stops cell division but not cell expansion. Once tubers have reached 25mm in size, the cell division is complete."

Geoff Hailstone, Potato Technical Expert, UPL

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Enhancing food safety in crisp production

New R&D project for Perthshire snack business.

A NEW project to enhance food safety in potato crisp production has started between Abertay University and Perthshire-based Taylors Snacks.

Focusing on minimising acrylamide, a natural chemical compound that can form in starchy foods when cooked at high temperatures, the findings of the research will benefit the whole industry as it seeks to meet the latest benchmarks to be set by the European Commission later this year.

It is the fifth in a series of case studies, developed as part of the 2023 RHASS Presidential Initiative (PI), exploring the science behind food and drink production.

The aim to reduce acrylamide in food is down to it being a probable carcinogen, although scientific evidence has not yet proven a direct correlation with human health.

In the interests of consumer safety, however, in 2018, the European Commission issued an advisory benchmark for food processors cooking or baking products, which will be updated with new specifics later in 2023.

Abertay University is one of the leading centres for acrylamide research in the UK and approached local company Taylors Snacks, famous for producing Mackie's of Scotland crisps, to suggest a collaboration to research and develop an online monitoring

system to measure and manage levels of acrylamide in crisp production in real time. This will be a first for the industry.

Professor Alberto Fiore, who is co-leading the project with forensic chemistry expert Dr Keith Sturrock at Abertay University's Division of Engineering and Food Science, has dedicated the last 15 years to acrylamide research, working with a number of businesses including multinational processors.

"We can come up with the perfect solution in the lab, but it's when we take it out of a control situation into real life that we see the implications and where we can make improvements."

Professor Alberto Fiore, Project Co-leader

Professor Alberto Fiore, Abertay University.





James Taylor of Taylors Snacks.

“Acrylamide is an organic compound that can form in familiar carbohydrate-rich foods cooked or fried at high temperatures, including coffee, biscuits, cereals and crisps, when the sugars react with a specific amino acid at temperatures above 120C,” he said.

“In the home, acrylamide would occur in burnt toast or chips that have been in the oven for too long, but in manufacturing, it’s more nuanced. Working with industry like this is vital for our work to have real impact.

“We can come up with the perfect solution in the lab, but it’s when we take it out of a control situation into real life that we see the implications and where we can make improvements. Working with Taylors Snacks will give us valuable insights and live scenarios that will positively impact wider industry research and development.”

Industry benefits

Taylors Snacks, which rebranded from Mackies Crisps earlier this year, produces more than two million packets of crisps, popcorn and other snacks every month for retail, export, wholesale and food service from its base at Errol.

The project has been made possible with funding from Innovate UK’s Knowledge Transfer Partnership programme (KTP). It will build on the extensive work Taylors Snacks has already undertaken to minimise levels of acrylamide in



its own products, analysing every stage from raw materials to processes and end product.

This phase is essential to build a full understanding on which to create the inline digital monitoring, innovative technology that will anticipate acrylamide levels and allow processes to be adapted in real time.

James Taylor, Managing Director of Taylors Snacks, said the fourth-generation family business said its collaboration with the university will provide valuable data that the whole industry can learn from.

Professor Fiore’s research and collaborative work to date has included looking at all variables from plant varieties to the radio frequency of ovens, introducing new technology or naturally occurring antioxidants, and developing recipes, all of which will be included in the discovery research alongside developing the inline monitoring technology.

An associate from Abertay University will be based at Taylors Snack’s Head Office to manage the project and maximise the research development and knowledge transfer. Taylors Snacks Ltd will also be contributing towards the cost of the project.

Linda Tinson of the RHASS Presidential Initiative said: “The project illustrates the value of science at every stage of food production, and the two-way advantage of introducing lab research into real life processes. It is when academia joins with industry so closely and constructively that both enterprise and science progress.”

The RHASS Presidents’ Initiative culminated with a showcase at the Royal Highland Show, bringing together different sectors and stories from over the past months and creating a lasting legacy of materials which will be made available for anyone to access. **PR**



Tightening up on frozen imports to help local growers

SOUTH Africa's government is tightening up on cheap imports which are negatively impacting on local growers, having re-imposed anti-dumping duties of 8.8% to 239% on imported frozen potato chips from the Netherlands, Germany, and Belgium.

The country's total land area is approximately 122.3 million hectares, on which about 52,355 hectares of potatoes are planted every year. According to stats by Potatoes South Africa, a non-profit company whose primary objective is to serve as the mouthpiece of potato producers in the country, 83% of this is produced under irrigation, meaning water is applied to the soil through various systems of tubes, pumps, and sprays. The remaining 17% is irrigated by rainwater.

South Africa's potato industry has undergone several challenges in recent years - a major one being the importation of cheap frozen potato products from other countries. The battle between the local potato industry and global importers has a longstanding history, with South Africa being considered a prime destination for dumping frozen processed potato products.

Potato SA's head of marketing Willie Jacobs said this has harmful consequences, including further economic decline and negatively impacting the livelihoods of South African growers, workers and their families. In an article published by Food For Mzansi, he said irregular imports are detrimental to a viable local economy, hence the implementation of consistent anti-dumping measures is essential.

Because of the wide diversity in types and high consumer consumption, potatoes are a good enterprise option for many South African growers. The South African potato industry is a key employer, providing employment to an estimated 45,000 permanent and seasonal labourers.

In South Africa, it is a multi-billion Rand industry. In fact, the commodity contributes about R9.82 billion to the South African economy - about 3% of the total agriculture gross production value in 2022.

In South Africa, potatoes are produced in 16 regions across the country. They include Limpopo, Loskop Valley, Mpumalanga, Gauteng, Eastern Free State, Western Free State, North West, Northern Cape,

South Western Free State, KwaZulu-Natal, North Eastern Cape, Southern Cape, Ceres, Sandveld, and South Western Cape.

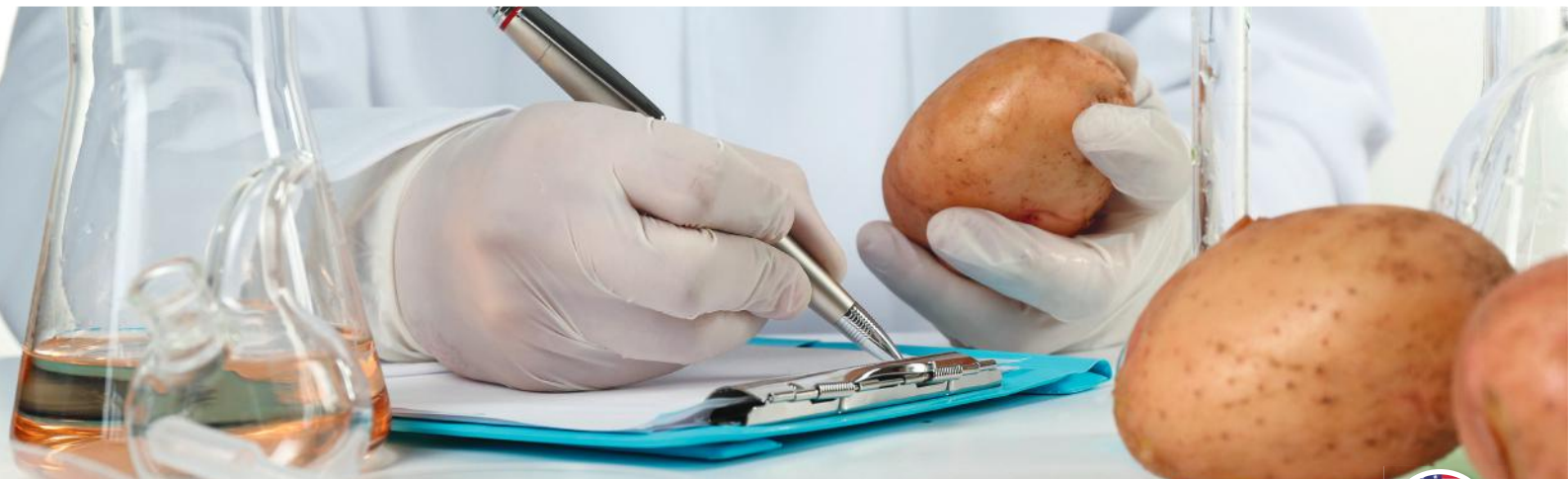
According to FP Coetzee, national service coordinator from Potatoes SA, Limpopo is the biggest potato-producing region in South Africa, planting about 12,000 hectares.

Last year, growers in Limpopo planted about 14,000 hectares of potatoes yielding 816,000 tonnes. Nationally, about 260 million 10kg bags of potatoes are produced which make their way into various retail shelves and informal markets across the country.

Of the top five potato-producing countries in Africa, Egypt produces 21% of Africa's potatoes, while Algeria produces 18%, and South Africa 11%. However, the local industry shows an increase of 52 tons per hectare every year. Meanwhile, Kenya produces 7.4% of Africa's total potato output and Morocco's 6.8%.

Africa is also the fourth biggest potato producers in the world, producing 7.3% of the world's total potato output.

Trade plays a crucial role in providing livelihoods for potato farmers and people employed along the food supply chain. South Africa exports potatoes to countries like Eswatini, Angola, Lesotho, Malawi, Zambia, Congo, Mauritius, Seychelles, and Ethiopia.



'No increased plant pest risk'

THE United States Department of Agriculture (USDA) recently reviewed potato plants modified using genetic engineering to determine whether they presented an increased plant pest risk compared to similar cultivated plants.

Ohalo Genetics had modified a potato plant to produce an

increased concentration of beta-carotene for altered nutritional value. Beta-carotene is an antioxidant that can give an orange, yellow or red color to carrots and other foods.

The USDA said the plants presented no special plant pest risk compared with other cultivated varieties of the same commodities.





‘Congress venue choice will aid poverty ending’



HOLDING the next World Potato Congress in Nairobi, Kenya, will be a major step towards ending extreme poverty in Africa, it has been claimed.

In a recent statement, the bid committee led by the National Potato Council of Kenya and Ministry of Agriculture and Livestock Development, announced: “Holding the Congress in Kenya will contribute towards ending extreme poverty in all forms in Africa. Besides contributing towards ending hunger, achieving food security and improved nutrition, the congress will provide valuable educational opportunities in promoting sustainable agriculture. It will provide opportunity for inclusive and sustainable economic growth, full and productive employment, and decent work for all, especially for youths and women in the sector.”

The World Potato Congress 2026 has the proposed theme being “Developing Global Potato Partnerships for Enhanced Food Systems, Food Security and International Trade” and is expected to draw potato industry colleagues and partners from all over the world.

This will be the first time the biennial business event has been held in sub-Saharan Africa.

The successful bid was supported by public and private sector partners including the International Potato Centre, SSA (CIP), Agriculture and Food Authority (AFA), Kenya Agricultural & Livestock Research Organization, KenInvest, Pest Control Product Board, Kevian Kenya Ltd, and Agriculture Sector Network (ASNET), Bayer East Africa and Syngenta Foundation for Sustainable agriculture.

Peter VanderZaag, President of the World Potato Congress Inc. stated “I am excited that Kenya will host the 13th World Potato Congress in 2026. Kenya is centrally located and a leader in both potato research and development in East Africa. I am confident that this congress will increase the profile and capacity for the potato value chain in this region as well as provide an opportunity for networking, investment, and trade relationships across the entire potato sector.”



World Potato Congress 2026 to be held in Nairobi



FOR the first time ever, the World Potato Congress is to be held in sub-Saharan Africa.

Nairobi in Kenya will be the venue for the 2026 event whose theme will be ‘Developing Global Potato Partnerships for Enhanced Food Systems, Food Security and International Trade’.

The biennial event attracts members of the potato industry from all over the world. The National Potato Council of Kenya and Ministry of Agriculture and Livestock Development, made the bid to have it staged in Kenya, with the support of many public and private sector partners including the International Potato Centre, SSA (CIP), Agriculture and Food Authority (AFA), Kenya Agricultural & Livestock Research Organization, KenInvest, Pest Control Product Board, Kevian Kenya Ltd, and Agriculture Sector Network (ASNET), Bayer East Africa and Syngenta Foundation for Sustainable agriculture.

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INTERNATIONAL NEWS

Many differentials for this year's market



MAY is a transitional period for the potato market in Georgia, the former Soviet country which lies at the intersection of Europe and Asia, when the market switches from last year's potatoes to newly harvested ones. It also usually heralds a price increase.

But this year, analysts at EastFruit, an information and analytics platform centring on the vegetable, fruit, berry and nut markets of East Europe and Central Asia, say a price rise is unlikely.

Harvest usually takes place in September-October in the Samtskhe-Javakheti region of the country and, while awaiting the new harvest, supply can begin to dwindle, prompting price hikes. But while 2022's harvest in the region wasn't a good one, this year prices have remained stable.

The average price for the last year's potatoes on the Georgian wholesale market has been fixed at about \$0.67/kg and is showing no signs of growth.

The reasons for this are two-fold: Prices are already very high, and potato imports are very strong.

Following the poor harvest in the Samtskhe-Javakheti region in 2022, potato prices increased in October. The average price has been stable but at a record-high level since then. Raising prices even higher is very likely to be problematic.

Georgian consumers are already paying a very high. The average wholesale price in Georgia remains the largest within the EastFruit project.

The price difference has opened up opportunities for importers who have used these opportunities. Between October and April, the country has imported slightly more than 27,000 tons of potatoes. This is the second-largest import volume for the period since 2015.

The average import volume of the previous nine seasons for October-April stands at much lower 12 thousand tons. Importing large volumes of potatoes has been keeping prices in Georgia at high, but stable levels. Without importing, potatoes would have become much more expensive, especially in the transitional period.

There are several reasons for potato prices dropping in Georgia. Potatoes from the new Georgian harvest have now started to enter the market, so with more potatoes available, prices are more competitive. But neighbouring countries are also still able to export to Georgia, reducing the possibility of price increases.

The main exporters are currently Russia and Belarus, but Turkey could also 'make a comeback' according to EastFruit. Previously the country's main importer, Turkey has more recently limited exports to fight inflation. Inflation in Turkey is still high but its early harvest volumes are believed to be large so there may be incentives to export.



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Three potato spills prompt police suspicion

A truck driver was detained after a load of potatoes was found spilled on a key bridge linking the Danish islands of Zealand and Funen.

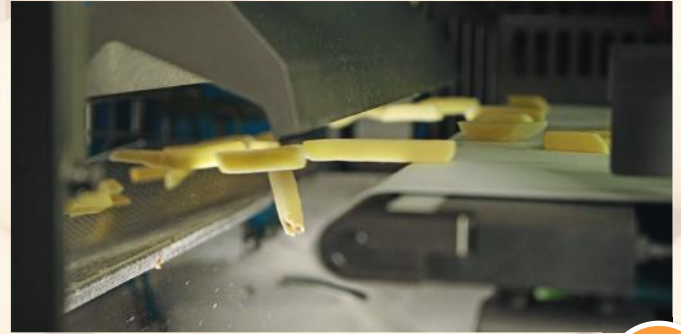
The driver was held on suspicion of causing reckless endangerment to life. A first spill was reported on the westbound side of the Storebaelt bridge early in the morning.

Police spokesman Kenneth Taanquist said that a similar incident happened on the eastbound side a short time later: "It looks weird.

We are working on two hypotheses: it is either an accident or it is something that has been done deliberately."

Police said the roads had become slippery and urged drivers to drive slowly. According to the Danish Road Directorate, lines of vehicles were reported on either side of the roughly 11-mile bridge and tunnel link.

A third incident of potatoes on the road was reported near the town of Kolding on the Jutland peninsula. Kolding is near the Storebaelt bridge.



Specialities and exports firmly in sight

SOON after setting up the business in 2005, ATOP Foods became India's first potato chip and nankeen producer to achieve ISO 2000:2005 certification for food safety management systems.

Following years of success in western India, in 2018, this business founded a new company, Bizz Corporation which focuses on French fries and specialty products sold under the ChillFill brand name, with ambitions to move into export markets.

At its four-hectare site in Morbi city, in the state of Gujarat, this plant now processes approximately 120 tons of potatoes and produces 60 tons of French fries daily.

Bizz Corporation's production lines have been getting busier by the year as product demand increased. The plant in Morbi has witnessed a three-fold increase in demand in just a few years – and expects demand to keep rising in the next few years.

Bizz Corp's CEO, J M Patel, said: "With the launch of ChillFill, we set ourselves the dual targets of increasing production volumes and product variety, as well as achieving consistently high product quality. This meant we had to upgrade our potato peeling and sorting machines. We needed machines with high performance, high efficiency, and high consistency, and we wanted to reduce food waste. We also needed to be confident that our purchased machines would have good technical support."

An Orbit Steam Peeler and TOMRA 5B sorter were both installed at the premises in 2022 when the ChillFill brand was launched, and are now running 24/7.



Prices plummet as production increases



POTATO prices have spiralled downwards in Punjab, Uttar Pradesh and some other Indian states, leading to many growers deciding to destroy their crops.

The price of potatoes has dropped to Rs500 per 100kgs this year, from an average of Rs1,200 per 100 kgs last year. Growers say they can't afford to sell potatoes below Rs900 per 100kg with current input costs.

Prices have also seen a sizeable drop in Bengal, Bihar, Uttar Pradesh, Madhya Pradesh, Gujarat and Maharashtra. Unable to get prices of more than Rs3 per kg, Punjab growers have begun destroying their crop.

Gluts of potato, as well as onion, tomato and other vegetables, has become commonplace in India owing to over-production.

In January, the Hindu Businessline predicted that the country's potato production was likely to be 5% higher as acreage was rising and favourable weather conditions boosted output. Most of the key producing districts had seen a 3-5% increase in the area under cultivation compared to the same time last year.

The Economic Times also reported in February that prices had crashed to half from a year earlier, amid a glut in production in the major producing states of Uttar Pradesh, West Bengal and Punjab.

Wholesale prices have been far below the production cost and traders expected prices to remain low this year because of high production.

The Central Potato Research Institute (ICAR), based in Shimla, says there has been a phenomenal increase in potato area (8.5 times), production (29.4 times) and productivity (3.5 times) over six decades.



New grower cooperative

A NEW cooperative of ware potato growers is being formed in the Netherlands, aimed at centralising activities and providing a better supply chain.

Three companies - Agrico, Nedato and Leo de Kock – are hiving off their ware activities to form the new independent cooperative which will begin operating in the autumn. Further integration will then take place in stages.

A joint announcement from the three companies states that the move is in response to the changing needs of consumers and is geared towards setting up sustainable integral chains. The three parties have spent the past few months giving in-depth consideration to the best way of collaborating.

They agreed that the collaboration should provide a powerful, healthy organisation that can offer ware growers a good long-term prospect and respond to current and future consumer needs. The new cooperative of ware potato growers will cooperate across the entire chain of growing, trading and packing.

Trading and packing activities will take place at Nedato's current site in Oud-Beijerland. It was felt the site is most centrally located for the majority of the growers involved and having all activities in one location will enable the entire process to be controlled better and more efficiently.

Key staff from the three companies will transfer to the new organisation to ensure good knowledge transfer and the transition to one location will take place in phases.

Management from all three companies have said the joining of forces will ensure better long-term prospects for growers.

Agrico's Chief Operating officer, Mark Zuidhof, said: "In this new cooperative, the strategy focuses entirely on potato cultivation for consumption and the ware potato growers themselves are the owners."

Director of Nedato, Wim van de Ree, agreed. "Pooling knowledge and activities relating to ware potatoes creates a highly specialized organisation with control over a short chain, in which customer needs and growers' interests are linked effectively," he said.

The 'merger' will offer exciting new opportunities according to Managing Director of Leo de Kock, Jan Bijleveld. He said. "By means of this integration, we can further improve our services to customers and strengthen our position in the market. We are excited about the new opportunities," he said.

Nedato is a growers association with more than 400 affiliated potato growers located in Oud-Beijerland, in the province of South Holland. It supplies approximately 350,000 tons of potatoes in the retail, food service, export, catering and raw material for the processing industry segments.

Potato packing business Leo de Kock, based in Purmerend in the west of the Netherlands, has been a subsidiary of Agrico since 1989, when the family business transferred the business.

Seed supplier Agrico, whose head office is in Emmeloord, operates in 80 countries, including the UK and Netherlands.



New owner for potato tech provider



THE GRIMME Group from Damme (Germany) has taken over the Polish machinery retailer Agrarada from Brzezimierz near Wrocław.

Founded in 1999 by Johan Kruijthoff, Agrarada specialises in the trade and service of potato, vegetable and beet technology and GRIMME was one of its first suppliers, having worked with the company for more than 20 years.

Johan, a Dutchman, was already intensively involved in potato cultivation in his homeland when he founded the company and one of the first employees, Arek Brzyski, became a co-partner in 2004.



Today, 20 employees work for the agricultural machinery retailer, which has also been marketing spare parts online since 2017. Agrarada has been selling agricultural machinery to Ukraine since 2000 and opened a branch there in Korchiw (Lviv Oblast) in 2019.



CP 42 Smart-Float available in 4 x 90 cm

THE sector-wide preference for planting and ridging in one working pass has never been greater, according to manufacturer Dewulf which has been responding to this demand for several years with the Smart-Float principle.

The technique was first used on the CP 42 cup planter (75 cm) and is now also available for the Structural 4000 belt planter. Using Smart-Float, the planter actively and continuously maintains a constant working depth of soil cultivation and planting. The CP 42 Smart-Float is now available in 4 x 90 cm.

With the latest generation of Smart-Float machines, it is possible to adjust rotary cultivation and planting depth independently, from the cabin, on both the HMI and ISOBUS control displays.

Combined with a GPS-controlled ISOBUS display, options such as Section Control and Variable Rate Control can be deployed according to specific on-site needs. Both of these functions have been available

in combination with the HMI control display for some time, under the names HMI GPS Planting Comfort and Control.

The driving force behind the soil cultivation of the CP 42 Smart-Float is the SC 360 Compact cultivator. Its large, 650 mm rotor diameter makes it possible to till deeply for better growing bed preparation, while retaining the compact dimensions of the machine, the manufacturer states.

Thanks to its distinctive design, the SC series always loosens enough soil, enabling the planter to easily form a good ridge. The cultivator hooks are also optionally fitted with Widia wear parts that guarantee a long service life. With this CP 42 Smart-Float, the furrow opener beam is also mounted to the planter itself with hydraulic cylinders.

This provides even more precise depth control. During planting, sensors always enable the rotary cultivator to produce the desired amount of loose soil and crumbling coarseness. In this way, the furrow openers maintain a consistent planting depth that follows the contours of the field.

The SKAi's the limit ...

A SCALED-UP version of SKAi, the 'retrainable, smart-camera vision system', developed by Forfar-based precision farming specialist SoilEssentials, has been unveiled.

SKAi, which was awarded a 2022 Silver medal in the Royal Highland Show Technical Innovation Awards has, over the past 12 months, also been 'trained' to work in a new range of weed and volunteer plant scenarios.

It utilises smart cameras, trained in the recognition of target plant species, to control an agricultural crop sprayer as it passes over a field. Initially utilised to target dock infestations in grassland, the system is designed to control a bespoke, tractor-mounted sprayer.

Updates to Sortop

UPDATES to the Visar Sortop, a Swiss-manufactured optical potato sorting machine, have been announced by UK vegetable handling equipment manufacturer Tong Engineering which provides solutions to growers and producers throughout the UK.

The Visar Sortop optical sorter uses intelligent optical sorting technology based upon a 360-degree mirror system and HD camera for great accuracy at speed. It is designed to accept any form of potato, even one that is highly twisted, and can detect defects to the nearest millimetre or gram.

It now has a new infeed system.

New partner supports South-West growers

GRIMME UK will have a new Premium Partner supporting growers in the South West from November.

Somerset, Devon and Cornwall will now be covered by Hamblys whose portfolio of franchises currently includes manufacturers such as Claas, Lemken and Horsch. Hamblys has five depots covering the South West, which include key potato growing locations.



Supplier takes part in UK truck trial

IN one of the first trials of its kind in the UK, national potato supplier Branston is trialing Volvo's FM Electric 4x2 truck as part of its fleet.

Following two years of research, Branston has today started a one-week trial of an electric-powered (EV) truck, with Crossroads Truck and Bus Ltd, the truck dealer for Volvo. Branston is one of the first businesses in the UK to do so in a real-world setting. The aim is to explore the mileage capabilities, charging practicalities and driving performance. The vehicle will be used to support both distribution centre deliveries and farm pick-ups.

Transportation poses a huge environmental challenge to suppliers because of the need to collect the fresh produce from growers, bring to packing sites then deliver to customers while still fresh.

Branston's HR and Logistics Director Simon Telfer, said: "A key part of our transport strategy is ensuring Branston's transport not only works for us now but in the future. As a business we have ambitious goals to reach net zero and we're passionate about delivering this for the transport section.

"Having researched the most viable alternative fuel options, we feel electric powered is the most practical for our needs. We approached Crossroads Truck and Bus Ltd back in 2021 and started working together to bring this trial to fruition. The trial will involve one truck, which has been delivered from Sweden, being utilised across various functions to give us a broad understanding of which tasks it is most suitable for."

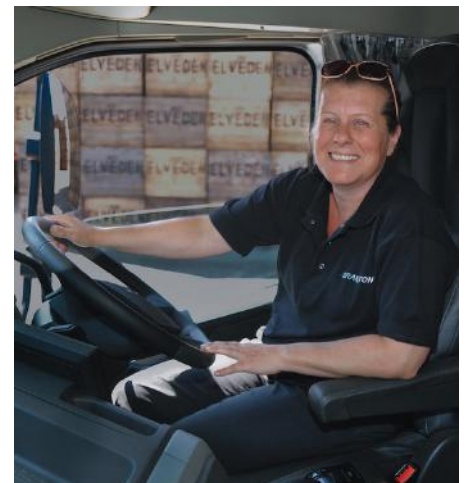
Currently, the vehicle can travel approximately 300km on one charge of the latest model of battery before it requires recharging. Branston is one of the first businesses in the UK trialling the Volvo technology.

Simon added: "By 2035 we're confident the batteries will have progressed to a point that our drivers can reach any location required and make a return journey without having to recharge, which is a key aspect of the feasibility of EV for Branston.

"This trial will allow us to understand any challenges, such as the charging and cost, and what improvements we'll need to make to transition our fleet within our timeframe. We know the vehicles aren't where we need them to be to transition our full fleet yet but the purpose of undertaking the trial is to see how it drives and how it impacts our operations."

The truck replicates the features and comfort of the traditional model currently used worldwide but is powered by electricity with a charging time of 2.5 hours when using maximum wattage input. The team will use the vehicle across three different shift patterns to get a good reflection of its suitability.

Driver Trainer Lindsey Burrows will be responsible for supporting the transport team. She said: "EV is the future and the sooner we can get on board with seeing what options are out there, the better. It's an exciting time to be working in transportation as so much change is



happening, I'll be supporting the team in ensuring their training is up to date and they're comfortable with handling the vehicles, including the charging of them, which will be new to everyone.

"We're looking forward to seeing how the vehicles work."

Area Sales manager for Crossroads, Adam North, said there has been a strong working relationship between Branston and Crossroads for more than 20 years. "Not only does Branston understand how Volvo operates, but like us, they share the same view that compromise and investment is required to achieve our aligned net zero targets and the only way to achieve this is working together," he said. **PR**

"A key part of our transport strategy is ensuring Branston's transport not only works for us now but in the future."

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Appy ending to compliance headache

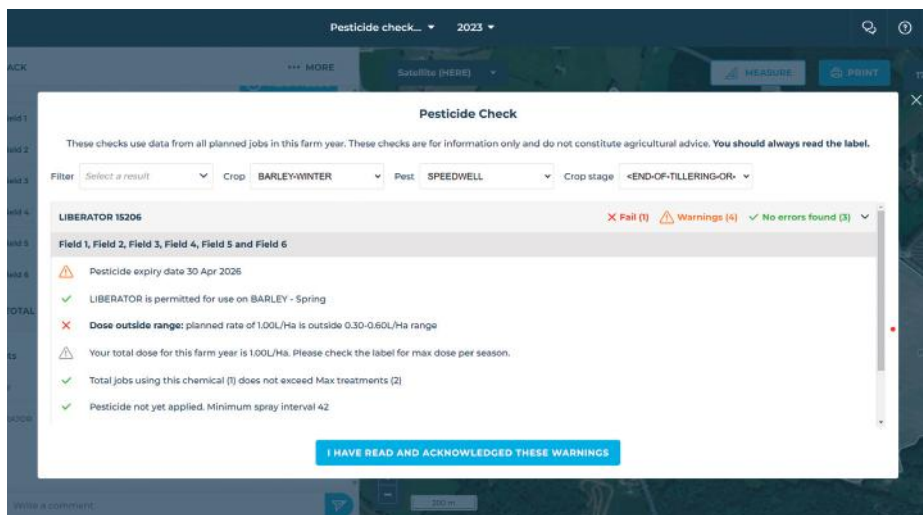
RELIEF from the headache of pesticide compliance checks is the latest promise from farm management app fieldmargin.

The record-keeping and decision-support app now incorporates a pesticide checking database, helping growers and agronomists to double-check that a proposed application meets current regulations.

Camilla Hayselden-Ashby, fieldmargin's Head of Product, said: "When you're having to juggle weather windows, crop-walking, agronomist recommendations and paperwork, there's always the risk of error. At worst, it could lead to costly crop damage or a fine, but even a relatively minor change to a label can result in loss of certification. It's easy to overlook a label change, especially if chemical stock is carried over from a previous season."

The fieldmargin app is built to make integration of multiple data sources simple and inexpensive to achieve, she said. For Pesticide Check, the app interfaces with latest data from Lexagri's Homologa® database, the world's largest crop protection product database, which is supplemented by data from Fera in the UK.

Any crop protection recommendation made by an agronomist or a BASIS-qualified grower – must consider factors such as the target pest or disease, the growth stage and the application history.



Inputting the statutory recommendation prompts the app to perform a number of checks to check for any potential breaches of compliance, such as the product's expiry date, whether it's permitted for the target crop or variety, that the application rate is within the maximum dose, that maximum seasonal applications won't be exceeded, and even advise on withholding periods"

If there is an obvious compliance error, it will return a result of 'Fail'. A 'Warning' result prompts the user to conduct further checks, while 'No error found' indicates that no breaches were identified.

"The app will never fully 'green light' a proposed application – the decision to go ahead always lies with the person responsible – but with all the information to which it has access, such as registrations, licensing, MRLs, expiration dates, actives, approved crops, doses and so on, its day-to-day use is very intuitive," said Camilla.

Pesticide Check will be available to users with a Pro subscription, the level that also includes unlimited satellite imagery analysis. The app itself – with its ability to map a farm in just 30 minutes – is available to download for free.

Cloud innovation for carbon calculator

FARM carbon calculator, Agrecalc, has unveiled its Agrecalc Cloud version.

One of the first carbon calculators to enter the market when it launched in 2007, Agrecalc has been consistently iterated and developed based on intensive scientific research from Scotland's Rural College (SRUC) and feedback from farmers and the supply chain, and was recently created as a standalone company.

Its agricultural systems modeller, Kaia Waxenberg, said the cloud-based version of Agrecalc is the culmination of years of collaborative work with scientists, farmers and industry specialists.

"We are looking to represent more of each unique farm system, to provide users with the tailored data they need to tell their climate story," said Kaia.

All data is held in the Cloud with the enhanced new platform.

Agricultural researcher in soil emissions, Carolina Alvez, who has been trialling Agrecalc Cloud during its development, said: "There are pre-populated fields with various nutrients, and that saves a lot of time. You can add more information, and you have access to more information, which helps immensely in creating reports."

Irradiance sensor improves irrigation management

SENCROP'S new Solarcrop irradiance sensor, which has just been launched in the UK, means producers can link up real-time solar irradiation, rainfall, humidity, temperature and wind data, as well as accurate weather forecasting, in one simple app.

Based on crop type and growth stage, this accurately predicts evapotranspiration rates and soil moisture availability, helping farmers to identify when and how much to irrigate without the need for expensive and very localised soil probes.

Product Innovation Manager Thibaut Mathey-Bony said one sensor can monitor up to 10 fields across a range of 10 miles and, when combined with the Raincrop and Windcrop sensors, as well as individual field and crop information, can accurately predict the soil moisture surplus or deficit over the coming seven days.

"Based on two years of research and development and patented technology, Solarcrop measures solar irradiation to a unique accuracy of 2%," he said.



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Select 200 Potato Harvester '22, ex-demo, 75 hrs, hyd drawbar adj, row width 85cm, intake width 580mm, 2 piece share, tetatronic, intake web 45mm w/ PU drive, clod breaker, rotor agitator, 1st main web 40mm, friction drive, vario drive for intake and first main web **£225,000** (Ref: 71087458)

Varitron 270 Potato Harvester '22, 222 hrs, ex-hire, f/linkage for haulm topper, depth control, 1nd adj centre share, terra control, intake web 1700mm, pitch 40mm, row width 85cm, clod breaker, rotor agitator in take web **£545,500** (Ref: 31087456)

Varitron 220 Potato Harvester '17, f/linkage & pump, cent/share hyd drive intake, under drive intake 1st main, segment roll extract/unit, hyd speed adj 2nd web, cart elev agitator, 35mm intake, 32mm 1st main **£205,000** (Ref: 21080542)

Varitron 220 Potato Harvester '16, 3750 hrs, double multi separation unit front linkage, HT 210 topper, intake web 1700 wide, friction drive, folding canopy frame and wide trash conveyor, 900mm wide tracks **£198,000** (Ref: 71089872)

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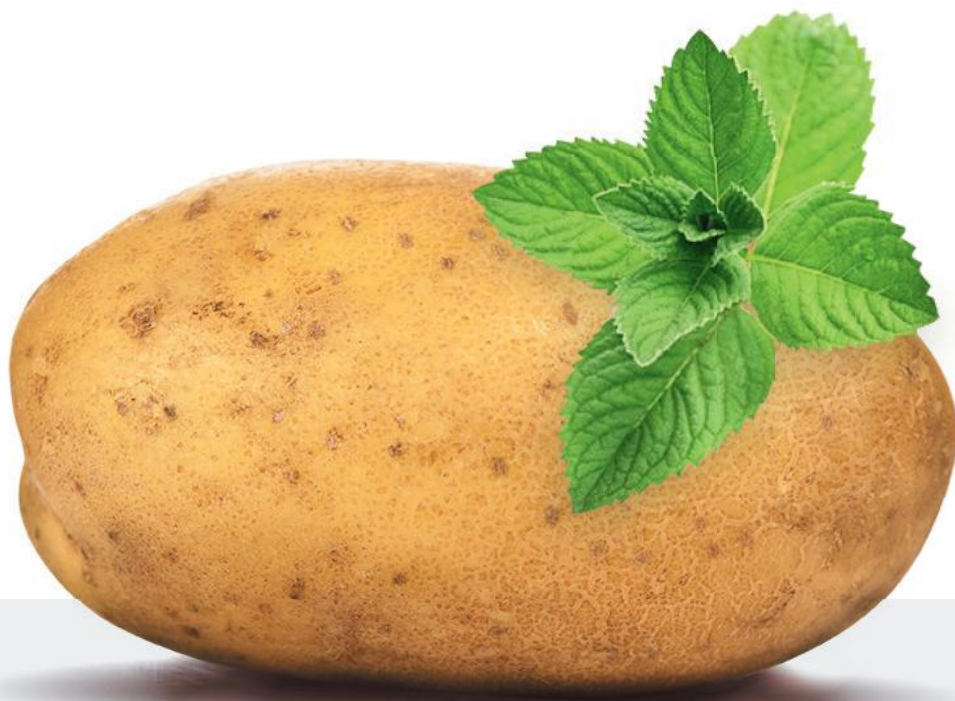
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