

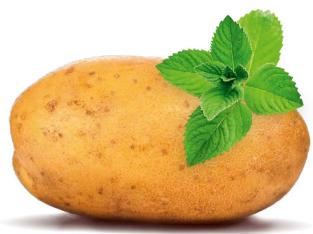


STORAGE INSIGHTS | THE LATEST ON BLIGHT | TRIALS DAY REVELATIONS

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#### **Editor's letter**

THE past few weeks have presented some great opportunities to see first-hand how trials and projects aimed at facilitating things for the potato industry are taking shape, especially north of the border, and we bring you feedback on all those events in this issue.

First there was a PCN open day organised by PCN Action Scotland. This cross-industry effort is the third one to have been held and conveyed new information about potato cyst nematodes and their control from the nine research work packages taking place within the project. It was the last public open day hosted at Barnyards farm as the project will enter its final year in 2025, and we share details about this event on page 11.

Agronomists, scientists and soil specialists share practical knowledge gleaned from trials at a demonstration day hosted by Hutchinsons.

Then, there was the annual Potatoes In Practice event in Dundee, hosted by the James Hutton Institute in partnership with SRUC and Agrii, which showcased a variety of demonstrations, latest research, trade exhibits, and expert knowledge sharing. Our extensive coverage of this event, its speakers, and field exhibits can be found on pages 28 to 30.

There have also been some impressive machinery launches of late, and our extensive machinery section brings you full details of the latest upgrades, introductions and operator tips.

Growers are continually coming under pressure from their customers to report reductions in their carbon footprint, so this month Agronomist Andrew Goodinson looks at some of the ways potato growers can enhance their efficiency and move towards carbon neutrality.

In our blight section, several experts share their knowledge of surprising strain findings, mix rate suggestions and taking later action, while the importance of nozzle choice is outlined in our desiccation feature.

Finally, as we start to think about harvesting and storage, be sure to check out the tips and information offered from specialists in the storage sector.



Stephanie Cornwall

- 04 News updates
- 10 Fresh produce contenders
- 11 PCN open day
- $14\,$  Trials day review
- 17 Blight insights

20 Storage



24 Seasonal agronomy tips



- 28 Potatoes in practice review
- 31 Dessication



- **34** GB potatoes
- 35 Consumer insights
- 36 International
- 43 Trap crops



- 44 Machinery
- **52** Biologicals and cover crops
- 53 Legislation
- 54 Events/industry updates
- **55** Appointments



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### Global growth in frozen potato products

ROBUST growth is anticipated within the global frozen potato products market over the

next five years, according to a new report.

The latest research from

ResearchAndMarkets.com states that the market is expected to see compound annual growth rate (CAGR) of approximately 5% during the forecast period and is anticipated to reach USD 89.51 billion by 2029.

Last year the market was valued at 67.27billion US dollars.

Key factors driving the growth include expansion of the foodservice industry,

increased investments in marketing and promotional activities by major industry players and a rise in e-commerce and online grocery shopping.

French fries held the highest market share and are expected to be the fastest-growing segment during the forecast period. The global expansion of fast-food chains like McDonald's, Burger King, and KFC has significantly contributed to this, along with a rise in online food delivery services.

North America held a major share of the market while Germany is the biggest European consumer of frozen potato products and India is the biggest consumer in Asia Pacific, where many global fast food chains have been expanding operations.

### **Key appointments in research and processing**

THREE key appointments have been made within potato research and processing representation recently.

Professor Ian Toth, Director of the National Potato Innovation Centre (NPIC) and Scotland's Plant Health Centre at The James Hutton Institute, has been appointed as President of the European Association for Potato Research



th John Sedgwick

(EAPR), in recognition of his 35 years' pioneering potato research.

Professor Tim George, Deputy Director of The International Barley Hub (IBH) at The James Hutton Institute, has been appointed as President of the International Society of Root Research (ISRR),in recognition of his expertise and global reputation in soil and root science.

John Sedgwick, UK Potato Supply Manager at Lamb Weston in Wisbech, has been formally appointed as the new Board Chair of the UK Potato Processors' Association (PPA).

• Turn to our appointments page for full details.

### More residue data urgently needed to keep potato stores in use

POTATO stores in the UK that previously used CIPC could be at risk of becoming unusable owing to the residue of CIPC.

As of April 10th, 2024, CRD set the tMRL for CIPC at 0.35 mg/kg. This tMRL is maintained so long as the industry can prove that it is required. To demonstrate this, data needs to be submitted on an annual basis.

Most growers can access residue data through their customers who routinely test samples for CIPC or through samples taken for Red Tractor. This data can then be anonymised and submitted. The process is coordinated by the CIPC Residue Monitoring Group (CRMG) which is a cross-industry body set up to satisfy the data submission requirements of the CRD.

Adrian Cunnington of Potato Storage Insight, the independent Chair of CRMG, reports that it is still lacking data from box stores in the fresh sector from across the country so is appealing for those supplying this market, who previously used CIPC, to submit their residue data. Without this, the industry could be facing the loss of stores to the legacy of CIPC if the MRL is set to limit of detection (0.01 ppm).



Data can be sent to Adrian at adrian@potatostorageinsight.com who will anonymise the data and submit to CRD.

More details can be found at www.gb-potatoes.co.uk/cipc-residues-monitoring-group or by contacting any of the members of the CRMG.









# Call for home-grown potato support from Government

THE new UK Government needs to prioritise policies which boost home-grown potato production, the NFU has claimed.

British potatoes are usually available for people to buy all year round but consecutive years of extreme, volatile weather and soaring costs have taken their toll on family businesses, leading to a tightening supply of this household staple, the NFU highlights.

Potato policy group vice chair Alastair Heath said: "The future of British potatoes is at risk. A number of growers have made the difficult choice to reduce production to minimise losses, and the relentless wet weather has put many more growers weeks behind schedule. For some, profits have been all but wiped out. Business confidence is low and investment has become a far-away concept, which is putting pressure on British potato supplies in the short-term.

"While it's unlikely to lead to empty shelves this year, this pressure on the home-grown crop is an indication that we need urgent action to prevent the situation getting worse. I believe we can and should be self-sufficient in potatoes."

To help reduce the impact on shoppers, supply chains have been working with growers to be flexible with specifications to use as much of the British crop as possible, and more imports are also being used so the public aren't faced with empty shelves.

However the NFU is warning that the UK cannot rely on imports as a back-up plan.

"War is raging in both Europe and the Middle East. Climate change is wreaking havoc on food production across the world. We can no longer assume that we will always have access to food imports to plug gaps in our own market," said Alastair. "Given the volatile global environment we find ourselves operating in, this is not an effective contingency plan for our food security. Our next government must focus on building resilience, confidence and profitability on farms at home, so products like the great British potato can continue to grace family dinner tables long into the future.

He urged the new British Government to recognise that policies to boost home-grown food production must be a priority.

The NFU has urged the government to do the following:

- Plan for a proactive management of watercourses to reduce the risk of flooding and enable access to water in times of drought
- Deliver a plan for the use and availability of plant protection products
- Deliver an agricultural budget of £5.5 billion for England and Wales with funding for new and existing reservoirs and cold storage facilities

The NFU has also called on supermarkets to continue to support suppliers by maintaining the relaxation of supermarket specifications of potatoes to ensure quality potatoes aren't going to waste.



#### 'Reduce imports and help UK growers' call

THE UK must stop relying on imports and fix diets by doubling the land used to grow fruit and vegetables and backing British, nature-friendly farming, according to a report sent to the Government by growing and environment groups.

In an open letter co-ordinated by the Soil Association, TV presenters and influencers recently joined voices from across the farming, food and environmental sectors to call on the new Prime Minister to back and scale up the UK growing sector.

The call follows a new report from environment charities the Soil Association, Sustain and The Wildlife Trusts that says action must be taken to boost consumption of local and nature-friendly fruit and veg.

Campaigners have highlighted the "vulnerability" of UK growers, warning that public health will be further at risk if current trends continue and production declines further.

They say imports account for nearly half the vegetables consumed in the UK and have called for government intervention to back sustainable British growers and for land used for growing in England to double.

### 'Reciprocal trade must resume'

THE National Farmers Union (NFU) has drawn attention to a concerning shortage of seed potatoes which threatens to disrupt EU potato supplies.

Without a steady supply of high-quality seed potatoes, which were historically imported from Scotland pre-Brexit, it is becoming increasingly difficult to secure the future supply of ware potatoes, the organisation states in a recent website update.

It stresses that a resumption of reciprocal trade of seed potatoes between the EU and GB would help to address the current shortage in seed potatoes.



#### Family growers redesign crisp brand's packaging

HAND-COOKED crisps brand Fairfields Farm has launched a new packaging design.

The contemporary design from the independently-owned business, which is based in Essex, is being rolled out across all product lines and aims to highlight the farm's dedication to natural ingredients and eco-friendly practices.

The new design pays homage to Fairfields Farm's surrounding environment featuring

farm

swallows and the reservoirs the business

"This redesign is not just about aesthetics.

#### has built to reduce its water impact. Co-founder Robert Strathern said: It's about aligning our packaging with our values. We want our customers to feel good about choosing Fairfields Farm crisps, knowing that they are supporting a brand that prioritises quality, sustainability



GHOST SHIP

farm ...

#### **Potato** packaging choices key to reputation and profits

THE importance of packaging to the reputational and financial performance of companies supplying fresh potatoes is highlighted by the findings of a new report.

The majority of respondents from the fastmoving consumer goods (FMCG) sector who took part in a survey organised by Aquapak said that there is a significant threat to their business if the environmental performance of the packaging used is not improved, with two thirds describing it as high and 31% saying it was 'average'. Just 3% said the threat was very low.

Nearly three quarters (70%) of respondents said that their business faced the risk of reputational damage if they didn't improve the environmental performance of their packaging, 67% said they could miss Environmental, Social and Governance (ESG) and sustainability targets, and 60% said they would see a drop in market share to competitors.



farm

ROAST RIB OF BEEF

### Field lab looks at making trap crops more viable

A TEAM of lab growers and research at Innovative Farmers are investigating using potato trap crops for cattle silage, which, if successful, could bring about cost savings for growers and make trap cropping a more viable alternative to PCN control.

The group is growing the trap crop DeCyst Broadleaf (Solanum scabrum), to both reduce potato cyst nematode (PCN) and experimenting with using it for cattle feed.

This project seeks to investigate whether it is possible to generate a silage from DeCyst Broadleaf, determine the nutritional value of the silage, determine the feed safety of the silage, and determine the palatability of the silage.

Trap crops have been proven to be a nonchemical alternative to controlling PCN, with a previous Innovative Farmers field lab showing they can offer up to 80% efficacy. However, they cost the grower in both money and time, and since they are grown in the field the year before the potato crop, they use land which could be used for other crops.

"Trap crops have good levels of protein and calcium, and are leafy, which could make them a viable feedstock for cattle in the UK," a team statement said. "If trap crops could have other uses such as cattle feed it will enable a single crop to do two jobs in an integrated farm system."

During the experiment, the DeCyst Broadleaf trap crop will be grown and yield will be assessed (t/ha). The group will then carry out different chopping treatments to discover the best way to process the plant for effective drying. A minimum of 10 bales per treatment will be made. Dry-matter will be assessed prior to baling to ensure the plant material is in a fit state to be baled.

To determine the nutritional value and feed safety of the silage: Three composite samples from bales will be sent for analysis and to determine the palatability of the silage, a cattle experiment will be established (subject to the safety of the silage) comparing trap crop silage, grass silage, and a mix of trap crop with grass. If there is any doubt about the safety of the silage to cattle, the palatability section of the trial will be reduced in scope or dropped in favour of more intensive toxicity assessment of the silage.

### Late blight on the wane

THE Fight Against Blight monitoring and reporting service run by the James Hutton Institute has reported more than 35 confirmed cases of late blight in Great Britain.

This compares with 190 for the 2023 season and 73 in 2022. The results will inform future control strategies as well as shining a light on the sources of local outbreaks and the success or otherwise of efforts to control blight at the local and regional level.



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Potatoes revealed as sixth most wasted food item as Brits bin £900 of food essentials a year.

OTATOES are the sixth most commonly-disposed of essential food in the UK, equating to a wastage of £46.16 a year per household, a new survey has revealed.

More than 3,000 people were questioned in the survey by electrical retailer AO.com, which revealed that the average British consumer bins £450 worth of freezable essential foods a year, with potatoes being thrown away every two to three weeks.

Those who responded to the survey admitted to struggling to eat food before it goes out of date, with the average British consumer spending £85.72 on their weekly grocery shop – before throwing away 10% of the items bought.

The most common food essentials thrown out by Brits in the UK are as follows:

- Fruit and veg £5.24 a week from grocery shop, £272.48 per year (Thrown out 53 times a year on average)
- 2. Breads £1.40 a week, £72.80 per year (Thrown out 51 times a year on average)
- 3. Milk £0.65 a week, £33.80 per year (Thrown out 47 times a year on average)
- Meat and fish £4.80 a week, £249.60 per year (Thrown out 43 times a year on average)
- 5. Yoghurt £0.83 a week, £43.16 per year (Thrown out 41 times a year on average)

- Potatoes £0.89 a week, £46.28 per year (Thrown out 38 times a year - every 14-18 days)
- 7. Stock £0.25 a week, £13 per year (Thrown out 37 times a year)
- 8. Cheese £2.08 a week, £108.42 per year (Thrown out 36 times a year)
- 9. Eggs £1.24 a week, £64.48 per year (Thrown out 36 times a year)
- 10. Herbs £1.25 a week, £65 per year (Thrown out 36 times a year)

The study found fruit and vegetables as the worst offending items, with Brits admitting to throwing them out most frequently throughout the week. With the estimated grocery spend on fruit and vegetables coming in at £5.24 a week, this tots up to £272.48 per year – or £21,798.40 in a lifetime.

Food Storage Expert at AO.com, Sarah Heap, said: "In the wake of the cost-of-living crisis, the findings that Brits are binning the equivalent of a month's worth of food every year is really shocking, especially when this figure equates to more than the average UK salary in a person's lifetime. However, our study found that many of the essential food items that are ending up in the bin could actually be saved. By portioning out these items at the start of the week and filling up the freezer, Brits could save money and reduce their food waste.

"Technology also has its role to play in helping us to live more sustainably, and it's important people make the most of the way they store foods to prolong shelf life. For example, all the items listed in our survey can be frozen – such as bread, cheese, stock and potatoes – if prepared in the right way first."

In light of the findings, AO.com has partnered with influencer Kate Hall, known as The Full Freezer, to help Brits make the most of food storage options and reduce waste in their households.







#### Former hobby grower enters the main league

A FORMER Irish hobby grower has tackled some major challenges and grown her business to such an extent that she is now making a 'soft launch' into the UK and upping her export game.

Eight years ago, Irish housewife Maria Flynn at Ballymakenny Farm Heritage Potatoes had just started growing heritage potatoes.

Back then, she had just one variety, Violetta and she viewed growing as a bit of hobby. Maria now grows eight different varieties of heritage potatoes and is looking forward to exporting for the first time, she revealed in a recent interview with Nichola McGregor at Fresh Plaza.

"We grow 20 different varieties on 20 acres. My husband grows the standard varieties while I grow the heritage ones," she said. "In the last few years, I've gone from doing this as a hobby to winning awards and being on TV with celebrity chefs! It was all going well until Covid hit and wiped out 100% of my market. During that time, we opened a drive through - 'Spud Shack' - to stay in business, which we are now looking to develop into a speciality tearoom and farm shop."

Another heritage variety in Maria's range is the Pink Fir Apple potato, which originated in France and was brought to Ireland in the 1800s.

"When you have varieties this old it is difficult to prove the history, but I can vouch for the taste. It is a fingerling potato with a very nutty flavour, it has been a big hit with the chefs in Ireland.

"We are happy with our Irish market, which now has its own momentum. This year we are moving the business on as we have found a means to supply the UK market. We entered a collaboration with Patch Potatoes (McCreight Potatoes) who also specialise in heritage potatoes. Our varieties will be available on Patch Potatoes' website to sell throughout the UK using an established network of couriers. Home growers can buy their seed potatoes from their website to grow themselves."

Maria is looking forward to establishing a relationship with McCreight Potatoes sourcing seed and finding other interesting varieties to grow.

"We are really happy to be able to expand the business, this year will be a soft launch into the UK as it has always been our plan to grow the business slowly, and we really look forward to working with chefs in London and beyond."

#### 'Hobby growers putting industry at risk'

THE commercial potato sector is being put in jeopardy by those who grow spuds in their gardens and allotments, it has been claimed.

A recent potato workshop, jointly hosted by Cafre (College of Agriculture, Food and Rural Enterprise) and Teagasc, the Republic's agrifood advisory service, heard that hobby growers are putting the island's commercial potato sector at risk.

While Phytophora infestans is evolving and fast becoming resistant to many of the blight fungicides available, hobby growers tend

not to spray their crops, therefore allotments and back gardens have become "reservoirs" for new, potent fungal strains, those at the workshop heard.





### Fresh-faced and ready!

Potato producers and suppliers are hoping to gain global recognition after being shortlisted for a fresh produce award.

NUMBER of potato industry specialists, including growers, suppliers, technical experts, retailers and more have been shortlisted for awards covering topics such as sustainability, supply, agritech and workplace conditions in the 2024 FPC Fresh Awards, organised by the Fresh Produce Consortium.

Potato suppliers Albert Bartlett and Greenvale are amongst those shortlisted for The Sustainability Excellence award, alongside Fresh Direct (whose potato suppliers include family-owned E Park & Sons), Innovation Agritech Group, SoilPoint (whose products aim to boost soils for potato crops), Heritage Fine Food Company (which works with South-West growers to supply fresh potatoes to wholesale and household markets) and a potato fertiliser producer Unikem.

Fresh4uProduce, which supplies and imports a number of potato varieties from all over the globe, is a finalist for the Wholesale Fruit & Veg Supplier of the Year award, alongside Fresh Direct and Heritage Fine Food Company.

Fresh Direct is also a finalist for the Best Marketing Campaign award.

The award for agritech and innovation excellence shortlisters include BASF Nunhems, Gardin, HarvestEye, Innovation Agritech Group, IPM Scoutek (pest management software), Jones Food Company, potato equipment manufacturer Martin Lishman, Diss-based soil biology insights firm PES Technologies, The Institute for Agriculture and Horticulture (TIAH), and Unikem.

Technology Champion finalists include Fresh4cast, a provider of forecasting and planning tools for growers; Lincolnshirebased Jones Food Company which designs, builds and operates vertical farms; Loughborough-based Zayndu, the creator of ActivatedAir<sup>--</sup>, a technology that eliminates seed-borne pathogens.

In the people categories, two women working within potato supply have been shortlisted for The Rising Star of the year award. These are Cinderella Sharaf Eldin, Sales Manager for AHMS FOR Exports, a family-owned company which cultivates and exports the Rozita and Spunta potato varieties, and Jones' R&D grower Hannah Hobhouse. David Tugwell, Operations Manager for ProducePackaging UK which produces potato sacks, flexible wrapping and trays for fresh potatoes, as well as ready meal trays for processed potato products, is shortlisted for the Manager of the year award.

The Best Place to Work Award finalists include Aldi UK, BX Technologies (supplier of environmental farm management software), MorePeople (a recruitment specialist for all businesses operating from 'field to fork'). MorePeople and ProducePackaging UK are also finalists for the Team of the year award.

#### **Retailer awards**

Co-op, M&S SImply Food, Premier, Tesco Express and Sainsbury's Local are the finalists competing for The Convenience Retailer Award.

Asda, Morrisons, Sainsbury's, Tesco and Waitrose are competing to be named Online Fruit and Veg Retailer 2024, while Multiple Fruit and Veg Retailer of the year finalists are Aldi, Lidl, Marks & Spencer, Tesco and Waitrose.

The award winners will be announced at a prize-giving ceremony on Friday, September 27th.



▲ Albert Bartlett, which has taken a big stance on tackling food waste through its recent collaboration with Fareshare, is a finalist for The Sustainability Excellence award.



▲ ProducePackaging UK which produces potato sacks, flexible wrapping and trays for fresh potatoes, as well as ready meal trays for processed potato products, is shortlisted for the Manager of the Year award.









### PCN Open day 2024

Strong attendance at cross-industry event which provided updates on latest trial results.

OR the third consecutive year PCN
Action Scotland has held an annual
public open day hosted at Barnyards
farm in Tannadice to discuss the
project's field trials results.

In a cross-industry effort, the open days are organised by SRUC / SAC Consulting, while the field trials are conducted by Scottish Agronomy. Talk sessions and demonstations during the day were given by members of SoilEssentials, The James Hutton Institute, SASA (Scottish Government), SAC Consulting, and Scottish Agronomy.

The aim of these open days is to convey new information about potato cyst nematodes and their control from the nine research work packages of the project: Economics, decision support, resistance marker development, dihaploid breeding, variety tolerance, groundkeeper control, IPM tools, knowledge exchange and policy.

There are two species of potato cyst nematodes which cause significant damage to crops in Scotland: Globodera rostochiensis and G. pallida. Historically G. rostochiensis is most prevalent, however growing varieties with resistance to this species is helping towards bringing populations under control, according to Dr Kerry Leslie, Potato Consultant with SAC Consulting.

"Unfortunately, many popularly-grown varieties do not have resistance to G. pallida, which has led to a sharp increase in their populations. The land used for PCN Action Scotland at Barnyards farm only has G. pallida populations present," she said.

The open day is targeted at anyone involved or in contact with the potato industry and this

year there was a record number of attendees across the morning and afternoon sessions. It is believed around 120 attended.

Those leading the project say the PCN problem in Scotland can be addressed by all members of the industry: Growers, landlords, breeders, processing/packers, and retailers (supermarkets). An example of this is breeders producing resistant and tolerant varieties that have a swift uptake onto accepted variety lists by packers and retailers, whilst being grown in larger quantities by growers.

"Correct deployment of these varieties would cause a rapid reduction in PCN populations. Following the four years of continuous field trials, PCN Action Scotland believe that the best way to tackle the PCN problem across the UK is to increase the uptake of varieties which are both highly resistant and tolerant," said Kerry.

The industry also needs to show greater collaboration regarding groundkeeper control, those at the open day were told.

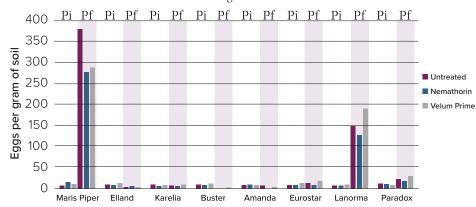
Groundkeepers act as a host for PCN, allowing population growth during the rotation.

"With such a high proportion of our potatoes being grown on rented land, it is important to formulate plans between tenants and landlords, detailing how to tackle any groundkeepers left by previous potato crops. Tackling groundkeepers may also help towards other challenges the industry face by removing the disease reservoir for viruses," she said.

This year's open day saw talks from Dr Kerry Leslie on the potato varieties included in the 2024 trial, and results and trends from the 2023 trial data, including the tolerance status of some varieties.

Consistently, the highly-resistant varieties (e.g. Buster, Elland, Amanda etc) have reduced the PCN (G. pallida) population after planting. This is evident when compared to the susceptible variety Maris Piper which increased the G. pallida population from 7 to 383.3 eggs per gram of soil after harvest (See figure 1). →

Figure 1



Varietal tolerance can also be implied from the yield response to nematicides, those at the open day were told. A less tolerant variety will have a significant increase in yield when treated with a nematicide. A tolerant variety will produce roughly the same yield regardless of nematicide treatment. Through this research project it has become apparent that some varieties fluctuate in their tolerance score, indicating environmental factors also play a role in this (see Figure 2).

It's also important to recognise the difference between resistance and tolerance, attendants were reminded.

"Resistance is the ability of a variety to limit PCN multiplication, while tolerance is the ability of a potato variety to maintain yield in the presence of moderate PCN populations. Resistance and tolerance are separate measurements. Repeated cultivation of susceptible, tolerant varieties can increase PCN populations to levels at which even the most tolerant varieties will fail to yield."

#### ghghg

Jon Pickup, Lead Nematologist from SASA, a division of the Scottish Government, is tasked with reviewing current PCN policy and looking for areas where it can be made more effective in controlling PCN.

By itself, pre-crop testing of seed land is not stopping the spread of the two species of PCN, and additional control measures are required, in particular the targeted use of resistant varieties, he said.

With 60% of Scottish seed crops and an estimated 68% of ware crops highly resistant to G. rostochiensis, the industry has the tools to combat this species of PCN. Requiring resistant varieties to be grown in proximity of existing infestations could be encouraged through advisory leaflets issued by PCN Action Scotland.

Jon said there is also scope to explore how a review of relevant legislation, the seed potato classification scheme and other policy levers can be used to control PCN populations in Scottish soils.

"For G. pallida, our options are currently far more restricted, as highly resistant varieties are only responsible for 8% of Scottish seed crops and an estimated 4% of ware crops. However, it is vitally important that any policy changes help incentivise the cultivation of G. pallida resistant varieties.

"Responsibility for PCN control should not rest solely with the seed industry and there is a need for the ware industry to play its part, since following best practices for PCN management will ultimately minimise loss of yield in ware production.

"With probably over 75% of potato production taking place on rented land, better engagement

with landlords and landowners is required for long term PCN management, although management options lie mainly with the growers."

Jim Wilson from SoilEssentials discussed the decision support system (DSS) which was also publicly demonstrated at Potatoes in Practice.

SoilEssentials also conducted a live demonstration of the SKAi Spot spraying system. This is an AI-assisted system which identifies problem species (e.g. potato groundkeepers) in crops and targets them for herbicide application. The use of this system can reduce chemical use between 85-95%, reduce crop damage and environmental impact while providing a time-conscious approach to the removal of potato groundkeepers.

The event this year will be the last public open day hosted at Barnyards farm as the project will enter its final year in 2025. However, PCN Action Scotland intends to host a final meeting at the end of the project to discuss the data gathered, year-on-year trends seen throughout the trials program, and any outstanding work to be followed up outside of this project.

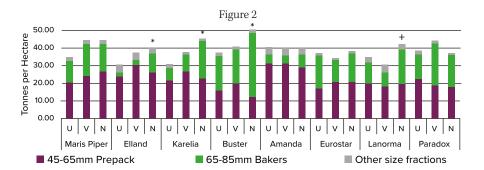
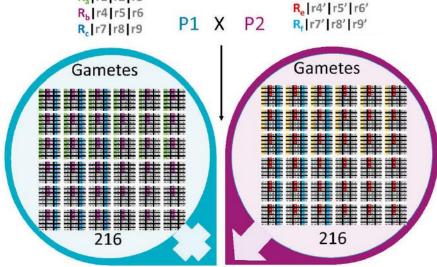
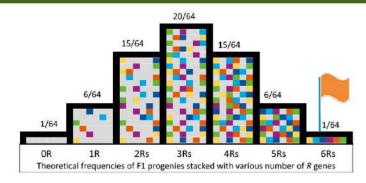


Figure 3





Basic features: F1 genotypes: 46,656 Rate of CVs stacked all 6: 1/64







# Keep tuber quality secure into harvest with Ranman Top.

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#### **RANMAN® TOP**





Agronomists, scientists and soil specialists share practical knowledge gleaned from trials at demonstration day hosted by Hutchinsons.

GRONOMISTS' trials of potential solutions for current grower concerns were the focus of a recent demonstration day held at Worth Farms, Holbeach.

Ongoing research on wireworm, PCN management, crop safety of post emergence herbicides, nutrition trials, plus updates about root lesion nematodes were some of the topics covered at the the Hutchinsons Potato Demonstration Day.

Heavy rainfall the previous day meant it was not possible to see the demonstration plots in the field so the talks took place in one of the farm's yards.

Hutchinsons Root Crop Technical Manager Darryl Shailes highlighted some of the field trials being done by the company to assess the impact of different strategies on wireworm populations in a crop of Maris Piper.

"At the moment we are focused on the theoretical effects of these products," said Darryl.

The Hutchinsons team is also exploring wireworm populations when different cover crops are grown, separating out two different types of buckwheat, a high glucosinolate mustard and a lower glucosinolate standard caliente mustard, and a multi-variety cover crop for soil health.

To help growers understand how to reduce PCN levels, further trials are exploring the

potential benefits from growing DeCyst-Prickly (Solanum sisymbriifolium) and DeCyst Broadleaf (Solanum scabrum) as cover crops.

Darryl said: "We will be comparing the final populations with those initially present (pf/pi). These beneficial cover crops can be grown anywhere in the rotation, and are effective with PCN, reducing populations of both G. rostochiensis and G. pallida and if you get a good crop of you can achieve up to 80% reduction.

"They also contribute up to 12t/ha of green manure, and may be suitable for integrating into your SFI."

#### PCN tolerance and resistance trials

Simon Faulkner of SDF Agriculture said growers need to understand how to best protect and manage their land against pests such as potato cyst nematodes and stressed the importance of knowing which varieties can offer resistance and/or tolerance.

He updated delegates on the PCN varietal resistance trials assessing a mix of older and newer varieties.

"We are seeing some crisping, packing and chipping varieties that are showing both tolerance and resistance traits, which will be very important traits going forward," he said.

All the varieties in the trial will be taken to harvest and put into store, and outcomes

announced at the Hutchinsons/SDF Agriculture Results Day.

#### The effects of cover crops on root lesion nematode

Knowing the impact your cover crop species could have on plant parasitic nematodes is crucial to their management, according to PhD student Vongai Chekanai of Harper Adams. For example, her research has identified that French marigold (Tagetes patula) and oilseed radish cover crops can be effective at reducing soil populations of root lesion nematode (RLN) Pratylenchus spp, she revealed.

Potatoes, onions, carrots, daffodils and other narcissi are all susceptible to Pratylenchus, which is associated with potato early dying disease.

Trials undertaken on narcissi fields across different parts of the UK suggested that oilseed radish might be a poor host or a partial biofumigant. Unlike biofumigants for PCN, oilseed radish reduces Pratylenchus spp before incorporation, said Vongai.

"Our trials found, however, that Indian Mustard, which is popular as a biofumigant to suppress potato cyst nematodes (PCN), increased Pratylenchus spp. What reduces one soil pest can increase another, so knowing what you are dealing with on your own land is key to cover crop decisions."





#### **DEMONSTRATION DAY**



Hutchinsons' Root Crop Technical Manager Darryl Shailes highlighted some of the field trials being done by the company to assess the impact of different strategies on wireworm populations



Simon Faulkner of SDF Agriculture stressed the importance of knowing which varieties can offer resistance and/or tolerance.



Knowing the impact your cover crop species could have on plant parasitic nematodes is crucial to their management, according to PhD student Vonaai Chekanai of Harper Adams.



In the future nutrition products such as foliar biofertilisers, are likely to be tailored according to how the crops are developing in the particular year, said Rob Jewers, Crop Nutrition Specialist at Hutchinsons.



Ed Brown Head of aaroecholoav. Hutchinsons, drew attention as to possible reasons for why nematodes may be proliferatina.



Head of Soil Services for Hutchinsons, Ian Robertson, emphasised that nutrient soil indexes do not imply functionality or availability to the plant.

#### **Crop safety herbicides**

Michael Rodger of Richard Austin Agriculture updated delegates on the herbicide crop safety trials being held on 26 varieties, including some new, coded varieties provided by the breeders.

While last year's trials were focused on metribuzin, hotter herbicide mixes have been used this year, including Basagran mixes and rimsulfuron. "Sometimes when you apply a post-emergence herbicide to a commercial crop, you do not really see a difference, but when you compare treated and untreated plots, you can really see the yellowing," said Michael.

"Some of the treatments last year, when applied at ideal timings did not show any crop effects. However, this year, crops are waterstressed, and five days after treatment, we have observed that some of the varieties have been much more affected than last year, while others look good," he said.

This implies that crop damage can be seasonal, as the condition of the crop and timing of application are crucial. Further observations will be made weekly for the next four weeks, to assess whether any stunting occurs.

"We will be taking these plots through to yield, and then look at tuber quality and internal characteristics."

#### Foliar nutrition tailored according to plant needs

In the future, nutrition products such as foliar biofertilisers, are likely to be tailored according to how the crops are developing in the particular year, said Rob Jewers, Crop Nutrition Specialist at Hutchinsons.

This year, biological nutrition products Utrisha N, Vixeran and R-leaf are being evaluated by the Hutchinsons team. Trials are assessing their efficacy, the effects of different water volumes, and any interactions with other products if they are tank mixed.

Rob said: "Given the rise in input prices, environmental concerns and the need to improve soil health, tailored bionutrition programmes are an important way forward."

#### Agroecology the way forward for soil health

Hutchinsons Head of Agroecology Ed Brown emphasised that agroecological strategies can deliver benefits for potato crops when done appropriately, and he encouraged growers to explore the principles and keep an open mind.

Minimising soil disturbance, keeping soil covered, maintaining living roots throughout the year, maximising diversity, and where possible, integrating livestock into the rotation, can make a real contribution to healthy soils, and healthy crops, he said.

"These principles can also be applied to vegetable and potato crops grown in intensive rotations, but the terminology is 'minimise' or 'maximise' but does not mean eliminate. Implement these practices in your context on your own farm, as best as you can, and you will deliver clear benefits."

Disturbance also applies to inputs. Over applications have a negative impact on soils, impacting on the bottom line.

Other work is exploring companion cropping potatoes with legumes such as peas and beans.

"First indications are that this will work well, and we can even continue to use herbicides with these crops as many of the potato herbicides are safe to use with legumes," said Ed.

"This brings diversity into the crop. It attracts beneficials such as pollinators, and reduces disease pressure by avoiding a potato monocrop.

"Cover crops will help you tick a lot of these boxes, and the positives far outweigh the very

few negatives, but nevertheless, it is one small element in the context of a larger system of the soil food web.

"There may be some situations where we think there is an association with some pests, but, for example, if you think that slugs may become an issue, you can manage that with appropriate choices of the species in your cover crops."

Trials exploring the use of French Marigolds around the headlands for slug control are underway, he revealed.

#### "Having a diverse mix is also important."

Ed drew attention to possible reasons for why nematodes may be proliferating, such as too short rotations and lack of predators for those nematodes in the soil food web.

"We need to ensure that the soil food web is balanced, so individual species never get a chance to take hold," he said.

Head of Soil Services for Hutchinsons, Ian Robertson, emphasised that nutrient soil indexes do not imply functionality or availability to the plant.

He explained some of the interactions of the Soil Food Web, which go from photosynthesisers, at the start, through decomposers, pathogens and root feeders, and predators at different levels and all cycling nutrients.

"Connectivity between the different levels of organisms is key, and as soon as you move soil you lose this, which allows some pests to proliferate above others," he said.

"Connectivity between the different levels of organisms is key, and as soon as you move soil you lose this, which allows some pests to proliferate above others."

lan Robertson, Head of Soil Services for Hutchinsons







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It's been a difficult season for blight control this year. Experts share their knowledge of surprising strain findings, mix rate suggestions and later action.

OTATO crops have endured long periods of weather conditions highly conducive to blight this season and reports of blight outbreaks submitted for testing with the Fight Against Blight campaign have now topped 135 incidences across the UK.

Of the samples submitted by the end of July to the 'Fight Against Blight' project for late blight strain analysis, none had been identified as being the fungicide-resistant EU\_43 or EU\_46 strains.

The first UK blight samples arrived at Hutton in April from outbreaks in Kent, with another six samples sent during May.

Senior Plant Pathologist at the James Hutton Institute, Dr David Cooke, said this is "one positive" from what has been a difficult season to control late blight in potatoes.

"That's early for blight," David said. "With a wide range of planting dates, primary inoculum from last season's unharvested crops and dumps that survived over the winter, blight pressure has been high and made it a difficult season to manage because of crops at different growth stages."

With dozens of samples arriving more or less every day through June, it has been one of the most intense for early-season outbreaks he has experienced while managing the Fight Against Blight project.

"To some extent, this will have been prompted by our plea for samples to monitor for the new CAA and OSBPI fungicideresistant strains that have been found on the continent and in Ireland, but obviously, you can only sample blight if it is present," he said.

Fight Against Blight is only funded to test 400 samples across the season, David explained, adding: "But we don't like to say 'no' to samples, and you never know when new genotypes will arrive."

Of the samples genotyped by the end of July, 72% of the population was the aggressive strain EU\_36, which has consolidated and spread across much of the country, David reports.

"A further 22% is EU\_6, which has been around a long time, while 3% is EU\_13. That's a little bit of a surprise as it has been on a gradual decline for years, to the extent that we only had one sample a few years ago with this strain."

The only newer lineage found this year is EU\_41. A Danish clone, it was previously found somewhat unexpectedly in a single outbreak in Scotland in 2021 in a Maris Piper crop with no obvious seed connection to the continent.

"This year, we're finding it in a few outbreaks both in Scotland and south of the border," David said.

Testing has found that it has insensitivity to metalaxyl fungicides, and there have been discussions about whether the strain's appearance is linked with potato volunteers being sprayed with metalaxyl in carrots.

Metalaxyl is not used much in potatoes currently but could be an option once mancozeb's approval lapses, David said.

"The concern is this strain would increase the risk of using metalaxyl in potatoes." →



Dr David Cooke, Senior Plant Pathologist, James Hutton Institute, said there had been some surprising findings with the samples sent in for the Fight Against Blight project.



There should be no letup in blight programmes for the remainder of the season, UPL's Potato Technical Expert Geoff Hailstone says.



Syngenta's Technical Manager Andy Cunningham said keeping up with the programme to maintain blight free foliage is still crucial for building tuber yield.



In the Midlands, Ellie Borthwick-North said prime blight conditions are putting pressure on choices



Gareth Bubb, who looks after the West region, said high blight pressure in the west is creating challenges both for efficacy and product availability.



North England's Adam Hinchcliffe confirmed that blight pressure has been "relatively high" in his region.



In the South East, Matt Siggs is advising keeping blight spray programme intervals to seven days.



Scotland's Edward Scaman advised keeping one spray application in hand for the end of haulm destruction.



Emily Harrod, in East Anglia, said high blight pressure is lingering in the region.

#### No let-up in blight programmes

With continuing problems with the EU\_43 and EU\_46 strains in northwest Europe and another case in Ireland this season, there should be no let-up in blight programmes for the remainder of the season, UPL's Potato Technical Expert Geoff Hailstone says.

A key reason for the strains not being detected in the UK so far has been the use of mancozeb with its multi-site activity, mixing at least two actives from different groups in every application, and the alternation of products, Geoff said.

"It's also important to use products at effective doses to help maintain at least two actives in the growth for sufficient length of time to protect each other," he said. "You don't want to leave one product doing all the heavy lifting, increasing the risk of resistance build up."

It's for this reason that UPL is recommending using its Proxanil (propamocarb + cymoxanil) blight product at a rate of at least 2.0 L/ha, rather than the historical standard of 1.5 L/ha, plus reduced rate of partner. "Managing resistance is so much more important now," Geoff said.

No resistance has been found to either active in Proxanil, with both in different resistance groups and the only member of each group. "It still should be used in a mix. In trials, using it in a mix has given on average 14% better blight control than the partner alone," said Geoff.

With the risk of the CAA- and OSBPIresistant strains, Geoff suggests propamocarb is now the only active with reliable antisporulant activity.

Anti-sporulants decrease sporangiophore formation, and stop the viability and dispersal of sporangia formed, reducing the spread of disease from the initial infection point, he explained.

"The kick-back activity of cymoxanil controls infections inside plant cells up to two days after the infection takes place," he added.

Towards the end of the season, if growers have any of the maximum four applications available, Proxanil is a very useful partner for products such as Ranman Top (cyazofamid). In Euroblight trials, that combination has provided the best tuber blight control late in the season, Geoff said.

"It's a good place to use that mix with activity on zoospores and tuber blight, with the Proxanil protecting the single site cyazofamid from any potential resistance build-up," he said.

#### Protect tubers from zoospore movement

While growers have responded to the season's outbreaks with robust blight control strategies, attention has now turned to protecting tubers from the inevitable high threat of infective spores from reaching tubers, and Syngenta's Technical Manager Andy Cunningham said keeping up with the programme to maintain blight free foliage is still crucial for building tuber yield, especially in crops where wet and cool conditions delayed planting and early growth.

"Turning now to include products that provide specific strong tuber blight protection will further help assure yields and tuber quality," he said.

Andy said the new Evagio Forte from Syngenta combines outstanding foliar blight control of mandipropamid with the added strength of amisulbrom to enhance performance and target tuber blight protection.

"In addition to the built-in resistance management, offered by the combination of active ingredients with different modes of action, Evagio Forte is particularly well suited for use in the programme from flowering right through to the end of the programme," he said.

Syngenta trials have shown that Evagio Forte delivers an improved foliar blight performance over straight Revus, as well as excellent tuber blight control through its zoospore activity.

Potato blight lesions typically produce sporangia that can spread long distances on the wind during warmer conditions (17-24°C), but as conditions cool, below 17°C, they are more likely to produce zoospores that physically move shorter distances in surface moisture that infects tubers.

Research has shown that amisulbrom works to protect against tuber blight infection in multiple ways. Firstly, it significantly reduces the production of infective zoospores from any existing blight lesions in the crop, even when applied in an early curative situation.

It then targets blight zoospores by inhibiting their release but also impacting their motility, to effectively stop the spread of spores within the film of moisture on the leaf or in the soil. Zoospores are typically active for between two to 10 hours and move using a combination of flagella whips; limiting this action can help to prevent zoospores from moving down to tubers.

"It may be worth considering keeping an application back for towards the end of the programme when its tuber blight activity becomes important."

Gareth Bubb, West Region Technical Manager, Bayer





The trials indicated that the zoosporeinhibiting properties of amisulbrom would remain at active concentration for at least the duration between typical spray intervals, and probably offering additional protection thereafter.

Amisulbrom is also rapidly taken up and absorbed by the was layer in the leaf, to prevent it being washed off by rain or irrigation soon after application.

"Syngenta application advice advocates treatment with Evagio Forte using the 3D ninety nozzle. The larger droplets and angled spray pattern deliver greater coverage of lower leaves and stems to stop spore spread," Andy said.

In larger, post-flowering, canopies, application in at least 200 litres water volume will further help to achieve good coverage of the leaf area to protect against blight.

#### 'Hold back a late application'

With high blight pressure varying in different areas of the UK, Bayer's team of technical managers have been sharing their regional findings and providing insights on the best approach for those areas, with all advising 'holding back' a late-season fungicide application if possible.

The company's funcicide Infinito (propamocarb + fluopicolide) has a maximum application dose of 6.4 L/ha in a season, which works out to be four applications of 1.6 L/ha. With blight lingering in many parts of the country, the six technical managers have all advised against using up the fungicide application quota too early.

Scotland's Edward Scaman said blight pressure has been high and the fungicide has been "flying off the shelf".

"Assuming you haven't already applied the maximum total dose of Infinito of  $6.4~\rm L/$  ha, then it is worth considering keeping one application in hand for either the penultimate or last spray of the programme around the end of haulm destruction," he said.

"This is when its activity against zoospores helps reduce the risk of tuber blight, and there are limited alternative options."

North England's Adam Hinchcliffe confirmed that blight pressure has been "relatively high" in his region owing to the wet, warm, and humid conditions.

"Potatoes are near enough into the stable canopy phase of crop growth and we will soon be at the end of the season, where the focus switches more to tuber blight control, as well as foliar blight," he said.

He advised growers in his area to use Infinito for the back end of the programme, to give good protection against tuber blight and foliar blight.

"In total, you can use four applications of Infinito during the programme, but no more than two in succession," he said. "If the weather



reaches high temperatures, then think about applying products away from the heat of the day to minimise any crop damage potential."

Gareth Bubb, who looks after the West region, said high blight pressure in the west is creating challenges both for efficacy and product availability.

"In southwest Wales, for example, I'm hearing reports of blight in crops," he said. "While there haven't been any reports, so far, of the new fungicide resistant strain 43\_A1 in the country, growers have been keeping intervals tight and alternating actives and modes of action as much as possible."

That will need to continue to be the strategy, although product availability and label restrictions on the number of applications are also factors to keep an eye on, he said.

"Infinito has been used earlier in programmes than perhaps usual this season – a reflection on the pressures mentioned," he said, adding: "It may be worth considering keeping an application back for towards the end of the programme when its tuber blight activity becomes important. Equally, if pressure remains high, then you need to use the best products available."

In the Midlands, Ellie Borthwick-North said prime blight conditions are putting pressure on choices.

"The middle of July turned into prime blight weather, and the early part of the season wasn't exactly low pressure. Most growers have been on a solid seven-day interval programme all season, with some now moving to five-day intervals. That's put pressure on fungicide choices with growers also following advice to alternate different modes of action," she said.

She said Infinito had already been widely used during the spring.

"If you can save an application for one of the last sprays, that might be wise."

Emily Harrod, in East Anglia, said high blight pressure is lingering in the region.

"Risk in July has remained high, with growers sticking to seven-day intervals as a minimum, with some opting for five days with appropriate actives where necessary," she said. "Providing you haven't reached the total dose of 6.4 L/ha for the season, Infinito remains a strong option for blight control. Ideally you would save one application for late in the season to take advantage of its activity against zoospores and tuber blight.

"Continue to be mindful of alternating modes of action, although that can get tricky towards the end of the season when restrictions on total dose or numbers of applications can reduce options.

"Remember, if you still have maleic hydrazide applications to complete, apply these separately to blight fungicides as it has systemic action, and you don't want anything to compromise its efficacy."

In the South East, Matt Siggs is advising keeping blight spray programme intervals to seven days.

"Blight pressure has been high, although at least we haven't had too much warm weather to speed up infections. The other good news, at least when this is being written, is that we haven't had any confirmed reports of the CAA fungicide-resistant strain of blight 43\_A1 in the UK, which has caused such problems on the continent," he said.

Neither of Infinito's two modes of action are affected by the resistant strains identified, so he said it is "a decent resistance management policy in one can".

"Hopefully you still have at least one available for later in the season, as it is one of the few products with activity against both foliar and tuber blight," he added.



New Precision Ethylene Treatment (PET) Technology introduced after extensive research.

ESTRAIN has launched a new advanced Precision Ethylene Treatment (PET) for potatoes in store which will be available for the upcoming storage season for the whole potato market.

The advancement looks to achieve optimal potato preservation through precise application and control of ethylene, the natural plant hormone in colourless gas form which the manufacturer has been harnessing for the past 20 years to provide solutions to keep potatoes sprout-free, quality-stable and market-ready.

Director of Technology Paul Coleman and Technical Manager Adrian Briddon have both worked on bringing the product to market following extensive research and development.

Both are well known in the potato sector. Adrian was formerly Senior Scientist at the Agriculture and Horticulture Development Board (AHDB) and Paul, who has more than 38 years' experience in the potato industry, also co-founded Crop4Sight, a company that provides data-driven solutions to potato growers and processors.

"PET technology was developed in response to the need for a precise, cost-effective, and sustainable solution for sprout inhibition, particularly after the European ban on CIPC in 2020," they said in a joint statement.

Using advanced software and sensors, the PET technology ensures precise ethylene levels, preventing overexposure and maintaining high-quality potato storage.

By carefully managing levels, the technology helps preserve the natural fry colour of potatoes, preventing starch conversion into reducing sugars. The system's advanced dosing minimises ethylene usage, reducing the fuel needed for ethylene production and lowering operational costs and environmental impact.

Gentle controlled treatments also reduce weight loss and preserve the potatoes' natural state, reducing the stress and damage to tubers which have been seen in other methods.

#### **Management advancements**

The PET technology features three major advancements in ethylene management: Ultra-low dose ethylene with a state-of-the-art sensor including an algorithmic-controlled dosing system delivering precise ethylene application, protection of fry colour, and reductions in fuel consumption.

The ethylene sensor provides accurate readings, avoiding interference from

other molecules. It continuously monitors ethylene, carbon dioxide, temperature, and relative humidity, offering comprehensive storage data. It is designed to filter out other molecules, ensuring that the ethylene levels are measured precisely and reliably.

The ultra-low dosing pulse system delivers controlled ethylene at parts per billion, preparing potatoes for higher ethylene levels. This effectively suppresses sprouting while minimising respiration, protecting fry colour, and reducing weight loss.

Advanced algorithms in the ethylene control management system maintain precise ethylene levels in commercial storage facilities, ensuring optimal storage conditions.

Restrain is offering support for customers adopting PET technology, including online and on-farm training programs.

"We will support customers through comprehensive online and on-farm training programs, ensuring they are well-equipped to use PET technology effectively. Remote monitoring options using iCloud connections will be available for pilots to provide real-time support and adjustments. Additionally, dedicated customer service teams will be on hand to assist with any issues," the team announced.





#### Negating need for harvest interval

As priorities have evolved, the company's focus has expanded to address fry colour and weight loss, while doing away with the need for a harvest interval.

By 2023, Restrain had integrated iCloud technology for real-time remote monitoring and adaptive storage control. By leveraging advanced microcomputer technology, the company says its systems now offer control and future-proof internet connectivity for real-time monitoring.

"Long-term benefits of PET technology for the potato storage industry include improved potato quality, reduced operational costs, enhanced sustainability, and flexibility in storage management.

The technology's compliance with regulatory standards also positions the industry for future success, ensuring that storage practices are environmentally friendly and economically viable," Paul and Adrian's joint statement revealed.

The company said its ongoing research and newly-patented systems will continue to drive advancements. Future developments include the creation of stand-alone sensors, the introduction of new iCloud-based commercial models, and the expansion of monitoring services to enhance customer communication and support.

▲ Adrian Briddon and Paul Coleman have been working on the new technology, which is now available for the coming storge season.

"Long-term benefits of PET technology for the potato storage industry include improved potato quality, reduced operational costs, enhanced sustainability, and flexibility in storage management."

> Paul Coleman / Adrian Briddon



### 20 years perfecting ethylene solution

BIOFRESH Safestore, which installs potato sprout suppressant systems in the UK, is celebrating its  $20^{\rm th}$  anniversary and, to mark the event, is offering a 10% discount on site surveys.

Operations Director of Biofresh Safestore, Jeremy Barraclough, said: "Biofresh was established in 2003 to commercialise discoveries made by Newcastle University's School of Biology, with the first Safestore system being installed in a UK pre-pack store the following year. Since then, we have gone on to install systems treating more than half a million tonnes of potatoes at farms and potato stores across the UK, Europe and further afield."

He said the first half of 2024 had been a particularly good one for the company, with a higher number than usual seeking its expertise in Ethylene-based potato sprout suppressions to help store managers extend the life of their potatoes.

The company's potato sprout suppressant systems, such as Biofresh Safestore extend the life of potatoes without leaving any chemical residue. The Biofresh Safestore system can be used in box or bulk stores.

In the UK, ethylene has been used commercially since 2003 as an alternative to more traditional chemical-based sprout suppressants. Originally targeted at providing a residue-free sprout suppressant solution for pre-pack crops, further to the demise of CIPC in Europe, ethylene is also used extensively in crops destined for processing.

Managed by a central control panel equipped with an easy-touse HMI panel, Biofresh Safestore's system features sensors that regulate the distribution of the ethylene gas to ensure optimal conditions, regardless of store size or whether a single or multiple store site is being controlled.

It will be offering the 10% discount when it attends Potato Days event at Dyson Farming, Nocton, Lincolnshire.  $\cite{PR}$ 



Stores replaced after fire are recording excellent energy use figures.

MAJOR investment in potato storage at Monkton Court Farms, near Ramsgate, Kent is helping to keep the harvested crop in ideal condition – in one instance for over a year – while proving very economical to run.

Monkton's current stores were built in 2017 to replace its previous complex which was destroyed by fire.

Farm owner Philip Smith had to start from scratch. He liaised with Graeme Skinner from Provenance Potatoes, who now manages the stores and markets the crops, before opting for Crop Systems Limited's PosiStor box store design.

The complex features three ware stores with 3,500 tonnes capacity and a 350 tonne seed store. It is fitted with the company's SmartStor controllers which enable staff to monitor and make changes to store settings remotely.

More recently, Crop Systems added its SmartSola system to help the farm make optimum use of the renewable electricity it generates.

Philip had installed 50kW of solar panels on land adjoining the stores around a decade ago, and has now added a further 150kW on its roof.

Graeme said the stores were already recording some excellent energy use figures and effectively harnessing the farm-generated electricity is improving them, which further insulates the business against variable energy prices.

Monkton's complex proved the benefits of efficient, modern storage as soon as it was finished. By using renewable energy to optimum effect, it has slashed the farm's costs and carbon footprint.

In 2017 the potato market was over-supplied and prices suffered as a result, but they were much better in 2018 when conditions were much drier.

Monkton's crops are usually sold out from February to July – meaning the last crops stay in store for 10 months.

But the company was able to hold onto some of 2017's harvest until October 2018 – 13 months after harvest – and as a result received much stronger prices.

The stores use an open plenum to optimise airflow and ensure the air reaches all parts of the store, and glycol fridges that use just a quarter as much gas as conventional DX fridges, while also cutting costs and leakage risks.

"We normally store crops at 2.7°C, with a 0.2°C differential, so when the panels are producing enough power in the day we take the opportunity to cool the crop to 2.5°C."











They also feature inverters on all fans and in-line humidity with adiabatic cooling.

These features help keep crops in 'just harvested' condition, minimising potential shrinkage and weight loss.

Their potatoes are marketed through Graeme Skinner from Provenance Potatoes, with crops of Desiree, King Edard, Laura and Lanorma going into the supermarket and pre-pack trade.

Adding SmartSola has further improved the stores' performance, Graeme said.

"The system exports power to the grid in the morning until production reaches 30kW then it switches that energy to running the first store, which the system itself identifies on the basis of need. It then repeats that pattern as power output rises to 60kW.

"We normally store crops at 2.7oC, with a 0.2oC differential, so when the panels are producing enough power in the day we take the opportunity to cool the crop to 2.5oC. Then if the next day is duller and the panels are not producing enough power, we minimise the use of mains electricity because the energy we need is stored in the potatoes."

"Being able to check everything is working correctly – and make any adjustments needed - without having to visit the store itself is a major time saving."

They are also harnessing the solar power in the farm's irrigation system, using mains electricity to pump water into the system, and then solar power to pressurise it.

Both Philip and Graeme credit the SmartStor controller for making the stores easier to manage and reducing the stress involved.

SmartStor is a control system that enables operators to monitor and manage their stores remotely via any suitable mobile device. From a technical point, Philip says this means stores can be checked without having to visit them or opening the doors, so storage conditions are never compromised.

Graeme said: "Being able to check everything is working correctly - and make any adjustments needed - without having to visit the store itself is a major time saving. It also gives me complete peace of mind that the crops are being kept in prime condition."

The system also collates a huge amount of information and turns it into valuable and useable business data, he adds:

"It records everything and although I can take snap-shot measurements, this system shows me what has been going on in all those days inbetween.

"I can look at graphs or download actual numbers on screen, which is much more valuable and easy to understand than working through paper records and spreadsheets." 📴

During the growing season, regular sap or tissue testing is key to understanding plant efficiency.

# Investing in a lower carbon footprint from growing through to storage

More growers are coming under pressure from their customers to report reductions in their carbon footprint, so this month Andrew looks at some of the ways they can enhance their efficiency and move towards carbon neutrality.

VERY business has a part to play in reducing carbon emissions, but potatoes are resource intensive therefore meeting carbon targets is particularly challenging for them.

Nevertheless, there are several steps that can be taken that can help reduce carbon footprint which will not impact on yields, says Andrew.

Overall carbon footprint should be measured by crop tonnage rather than area, as seed or salad potatoes typically yield 30t/ha, whilst ware can produce 60t/ha, he said.

"We need to establish just one industryaccepted method to look at and measure how much carbon goes into producing potato crops. A good place to start is by assessing onfarm activities necessary to growing potatoes and exploring ways to reduce them."

These include machinery selection, cultivations, fuel, fertiliser, irrigation pesticide application as well as storage.

One of Andrew's principal pieces of advice is to avoid overworking soils. In many cases, the depth of cultivations and frequency of bed tilling can be reduced, in some cases Andrew Goodinson, Agronomist, and Potato Specialist at Hutchinsons, offers advice and insights to help growers ensure the best results from their potato crops. Based in Herefordshire, Andrew has been working for Hutchinsons for 17 years and looks after 8000 ha of farmland, including the Welsh borders, south Shropshire and Worcester. Most of the potato crops he looks after are destined for the crisping or processing markets.



eliminating the de-stoning operation, making important savings, he said.

Over cultivating soils increases wearing of parts, fuel costs, reduces soil organic matter and increases carbon loss.

"We also need to look at soil structure, because it affects nutrient availability and uptake. Any remedial cultivations using machinery contribute to the carbon footprint, so activities need thinking through, to determine how much is necessary.

"There are benefits from shallower working in the different soil types, yet many growers still cultivate soils deeper than necessary. Reducing cultivation depth from 43cm to 35cm can give

a 25% reduction in fuel usage with no impact on yield, so it provides a good start to reducing carbon footprint, particularly as it reduces energy use without taking a toll on yield."

However, growers need to remain flexible with their strategies he cautioned, noting there are times when weather conditions dictate strategies.

Fertiliser has a high carbon footprint, not only in its manufacture but also on-farm application, so keeping chemical fertiliser inputs to a minimum is important, says Andrew.

"We need to be enhancing N-use efficiency, and solid N is the most carbon-hungry, so perhaps we need to look at using more liquid fertilisers, manures and cover crops to boost nutrition."





Liquid fertilisers are efficient and can be placed into the soil, he adds.

"New nitrogen capture products are being trialled currently, with interesting results. The Omnia Farm Management System measures carbon content using the 'Gold Soil' test which details exactly what is going on in the soil, including ratios and balances of nutrients, so nutrition decisions can be tailored according to need.

"During the growing season, regular sap or tissue testing is also key to understanding plant efficiency and any deficits can be dealt with. It is important to take samples early in the morning across a range of potato crops to see if there is a trend rather than focusing on any imbalance in one field."

Andrew does not recommend top-dressing at tuber initiation with ammonium nitrate, noting that it tends to end up in the ridges. Instead, an application of methylated urea releases nitrogen over a period of time, which is more efficient than solid nitrogen, and can be mixed with a blight spray therefore reducing a pass through the crop.

"Sometimes you have to balance the crop needs with the carbon footprint. For example, a bio-stimulant will always add benefit but also add to the carbon tally. However, they make the plant more efficient, so there is a pay-off."

When it comes to irrigation, for which the water itself can have a carbon footprint, there can also be an associated footprint from the fuel used by the machinery or pump, he said.

"Some growers still prefer to use a rain-gun over trickle irrigation, and both use similar machinery to transport water to the field, but the efficiency of these systems varies. If you are running a generator or pump for a gun, the energy requirement for the fuel has to be included, and much of that water is likely to evaporate, run off or miss the target before it gets to the crop, reducing efficiency."

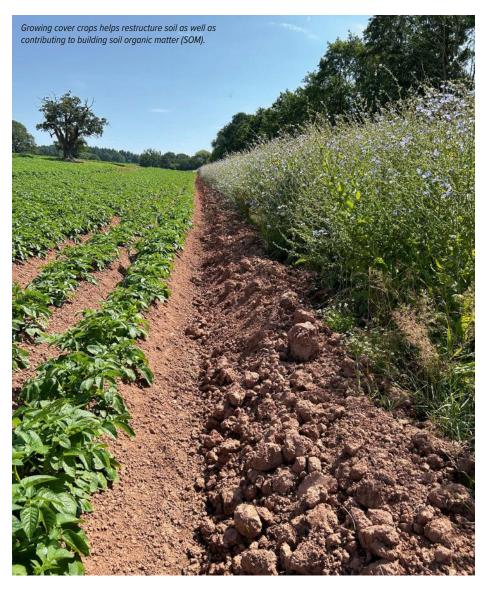
Other on-farm practices, such as desiccating twice compared with flail and spray, because of their fuel use, can also impact on the carbon footprint.

"Reducing the carbon footprint of potatoes will be an ongoing challenge with different systems and supply chains having different targets and measures. However, resource efficiency is central - making the most of the inputs we apply by maximising best practices, product choice and timings.

"We can focus on building resilience into growing potatoes, which will always be beneficial to aid building yield whilst reducing inputs where possible."

#### **Cover crop priorities**

Cover crops are often thought of as a silver bullet thanks to their ability to improve soil conditions



and build fertility, playing an important role in the battle to keep inputs to a minimum without compromising quality or yield.

As such, they are integral to the carbon footprint of growing potatoes, says Andrew.

Decisions on cover crops should take into account the grower's priorities, which may be to provide wild bird seed, biofumigant activity, as well as soil structure, so he advises against using the same strategy on all the fields.

"Growing cover crops helps restructure soil as well as contributing to building soil organic matter (SOM). As such, they minimise the carbon extracted from the soil when growing potatoes, although this is a very slow process. Moreover, if you have sandy soils, they have low SOM and low carbon, making it difficult to get them to hold onto nutrients they also have lower water retention as they drain faster."

Other methods for improving SOM include incorporating farmyard manures, chopping straw after a cereal crop, or adding grass leys into the rotation can also contribute to improved soil structure.

"Ideally, cover crops should be planted the year before potatoes, and should be in the soil

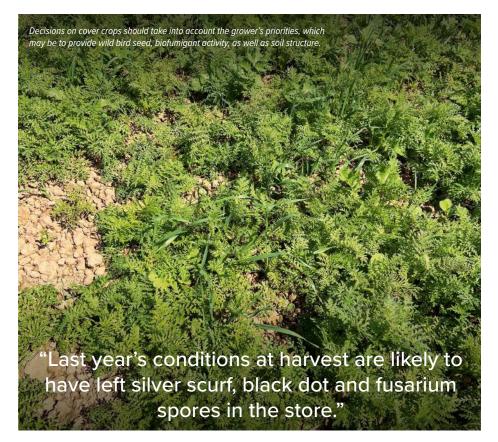
by mid-September so that they have time to accumulate a good root structure and plenty of biomass before winter sets in."

Benefits from such activities can include improving soil structure from stabilising aggregates. Soils that have been well-maintained for more than five years need fewer cultivations and crops establish more quickly.

"Of course, there are times when compaction occurs, and if you think that you need to sub-soil, first take a spade and dig a hole check how deep the compaction is. Subsoiling when there is no real need can create more damage to the soil than any potential benefits."

Choice of cover crop depends on the outcomes the grower is seeking, and he recommends looking at the different components of several mixes.

"If you are looking for something that is deep rooting to improve the soil structure, then a brassica such as oil radish, or some mustards, can be very useful. However, if you opt for a brassica and already have oilseed rape in the rotation, then you need to be aware of the risks of club root."



He points out that some cover crop species are not winter hardy, so should be planted early enough for them to have developed good root systems which will remain in the ground during the cold weather.

Nutrient retention is another important benefit from cover crops, and he notes that phacelia, buckwheat and linseed can work well as they provide a mix of forbs, cereals and legumes.

"Forbs, which are herbaceous plants not related to grasses, have large root structures and can be particularly good at holding nutrients. Above-ground biomass can also be useful in alleviating the weight of heavy winter rainfall on the soil, and improved soil structure helps improve infiltration.

"Nonetheless, when choosing cover crops, a mix is better, particularly when the species in a mix complement each other, as this can help ensure against weather extremes because different species will thrive in different weather conditions."

Moreover, mixes have the reputation of being more effective weed suppressants than a single species and having legumes in the mix with grasses help compensate for the decreases in nitrogen availability for the following crop.

"Planting more than one species can help fulfil multiple goals that producers often want the cover crop to achieve, but there are trade-offs."

Some growers report increased slug numbers, while others have observed higher wireworm counts after growing cover crops. "These need to be balanced against the bigger picture, and appropriate measures taken to control slugs and wireworm may need to be taken."

Andrew goes on to talk about biofumigants and trap crops, explaining that biofumigants are topped and macerated and the biomass incorporated into the soil, while trap crops stimulate the pest to hatch but it is not then able to complete its lifecycle.

"Trap crops for PCN are wild solanaceous species, such as black nightshade, which can stimulate PCN hatching through the release of root exudates, similar to those produced by potatoes. While PCN are able to invade the roots of trap crops, they cannot establish feeding sites and consequently their development ceases."

PCN trap crops include Solanum sisymbriifolium, Solanum nigrum (black nightshade), and Kenyan Broad-Leaf, also known as Garden Huckleberry (Solanum melanocerasum).

"Biofumigants may impact on any number of pests and diseases, whereas trap crops are quite specific for the type of pest, such as a member of the solanum family for PCN or radish being used for cyst nematodes in beets."

Andrew explained that when growing biofumigants, the aim is to get as much bulk as possible, then top it to a height of about 20cm. Kick-starting the reaction to release the gases is challenging and is why the crops need to have a lush physiology, he said. This is because lush crops are easier break down with

maceration implements and so have a better chance of liberating biofumigant volatiles.

Maceration techniques such as hammerflail topping, or the use of other flat blunt tines, also aid volatile production by bruising tissues as well as chopping, leading to greater cellular destruction.

"The more damage you can achieve, the more effective the release of isothiocyanates (ITCs) and other biocidal products. The ideal situation is to incorporate biofumigants which have high glucosinolate concentrations and high biomass to generate a high potential for biofumigation, whilst having a lower dry-matter/lignin content to avoid problems with accessibility to the glucosinolate and myrosin cells."

He pointed out that trap crops and biofumigants need to be planted earlier than cover crops, which can make it more difficult to fit them into the rotation as it means losing a period of production.

"If you opt for a trap crop, think where it might best fit into your rotation, it might be worth considering whether it might fit in better after an early harvested crop, such as forage rye, then the trap crop, followed a latesown winter cereal."

#### Preparing and planning for storage

Now is a good time to check storage facilities, clean them and make any necessary repairs to ensure they provide the best possible energy performance, advised Andrew.

"Last year's conditions at harvest are likely to have left silver scurf, black dot and fusarium spores in the store, so vacuuming, washing and disinfecting them will help keep this year's crop in the best possible condition in store."

Potato boxes will normally have been stored outside and therefore subjected to UV light, which will have killed the spores.

"Any old or dirty fridges and fans will impact on storage efficiency, so they need to be checked and cleaned. Inspect the store thoroughly for any air leaks, sealing them and optimising insulation will make a difference to your energy use and carbon footprint."

Last year, store loading was protracted, which meant that in many cases the doors could not be closed promptly enough, affecting temperatures and drying, so for this year he suggests fitting screens.

Andrew also reminds growers that they should ensure that boxes are stacked in a way that leaves the alleys sufficiently wide to encourage the airflow to go through the boxes, and that stacks are the same height.

"Depending on the age and condition of the potato store, adopting these practices could significantly reduce energy use and your carbon footprint." PR







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### That's a wrap!

Potatoes In Practice 2024 attracts a 10% increase in visitors with 50-plus exhibits, field plots and seminars on key industry topics.

ORE than 700 people attended this year's Potatoes in Practice (PIP) event, which showcased the latest developments in the potato industry, with a variety of demonstrations, cutting-edge research, and trade exhibits focusing on how the potato community can unite to futureproof the industry.

Potato research centre The James Hutton Institute (JHI), in collaboration with Scotland's Rural College (SRUC) and Agrii, again hosted PIP, which is the UK's largest field-based potato industry event, at Balruddery Farm, near Dundee.

There were 50 exhibitors in total. From commercial breeders introducing new varieties, to agronomists demonstrating advancements in crop protection and researchers on hand to discuss their most recent findings, visitors had access to a wealth of scientific knowledge and expertise.

There were 27 field plots demonstrated by 19 companies, 25 outdoor exhibitors, four static machinery exhibitors and nine seminar speakers.

Those who visited the Hutton tent were able to gain information on virus, PCN, bacteria

control, the Fight Against Blight project and National Potato Innovation Centre (NPIC).

This year's seminars were opened by Professor Ian Toth, Director of the National Potato Innovation Centre at JHI, who spoke about grower concerns and potential solutions.

Ian discussed the importance of the NPIC's partnerships with other potato science organisations and members across the supply chain to identify key targets for future scientific endeavours.

"Futureproofing the potato industry remains a key goal of the Hutton and our partners. Bringing science and industry together helps us to build long-term sustainability and resilience for the years to come, and PIP is an excellent opportunity to knowledge share and discuss the challenges and opportunities facing the sector," said Ian.

"We thank our partners Agrii and SRUC for their continued support for the event, as well as our sponsors the Scottish Society for Crop Research (SSRC), GB Potatoes, and the Seed Potato Organisation."

Ian explained the key challenges the industry faces, both now and in future, and how science can help to overcome them.

#### Addressing production uncertainty

Another speaker, Kyran Maloney, Senior Potato Consultant from SRUC, spoke about how to address potato production challenges.

Acknowledging the rising challenges to potato producers, from increasing costs of production to changing pest and disease threats, he stressed the need for applied research to provide practical answers to these challenges, and detailed how a participatory approach, where researchers, agronomists, and farmers work closely together and can deliver answers.

Kyron said: "Potato production in the UK and Ireland has a strong sustainability and productivity story, but the industry faces unparalleled uncertainty. Rising costs of production, shortage of labour, and growing technical challenges mean that the need for practical innovation has never been greater."

He said Potatoes in Practice provides an "almost unique forum" for engagement between industry and technical experts, ensuring information is shared that is grounded in the needs of producers.





This year SRUC demonstrated a simulated herbicide drift crop injury scenario. "Careful trial work such as this can help farmers to quantify (and mitigate) risks," said Kyron, who went on to discuss how such cases are investigated, saying it was important to raise awareness about how they can be avoided.

#### Crop health and virus resistance

Don Pendergrast, Technical Manager for non-combinable trials at Agrii, discussed innovations in crop health and yield, from crop nutrition and plant health to novel approaches to crop establishment, nutrient use efficiency, marketable yield, skin finish and storability.

Breeding for virus resistance was examined by Drummond Todd, Potato Breeder at James Hutton Limited (JHL), who spoke about the impact of the recent virus uplift on JHL's commercial programmes and what measures have been taken involving virus breeding to develop resistance in crops.

Sharing how the team at JHL collaborate with the scientists at JHI, Drummond described how they are identifying, validating and deploying molecular markers for resistance to potato leafroll virus (PLRV) and potato virus Y (PVY).

#### **Biologicals plots showcase**

Eight Agrii plots at PIP showcased biologicals for improved plant health, skin finish, storability and nitrogen fixation. Amongst the products demonstrated was the bio-stimulant NIENTRIS, which is a combination of a free-living nitrogenfixing bacteria and a prebiotic that potentially allows for lower nitrogen inputs.

Agrii demonstrated a number of novel technologies that can improve growers' outcome in critical aspects of potato production

Don Pendergrast said: "Endophytic bacteria form a symbiotic beneficial relationship with the potato plant and can help fix 3kg/ha of available N from the atmosphere per week. This has several benefits to the grower who can consider reducing the use of their bagged nitrogen and can therefore contribute to carbon reduction. The endophytes can also boost green leaf area in the plant, improving marketable yield."

He added: "Agrii starts release works in the soil, preventing lock-up and in turn increasing the release of phosphate and other crop nutrients for uptake through plant roots. Release can be used on high P soils to help unlock P for crop uptake on sites where P availability may be limiting. Release also increases the availability of other soil nutrients including P, Zn, Mn, B, and Cu."

Agrii demonstrated a number of foliar nutrition programmes intended to boost tuber number, plant health, bulking and dry matter, including a number of new product offers.

It demonstrated how biostimulants like ProAct can be used to improve skin finish and improved post-harvest storability and looked at how these product ranges are combined to deliver an improved outcome for growers, how they can be integrated into a programmed approach tailored to the grower's needs and end market demands.

"Rising costs of production, shortage of labour, and growing technical challenges mean that the need for practical innovation has never been greater."

Kyran Maloney, Senior Potato Consultant, SRUC







Andrew Sprunt and David Barclay, Agronomists at Agrii, said Agrii is focusing more and more on innovation and sustainable production.

Mark Taylor from GB Potatoes, Mark Clark from the Seed Potato Organisation, Faye Richie from ADAS, Mercedes Torres from B-Hive, Alexander McCormack from UK Agri-Tech Centre, David Cooke from the James Hutton Institute and Graham Tomlin from VCS Potatoes also gave seminars.

#### **Innovation centre**

During the course of the Potatoes in Practice event, many speakers and exhibitors paid tribute to the work being done to establish the National Potato Innovation Centre (NPIC), which is being created by The James Hutton Institute) in Invergowrie, just west of Dundee, an area considered to be in the heart of Scotland's prime potato country.

The aim of the NPIC is to take advantage of JHI's strong potato science teams as well as working with stakeholders to collaboratively develop solutions and make potato a sustainable and profitable crop, providing nutritious food for all, as well as benefitting the British economy.

It is looking to build partnerships with academic organisations working on potato in Europe and all over the world.

Ian has been appointed as its first Director.
He said its wide-ranging research efforts
will centre, for instance, on improved potato
pest and disease control and making the
global industry more climate and environment
friendly with less waste, adding that forging
international collaborations will form a key

He said: "Yield gains in potatoes have failed to keep pace with those achieved in other crops, largely down to their complex genetics. However, Hutton is already the custodian of the Commonwealth Potato Collection - a unique source of potato germplasm from wild

pillar of the facility's work.

relatives and land races, which will provide invaluable material to overcome this yield limitation and provide new sources of pest, disease and climate resilience.

"We will be tackling what's now an urgent need - to lead global research into this mostvital of crops, using both natural science and social science working together."

#### **Championing the three Cs**

Mark Taylor, Chair of GB Potatoes, shared key insights and updates on the organisation's work and the broader state of the potato industry.

He began by acknowledging the event's importance for fostering industry dialogue. He advocated the need for continued growth in GB Potatoes membership, emphasising that a larger, unified voice is essential for industry representation, particularly with a new UK Government.

"With a new government in place, it's crucial that we highlight the potato sector's vital role in UK agriculture and communicate the impact of significant policy changes to policymakers," he said.

He articulated his vision for the industry through his "3 C's": Collaboration, Coordination, and Cooperation—principles that he said guide GB Potatoes' ongoing efforts.

Mark did not shy away from discussing the industry's current challenges. While he acknowledged improved confidence owing to recent high free-buy prices, he cautioned against complacency.

"We've been through difficult years, and there are many challenges we face," he said, highlighting the rising costs of machinery and ongoing challenges with customers who devalue the product by selling cheap food, disease threats and ensuring the industry has access to necessary plant protection products.

Mark outlined several key initiatives undertaken by GB Potatoes. A notable focus has been sponsorship of the 'Fight Against Blight' campaign, which it considers to be a critical industry tool. He also praised the 'Grow Your Own Potatoes' program, which provides growing kits to primary schools across the UK, saying it encourages early engagement with agriculture.

He detailed how GB Potatoes has partnered with CUPGRA to establish the GB PCN Forum, which aims to develop a national strategy to combat the pest, working closely with PCN Action Scotland.

Protecting plant protection products (PPPs) is a top priority for GB Potatoes, Mark said. "Many of the products we rely on are under threat," Mark noted, specifically mentioning efforts related to the review of Mancozeb and the delayed National Action Plan.

The loss of Sutton Bridge has led GB Potatoes to launch the SPot Store project, in partnership with PSI and SDF Agriculture, to address potato storage needs. Mark shared updates on this initiative, including a successful onsite event in May and plans for further meetings across Great Britain.

He outlined the formation of the Seed Consultation Group (SCG) chaired by Tony Bambridge, which focuses on unique challenges to the seed sector, and discussed the work GB Potatoes has done to secure stewardship of the residual potato levy funds from AHDB.

"These funds will support essential projects, including aphid monitoring, virus management tools, and reputational management," he said, adding that the organisation is currently finalising the agreement with AHDB, which will allow GB Potatoes to begin implementing projects later this year.

#### **SPO** activities

Former Grampian Growers CEO Mark Clark, has been working with the Seed Potato Organisation (SPO) on a part-time basis since his retirement and during his talk, he outlined how the SPO came to be formed and what it has achieved to date.

"Following the demise of AHDB Potatoes, there was felt to be a need for the seed potato







sector to have some form of body to represent its interests, so a series of roadshow meetings took place in 2022, from the Borders to the Black Isle, to gauge exactly what the seed sector required," he told those present at PIP.

"SPO, a cooperative, was formed in November 2022. Its structure is based on one member/one vote and the SPO Board comprises seven seed potato grower directors and two non-executive directors (industry leaders). Board meetings are held bi-monthly, with the AGM held in February each year.

"The aims and objectives of SPO are to represent the views of seed growers and liaise with SASA and Scottish Government, invest in R and D, innovation and new technology, promote the UK seed sector worldwide, and represent the seed sector at all the major industry events," he said.

It is also seeking to ensure the seed sector continues to develop economically and environmentally, while identifying and helping to fund potential new markets for UK seed potatoes and addressing key industry issues, Mark added.

"As of August 2024, SPO has signed up 50% of the Scottish seed growers (55% of the Scottish seed potato area), along with a growing number of associate members," Mark said. "We've been in regular contact with SASA with regards to growing season issues and played a key role in bringing about the registration of Olie-H Oil, assisting with aphid control," he added.

SPO has supported and promoted the annual Potato Rogueing Course run by SAC, assisted with funding for the Fight Against Blight project as well as straw and dye trials for aphid control in conjunction with Scottish Agronomy, and is working with the Horticulture Crop Protection Ltd (HCP), the grower-owned-and-subsidised organisation set up to ensure UK growers had access to plant protection products when AHDB Horticulture wound down.

The latter has involved a strong focus on the re-registration of Mancozeb and Diquat.

The organisation has provided financial support for the Export Potato Hub and work is currently in progress to obtain access to the AHDB's data base in order to assist with SPO activities, he said.

SPO is actively recruiting members and Mark is helping with this, providing feedback to the Board on any thoughts and suggestions from the contacts he makes.

He said there is currently a joining fee of £1,000 irrespective of the hectarage of potatoes grown.

#### Bigger footfall and 'a real buzz'

This year's event saw a 10% increase on visitor numbers since last year.

Ian said: "There was a real buzz to it. There were a lot of good conversations. The layout was less stretched out which people preferred and it felt like the space was better used.

I've been going to this event for 30 years, and have never felt this kind of buzz before - it probably helped that it was not raining, which we'd all been prepared for!"

He added: "Those who attended were primarily concerned about pest and diseases such as PCN and Virus and there were a lot of questions around those. As people lose plant protection products, it's becoming more difficult for them and they're keen to find answers.

"Until a couple of years ago I'd hardly heard of wireworm. People didn't really talk about it. But with more and more chemicals going, it's becoming more of a common debate topic now and there's a lot of talk about how we will deal with it.

While some visitors said they have been experiencing issues with leafroll virus, Ian said that while this was a concern, such diseases come and go so we should ensure that we look to tackle it now but keep its longer-term impact in perspective.

"Growers get interested in stuff when it is there in front of them and potato leafroll virus is happening all over Europe. We hope it is just a blip. It's spread by aphids so if you get warm weather, these are around in bigger populations, plus the loss of insecticides will have an effect on this," he said.

He said many of those who'd attended said they felt that varieties are going to play an important role in replacing chemical inputs.

#### MEMORANDUM OF UNDERSTANDING

A MEMORANDUM of Understanding was signed with China's Gansu Academy of Agricultural Sciences (GAAS) at the event to discuss the efficiency of joint collection and sharing of potato germplasm resources between the two countries and to promote the sustainable development of the potato industry in both countries.

It comprises 13 specialised institutions, such as the Potato Research Institute, and operates three experimental stations in Zhangye, Wuwei, and Lanzhou.

The Potato Research Institute of the Gansu Academy of Agricultural Sciences was established in 2006. It consists of four research divisions: Germplasm Resources, Genetics and Breeding, Cultivation Techniques, and Virus-free Seed Potato Propagation Techniques. Additionally, it operates two new variety breeding experiment stations in Huichuan and Yuzhong. The institute primarily focuses on the conservation and identification of potato germplasm resources, breeding of new varieties, cultivation techniques, virus-free seed potato propagation, pest and disease prevention and control research, and scientific and technological services.

The institute has collected and preserved more than 1,500 germplasm resources and has bred 50 varieties of the Longshu series of potatoes, holding a leading position in the country in terms of breeding high-starch and disease-resistant varieties. The Longshu series potato varieties occupy more than half of the potato planting

area in the province annually, with Longshu No. 3, Longshu No. 7, and Longshu No. 10 each exceeding one million acres.

The institute has also engaged in extensive cooperation with international organisations, such as the International Potato Center, in the exchange and innovative utilisation of potato germplasm resources.





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BOOK















# 'Significant opportunities on the horizon'

**Scott Walker**, CEO of GB Potatoes, says that with a new government in place, it's crucial to emphasise the vital role of the potato sector in UK agriculture.

S you prepare for the main potato harvest and have a moment to gather your thoughts before all the hard work begins, what are the defining moments of 2024 that come to mind? Is it the record-breaking wet spring that threw your planting schedule into disarray, the fleeting glimpses of promising summer weather that never quite stuck around, or perhaps the unexpectedly-smooth harvest that brought in yields better than you dared to hope for?

Of course, that last scenario hasn't yet happened and might be more optimistic than realistic. But perhaps 2024 will be memorable for a different reason altogether—the arrival of a new Prime Minister.

Given the political upheavals we've experienced in recent years, with three leaders—Boris Johnson, Liz Truss, and Rishi Sunak—since the 2019 election, another change at the top might not seem extraordinary. However, this time is different. This new Prime Minister has come to power through a general election, ushering in the beginning of a new Labour Government.

As this government settles in, just over a month into its term, the question looms large: What will this new Labour Government mean for farming? While it's far too soon to draw any firm conclusions, the industry is watching closely, aware that significant changes could be on the horizon.

Before the election, Labour made concerted efforts to appeal to the rural vote, presenting itself as a party that understood and would support the farming sector. The messaging was consistently reassuring, aimed at easing concerns within the industry. However, now the party is in power, it faces the challenging task of making real decisions—and it's clear that pleasing everyone will not be possible.

Labour has pledged to "champion British farming while protecting the environment." It has recognised the importance of increasing the nation's self-sufficiency to bolster food security, a critical aspect of our national infrastructure. This was underscored on

Wednesday, August 14th, which marked the UK's 'Self-sufficiency Day', the point in the year when, if we we had relied solely on food produced within the UK from January 1st, our supplies would have run out.

With more focus than ever is going to be on food security and the economic potential of domestic food production, it's up to us in the potato industry to demonstrate to this new government just how crucial our sector is to the UK.

If the government enacts policies that support, rather than hinder, our efforts, the potato industry can thrive and significantly contribute to the nation's food security and economy.

With a new government in place, it's crucial that we emphasise the vital role of the potato sector in UK agriculture. While we face challenges, there are also significant opportunities on the horizon. The policies this government introduces—spanning agricultural regulations, trade agreements, authorisations for plant protection products, labour availability, and employment law—could have a profound impact on our industry.

As the national conversation around food security and the economic benefits of UK food production gains momentum, we must highlight the critical importance of potato production to the nation's well-being. With the right support, our industry has the potential to thrive and make a substantial contribution to the economy.

Looking ahead, I am filled with optimism about the future and confident in our ability at GB Potatoes to help shape it. We have made significant strides, including securing ministerial support for GB Potatoes to access the residual potato levy funds from AHDB. We are now in the final stages of finalising the agreement with AHDB, which will enable us to begin rolling out projects that will directly benefit our industry. This opportunity places a portion of our future firmly in our own hands, allowing us to influence the direction of the sector and advocate for the policies that will shape our path forward.



The momentum we've built is substantial, and it is essential that we continue to drive it forward. Our collective influence can be a powerful tool, not just in steering our industry but in shaping government decisions that will have a lasting impact on our future. To achieve this, we need to work together as a unified force.

I urge you to spread the word about GB Potatoes and encourage others in the industry to join our efforts. The more voices we have advocating for the potato sector, the stronger our influence will be. Together, we can ensure that our industry not only survives but thrives in the years to come.

GB Potatoes is looking to shape the future of the potato industry and ensure its resilience and prosperity through a collective voice. If you are interested in making a difference to the potato industry please get in touch to become a member or for further information: info@gb-potatoes.co.uk / www.gb-potatoes.co.uk







Consumer 'potato path to purchase' insights revealed

NEW 'Potato Path to Purchase' study has offered some interesting insights into the pre-shopping and in-store experiences that drive potato purchases.

The Consumer Path to Purchasing Potatoes study, fielded by Nielsen IQ, found that shoppers' path to purchase potatoes is mostly influenced by three key factors, with more than 90% of potato purchases being pre-planned.

Drawing on the most recent data, the study provides actionable steps retailers can take to help drive potato sales.

Senior Global Marketing Manager at Potatoes USA, Kayla Vogel, said: "Ranking purchase factors, freshness/quality receives the top rating, ahead of price," said Kayla "For retailers, it is important to highlight freshness, including tips on how to best store potatoes at home to optimise shelf life and prevent unnecessary food waste."

According to the study, 84% of consumers want transparent bags so they can gauge freshness and quality for themselves.

"In-store, visual displays and inspirational signage drive influence more than discounts and promotions," said Kayla. "As budgets tighten, people have remained loyal to potatoes. That means there are opportunities to significantly achieve scaled results through improved visibility, merchandising and cross-merchandising."

Potato purchasing decisions are driven by planned meals, the study found, and 80% of respondents plan which potato type they will buy, with more than 44% going directly to the planned type in-store.

"In-store buying decisions are predominantly swayed by point-of-purchase displays," said Kayla. "Retailers and merchandisers can enhance the in-store experience through larger displays, secondary locations, inspirational signage and ensuring potatoes are readily accessible within the store."

In addition, 89% of consumers believe potatoes are versatile and easily adapted to many different types of dishes.

"To inspire mealtime with potatoes, provide on-pack and shelf inspiration to show how potatoes can be used in the meal lineup multiple times a week without eating the same thing twice," Vogel said. "It's also



important to highlight new ways of using common varieties in special ways as well as expand on special occasions to increase sales."

#### Diabetics' heart health can be improved with potatoes

HE plus-points of potatoes are again in the spotlight, with new research advocating their gamechanging qualities within the diet of people battling Type 2 diabetes as well as their role in improved heart health.

The new research led by Neda Akhavan, assistant professor in the Department of Kinesiology and Nutrition Sciences at The University of Nevada's School of Integrated Health Sciences

In the research, 24 individuals - who had Type 2 diabetes - were fed pre-prepared baked potatoes as a daily snack or side dish.

Participants in the study group were given a pre-prepared baked potato with the skin, portioned to 100g, with a hand-sized 20 grams of carbohydrates to integrate as a daily snack or side dish. A control group consumed an equivalent serving of white rice. Study participants were permitted to add herbs or

spices to the potatoes, or up to ½ tbsp of butter, but they were advised not to fry their potato.

The study extended over 12 weeks, which is the minimum duration required to observe changes in glycemic control and cardiometabolic health indicators.

In the results, those who ate the potatoes had a modest decrease in fasting blood glucose levels and their waist circumference and body composition improved while there was a reduction in resting heart rate.

"The results from our study provide evidence that white potatoes can be healthfully incorporated in the diet of individuals with Type 2 diabetes when substituted for other foods with a high glycemic load, such as longgrain white rice," Neda said.

She added: "Additionally, there were no harmful effects on measured health outcomes, and some cardiometabolic health benefits were shown, which aligned with

what we expected to see. Therefore, diabetics should not shy away from potatoes."

Neda, who recently presented her findings to the Alliance for Potato Research and Education, explained the motivation behind the study.

"I like doing research on food items that are highly stigmatised in the nutrition world," she said. "Most people associate the potato as something that is mostly fried or has a lot of fat, and we wanted to shine a light on how a potato - when prepared properly - can be both functional and healthy."

Neda intends to expand the study in the coming months to include a larger and more diverse participant population, and incorporation of potatoes within a Mediterranean dietary pattern. She also plans to explore the role of potato consumption and its effects on dietary patterns and related health benefits.

### Late harvest after wet spring



### Growers discuss industry and 2025 marketing



THE main crop market is currently quiet in Belgium, according to Jurgen Duthoo, Account Manager with supplier Warnez Potatoes.

Currently, there are mainly French potatoes on the market, he said in a recent interview with Fresh Plaza.

Some early potatoes are being harvested in Belgium, but harvest is a bit later this year because of wet conditions in spring. Planting was on average four to six weeks later.

He hopes some potatoes can be harvested in September but said patience will definitely be needed for the main harvest.

### Potatoes win gold in Olympic cuisine



FRANCE's potato association carried out a survey in the run-up to the Olympics which revealed that the potato was set to be the star of Olympic meals.

According to the survey, 33% of French people favoured the classic burger with homemade fries, 29% preferred potato salad, 12% opted for potatoes with a shareable sauce, and 9% chose steamed potatoes.

### High former prices unlikely to be matched



HIGH potato prices seen in the Netherlands over the past two years are unlikely to be matched this year, according to Lorella Maggio, of supplier Agridor Holland.

Lorella said Dutch potato exports have not really picked up yet. The old season was stopped earlier and it's difficult to give a preview of the season, she said. "It could well be that we will still get quite reasonable yields, although the harvest seems to be lower again in some areas. But I don't expect us to match the extremely high prices of the last two years." West Africa is traditionally the biggest export destination for Agridor Holland, although local production in countries like Senegal is creating competition, she said.

### Technical meeting to increase knowledge



A POTATO technical meeting, which is a collaboration between cooperative Terremerse and supplier Pizzoli, recently took place in the San Pancrazio Municipality of Ravenna

This training event saw the active participation of expert technicians who shared the best practices for potato cultivation and featured a continuous harvesting and unloading demonstration.

This year, farm owner Guido Bertaccini sowed 10 hectares of industrial potatoes. The yield is expected to be between 50 and 60 tonnes per hectare.

The industrial potato campaign is going well. It usually starts in mid-June and ends in mid-September. The farm is currently at about 50% of the harvested areas.

While the technologies used in this continuous operation are quite common in Northern Europe, in Italy they are only just beginning to emerge.

GROWERS in Germany will discuss a number of items impacting on their industry at the 71st Internationale Kartoffel-Herbstbörse by the German Potato Trade Association.

The event, which takes place on October 1st at Hotel Hafen Hamburg in Hamburg, will include presentations from companies from all stages of the value chain and invite observations and feedback based on the past year of unusual weather conditions, as well as expectations for the 2024/2025 marketing season.

Dr Christoph Endres, computer scientist and AI researcher, will give a keynote speech on the increasing importance of cybersecurity in the digitalised supply chain and trading process.

### Teaching newcomers potato industry skills



THE German Potato Trade Association (DKHV) recently held the inaugural session of its Potato Specialist Training Program in Uelzen.

The event attracted 26 participants from various parts of Germany, ranging from apprentices to executives, who were eager to enhance their knowledge and skills in potato cultivation and trade.

The second part of the training program will take place on November 11th and 12th in Bayaria.

#### Prices up in Bavaria



WEATHER conditions have driven prices up in both the packing and industrial sectors of Bavaria.

This year, there have been fewer inquiries from Romania and Bulgaria, while the demand in Slovenia, Croatia, and the Czech Republic was significantly higher compared to other years, according to one supplier.

He said the French fry industry is increasingly seeking regionallycultivated goods and this segment is growing accordingly, while the cultivation of starch potatoes is being reduced.

### Exporters expect to see more potatoes



PLANTING in Poland began earlier this year and tubers have been noticeably bigger, according to a board member for packing company Bugaj.

Lukasz Ostrowicz said in a recent interview: "Planting started very early this year, driven by the high prices from the last season, which encouraged growers to take the risk of early planting. As a result, potatoes from under double covers were ready as early as the end of May, marking one of the earliest starts in history.

"Despite experiencing some night frost in April, the fields were not significantly harmed. The biggest challenges have been the violent rainfalls that started in June, combined with an increase in fungal pathogens attacking the plantations, which made plant protection difficult."

New potatoes were already being exported in July while there was still stock remaining from the previous season and seed quality presented challenges this season. The volume of Polish potatoes appears to be slightly higher than last year.













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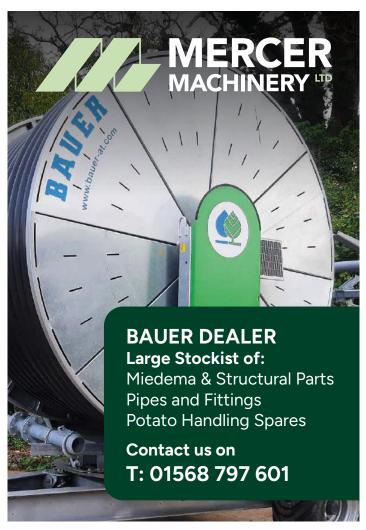
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# Potato eyed as sustainable food solution in the Philippines

AGRICULTURE Secretary Francisco P. Tiu Laurel Jr. of the Philippines recently underscored the potato's potential as a key carbohydrate source, when he announced the approval of a potato seed tissue culture program to enhance production within the nation.

A collaboration between the Department of Agriculture (DA) and Universal Robina Corp. through the Sustainable Potato Program aims to develop reliable seed systems, enhance farmer organisation strength, and increase productivity and incomes. This initiative will involve capacity building, training in agricultural best practices, and expansion of production areas in partnership with local potato producers' associations.



### Price surge following Odisha shortage

THE eastern state of Odisha has seen a pronounced shortage of potatoes, driving prices to Rs 55-60/kg.

Frustrated consumers have been blockading vehicles in Cuttack, that have been carrying essentials to West Bengal.

The scarcity stems from West Bengal's decision to halt potato exports to stabilise its market prices, following a 20% production drop owing to unseasonal rain. West Bengal, a key potato producer, contributes 23.51% to India's output. Odisha, where the potato is a dietary staple, produces 300,000 metric tons and relies on imports for 90% of its needs.

### One-year anniversary



POTATOES New Zealand has marked the one-year anniversary of Kate Trufitt's appointment as CEO.

Under her leadership, Potatoes New Zealand secured 94.74% approval for the proposed commodity levy from the eligible voting growers, the strategy for 2028 was launched and the outlook for industry growth is good, despite various challenges.

Kate has fostered partnerships with leading research institutions to drive advancements in potato breeding, pest control, and disease management and is enthusiastic about expanding Potatoes New Zealand's international presence, while further advancing practices that will benefit the industry for generations to come.

# First purple-fleshed variety introduced



ICAR-Central Potato Research Institute (CPRI) in India has developed 'Kufri Jamunia', the first purple-fleshed potato variety tailored for Indian agricultural conditions.

This variety is adaptable to the Indian soil and climate, particularly in the Northern, Central, and Eastern Plains and has yielded 320-350 quintal per hectare. The oblong-shaped potato with shallow eyes matures within 90-100 days and has high anthocyanin content.

### Cultivation crisis in Welimada



POTATO growers are having to tackle a scarcity of seed potatoes in Welimada, leading to a 40% decline in yields during the Yala season.

The shortage is likely to lead to a market shortfall and potential price surges and the situation is anticipated to deteriorate in the Maha season as a result of escalating seed potato prices.

The cost of cultivation, including seed potatoes, fertiliser, labour, and transport, has substantially increased, with adverse weather further exacerbating crop losses. This has forced growers to diversify into less costly crops like carrots.

The Ambewela Agricultural Scheme's president has highlighted the critical role of Welimada farmers in meeting the national potato demand, while noting the adverse impact of government policies and unchecked imports on local cultivation.

# US pushes for fresh potato access



THE US potato industry continues to push Japan to allow imports of fresh potatoes.

Japan is a major destination for processed potatoes from the United States, but does not allow fresh imports.

National Potato Council CEO Kam Quarles said if the US is allowed to export fresh potatoes into Japan, it would result in about a 10% increase in fresh exports, equating to an additional \$150 million per year

# Ukraine plants second batch of potatoes



IN the Mykolaiv region of Ukraine, agricultural holding PAEK Company has begun planting a second round of potatoes.

Owner Yuriy Kormyshkin said if the results of the summer harvest are any indication, which is 30 tons per hectare, the farm should collect several thousand tons of potatoes this autumn.

As with last year, the company's agronomists plan to harvest two crops of vegetables. This year, the company has allocated around 2,000 hectares of land for vegetable farming.

Some of the potatoes and other vegetables grown by the company will be exported, with the rest being sold domestically under the registered trademark "Smakota".





### Black frost destroys crops

SOUTH African potato prices have increased by around 15%, after black frost, a frost that occurs when the atmosphere is dry, caused extensive damage and blackening of potato plants in the Limpopo province, a major producing region in the country.

Data from Potatoes SA revealed the average price of 10kg of potatoes was R85.31 at the time of British Potato Review going to press with further price increases recorded in Nelspruit and Cape Town, where a bag of potatoes was selling for almost R100.

Prices started rising sharply above the seasonal average during the last two weeks of July, according to the non-profit organisation that represents South Africa's potato industry.

# Kyrgyz potato supply negotiations



THE Ministry of Agriculture of Kyrgyzstan is in the final stages of negotiations to supply around 10 major retail outlets in Uzbekistan with Kyrgyz potatoes.

Potatoes produced in Kyrgyzstan are expected to be sold in Uzbekistan's largest retail chain, Korzinka, according to a report in Fresh Plaza.

Tashkent, the capital of Uzbekistan, is home to 12 major retail and wholesale trade centres. Current assessments indicate that there is a high demand for potatoes in Uzbekistan.

The Kyrgyz Ministry of Agriculture is inviting interested parties to collaborate in exporting domestically-produced potatoes to Uzbekistan.

# Pirates to the rescue of zebra chips



'ZEBRA chips' commonly seen in New Zealand, following an outbreak of the tomato potato psyllid (TPP) pest, could be less common in future after a counter attack by 'pirates'.

The small insect affects the quality of potato crops, leading to a striped appearance and bitter taste. Three years ago Canterbury, a significant potato-growing region, experienced a loss of 5.7% of its crop three years after they were infested.

Research efforts led by Professor Clive Kaiser from Lincoln University have focused on combating the TPP with various control methods, including the introduction of a natural predator, the psyllid-eating pirate bug. These efforts have been crucial in addressing the threat posed by the psyllid, which originated from North America and found its way to New Zealand in 2008. The psyllid's ability to travel vast distances, potentially aided by trade winds, has been a significant factor in its spread.

Professor Kaiser's team has gained extensive knowledge about the TPP, including its life cycle, breeding habits, and the altitudes at which it flies. This expertise has informed strategies for managing the pest, such as adjusting pesticide application schedules to target the psyllid more effectively at vulnerable stages of its life cycle. A notable discovery involved finding a large number of psyllid eggs on African boxthorn plants, leading to the strategic deployment of pirate bugs to these areas.

The introduction of pirate bugs has seen a dramatic reduction in the incidence of TPP, with infected plants dropping to less than 0.01% of the crop in Canterbury. Bioforce is supplying pirate bugs to support ongoing control efforts.





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### New opportunity for Kenyan growers



THE variety release committee of the Kenya Plant Health Inspectorate Service (KEPHIS) has recently announced that three of Dutch breeder Solynta's hybrid true potato varieties have been approved for distribution in Kenya.

The hybrid potato varieties approved for release are SOLHY007, SOLHY012, and SOLHY015. These first commercially available varieties will be sold in the market as true seeds and seedlings grown from true seeds (via local partners). The varieties were developed in the Netherlands via non-GMO hybrid breeding technology, a new breeding platform invented by Solynta. One of the varieties contains multiple resistant genes to late blight, a well-known potato disease that causes great damage to growers' yields.

Solynta will make these approved hybrid varieties available across Kenya ahead of the next growing season. One of Kenyan potato growers' biggest challenges is having limited access to sufficient clean starting material to grow their crops and Solynta says the approved seeds are disease-free, easy to store, and economical to use. With 25 grams of seed, growers can plant the same area that otherwise requires 2,500 kilograms of tubers.

## Horticulture accelerator launched



THE COMESA-EAC Horticulture Accelerator (CEHA) National Chapter has been inaugurated in Addis Ababa, Ethiopia, aiming to catalyse the sector's growth within the Common Market for Eastern and Southern Africa (COMESA) and the East African Community (EAC).

This initiative, spearheaded by the Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA-COMESA), seeks to enhance sustainable development in the sector, focusing on potatoes, avocados, and onions owing to their economic growth potential.

Ethiopia's State Minister of Agriculture and Horticulture Development, Meles Mekonnen, said it will advance horticultural advancement in the country while John Mukuka, ACTESA-COMESA Chief Executive Officer, said it will help to generate an additional annual revenue of \$230 million for around 450,000 smallholder growers. The initiative will also engage in policy advocacy, financial support, and capacity building for value chain participants.

### Educational open days



Innovations and information on potato growing are being exhibited. The open days are taking place in Bungoma, Elgeyo Marakwet, Narok, Nakuru, Meru, Uasin Gishu, Nyandarua, and Nyeri Counties.

Those exhibiting include breeders, pesticide and herbicide manufacturers, fertiliser manufacturers and growers' associations.

# Water restrictions price impact warning



SKY-ROCKETING potato prices seen at the end of 2023 could become the new reality in the Western Cape's Sandveld region if water usage restrictions are imposed on growers, Potatoes SA, a non-government organisation representing South Africa's growers, has warned.

The Department of Water and Sanitation (DWS) has proposed a water reserve determination for the F60 and G30 catchments in the Berg-Olifants water management area in the Western Cape. Water reserves serve as a baseline of water availability in the region, which is then used to decide how much water can be extracted by all users. The DWS published the draft reserve determination in the government gazette in May.

Based on the DWS's figures on water availability, the DWS is proposing that water extraction by growers be reduced by 30% to ensure that the area has sufficient water to sustain its population and environment.

This would result in 30% of the hectares under potatoes in the Sandveld taken out of production, resulting in the quadrupling of potato prices.

South Africa got a first-hand look late last year of what happens when potato production is drastically reduced. As a result of load-shedding, growers planted 1,600 hectares of potatoes less in 2023, which resulted in a 173% increase in prices when market supply consequently dipped, Potatoes SA stated in a recent announcement.

This took the long-term average of R42,87 per 10kg bag to R72,92 per 10kg bag.

Potatoes SA's Manager of information and regional services, FP Coetzee, said: "Should the planned restrictions to reduce agricultural water usage by 30% be implemented, production would decrease by 2,100 hectares, resulting in a catastrophic increase in prices."

Potatoes SA supports all efforts to preserve water resources and concurs with the Department on the importance of managing water in the designated catchments. Its concern however is around imposing a water reserve beyond what is necessary to achieve ecological stability.

CEO of Potatoes SA, Willie Jacobs, said: "The consequences are far reaching. Potatoes will become unaffordable to those who depend on it for food security. This, and the consequences of decimating the local economy, would result in job losses, social unrest, migration and economic disparity."







# Kenya launches initiative to boost potato productivity



### Extended deadline means opportunity for seed exporters



AGRA, in partnership with the National Potato Council of Kenya (NPCK), Egerton University, Kenya Agricultural and Livestock Research Organization (KALRO), and County Governments, has initiated the Kenya Sustainable Potato Initiative (KSPI).

The program is designed to enhance the potato sector in Nyandarua, Meru, Laikipia, and Nandi Counties by fostering sustainable potato food systems through increased productivity and improved marketing strategies.

Around 150,000 farmers will potentially benefit, seeing productivity and income increases. It also focuses on enhancing the industry's competitiveness through value addition, marketing improvements, and a better policy environment. It is hoped the initiative will generate more than 4,800 jobs for young individuals in various sectors including primary production, input sourcing, marketing, service provision, and seed multiplication.

### Potato price drop in Nigeria after abundant harvest



AN abundant harvest in Nigeria has led to a decrease in potato prices Previously, a 65-kg bag reached N150,000 to 180,000 owing to factors like regional insecurity and farmer-herder conflicts, which affected agricultural activities. Now, with the influx of produce from Bokkos, Mangu, Jos South, Jos North, Bassa, and Jos East LGAs, prices have fallen to around N45,000 per 65kg bag.

As Nigeria enters the Irish potato harvest season, Plateau State, known for its fertile lands, is at the forefront, contributing significantly to the national output.

One local trader suggested the price drop advised buying now before potential future scarcity. Community leaders and growers have said last year's favourable weather played a role in the increased yields but said fertiliser costs are now a real concern. There have been calls for government subsidies for fertilisers to maintain stable prices and enhance productivity.

The recent price stabilisation and increased market activity in Plateau State's Irish potato sector suggest a positive trend amidst Nigeria's food inflation challenges.

Nigeria is one of the largest producers of potatoes in Africa. The production of Irish potato in any part of Nigeria is an integral part of the rural economy, as it is cultivated as a rain-fed and irrigated crop.



THE Egyptian Central Authority of Plant Quarantine has announced a deadline extension for allowing seed potato shipments into the country, moving from the December 1st cut-off to December 23rd.

Last season, Dutch seed potato exporters faced significant challenges. A late production season narrowed the export window, leading to reduced market access and ultimately, a decline in exports to Egypt. The total volume of seed potatoes shipped to Egypt dropped significantly as a result.

The extended deadline opens doors for increased exports, potentially enabling Dutch exporters to recoup some of the losses experienced last season.

# Significant growth in production and exports



IRAQ's Kurdistan Region is showing significant growth in its potato production, currently standing at more than 800,000 tons annually

It recently exported 600 tons of potatoes to Western Kurdista's Qamishlo and Hasakah regions and 5,000 tons to the United Arab Emirates (UAE).

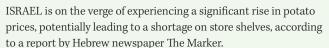
The Kurdistan Regional Government (KRG) supported the export which it said would support local agriculture.

Projections indicate that the region's exports could exceed 25,000 tons to Gulf countries this year compared to 13,000 tons last year. It produces approximately 30 potato varieties.

The Nawkuri plain in Bardarash district, Duhok province, is a major contributor, with more than 300,000 tons produced each year.

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# Potential potato shortage



Israel produces approximately 550,000 tons of potatoes annually. Of this, 250,000 tons are consumed domestically, a similar amount is exported, and 50,000 tons are used by the industry. However, this year has seen unusual market dynamics owing to external factors.

A drought in Europe has meant an increased demand for Israeli potatoes, leading to higher-than-usual export volumes. Additionally, the Gaza Strip, which in previous years has supplied around 50,000 tons of potatoes to both its population and the Palestinians, has been unable to do so this year because of the ongoing war. As a result, when humanitarian organisations began purchasing potatoes for Gaza, a significant portion of the Israeli harvest was diverted there.

The wholesale price of white potatoes for the Israeli market has surged, increasing from &0.78 per kilogram to &1.22 per kilogram, compared to the usual annual price of &0.61 per kilogram.

# Optimism for upcoming season

PRINCE Edward Island's potato harvest is slightly ahead of schedule.

The PEI Potato Board's Mark Phillips said planting finished early this year and weather has also "cooperated well" with adequate moisture early in the growing season.

While PEI is well known for its fresh table potatoes, new potatoes are its earlier crop, which have a thinner skin and are only shipped throughout the island.

"Those have been ready since the end of June. The main crop doesn't really get harvested until late September and the harvest goes generally until the end of October," Mark said, adding that a few growers in early sandier ground have begun digging the new crop and shipping.

Early bulking has begun and tubers are in good shape, he said.

## Climatic pressure leads to unstable markets

MARKET instability has been witnessed in South America, as a result of fluctuating prices.

The warming of sea surface temperature that occurs every few years, typically concentrated in the central-east equatorial Pacific and known as the El Niño phenomenon, has disrupted weather patterns across the continent, resulting in increased rainfall in southern regions and drier conditions near the equator.

In Brazil, unprecedented floods in Rio Grande do Sul led to significant crop losses, with potato prices remaining high throughout the year.

Argentina faced one of its coldest winters in six decades, causing severe frost damage to crops in the southeast of Buenos Aires, which in turn, led to rising potato prices.

Uruguay, caught between the climatic extremes of its neighbours, experienced both heavy rains and frosts, delaying harvests and reducing seed availability, causing prices to spike.

Conversely, Chile saw a rare dip in local supply, prompting imports from other American countries.

Peru and Bolivia were hit by frosts, hailstorms, and snowfalls, devastating their crops early in the season. Colombia's potato planting was delayed by over two months, resulting in a 60% price increase.

Climatic conditions have led to a notable impact on potato supply and prices across South America, raising questions about the establishment of a new price floor for the region's potato market.

# AI probe to stop potato myths

POTATOES USA is using artificial intelligence to scan social media platforms for misinformation about the crop.

The national marketing and promotion board which represents growers and importers in the USA says thousands of posts are made each day about potatoes, and many include factually-wrong statements.

The initial investment is cost around half a million dollars and will cost about \$100,000 a year to operate.



### A better season – but growers urged to be watchful



POTATO growers in northern Maine are breathing a bit easier than they were a year ago, as they are now in the middle of a drier 2024 growing season.

In 2023, unrelenting rain soaked fields from planting through harvest, threatening potatoes harvests.

But this year, thanks to favourable weather, the outlook for potatoes is promising. Last year Maine produced 10 million pounds fewer potatoes than the previous year but growers believe a good growing season will help recover those losses.

# Product recall update by FDA



THE risk level of more than 10,000 potato products was updated by the US Food and Drug Administration (FDA) following a product recall.

Veggies Made Great brand Broccoli Cheddar Breakfast Potato Bakes were voluntarily recalled in early May owing to potential Listeria monocytogenes contamination. The item has now been updated to a Class II, meaning that when the product is used, it "may cause temporary or medically reversible adverse health consequences," according the FDA definition.



### Russets dominate acreage in topproducing states



THE Russet potato, used for baking, mashing, and frying, has become the most popular variety in the USA and accounts for about 70% of planted acres each year.

Potatoes are grown throughout the United States, but the proportion of distinct potato varieties varies in the top 13 potato-producing States.

Russets make up a majority share of potato acreage in northern growing States, Idaho, Washington, Oregon, Colorado, Minnesota, and Maine, where the variety is well-suited for the cooler climate. White potatoes, grown for use in fresh and chip processing markets, typically account for one-fifth of area planted to potatoes and are second in popularity. In Michigan, white potatoes consistently account for a higher percentage of planted acreage because of demand from chip-producing plants in the State.

Red, blue, and yellow varieties account for the smallest share of acreage planted to potatoes and are primarily grown for the fresh market. Differences in the proportion of potato varieties can be attributed to many factors, including consumer demand, crop rotation limitations, seed availability, and industry demand for specific varieties of processing potatoes. In 2024, the United States is forecast to plant 941,000 acres of potatoes, which would be a 2% decrease from 2023. This chart is based on the USDA, Economic Research Service Vegetables and Pulses Outlook, released in July 2024.







# Could PCN deterrent have a secondary use?

Shropshire agronomists and a farmer-led research group discuss how new field labs are building on previous PCN trap crop trials and, if successful, could make a trap crop a cash crop.



#### **FACTFILE:**

- DeCyst trap crops produce similar root exudates to a potato crop so stimulate PCN eggs to hatch in the soil.
- DeCyst has an innate resistance to PCN, so does not allow it to multiply.
- A well-established crop of DeCyst can reduce PCN populations by up to 80%.
- DeCyst should be drilled into a fine, firm, moist seed bed. A post drilling roll is recommended.
- DeCyst does not require incorporation into the soil to work. Once mature, crop residues can be cultivated or allowed to die naturally.

OTATO researchers are investigating whether a crop known to combat potato cyst nematodes could also be used for cattle feed, in a new field lab with the not-for-profit membership network, Innovative Farmers.

The Produce Solutions team, agronomists based in Shropshire, are trialling whether DeCyst Broadleaf can be turned into silage for cattle feed. It is already grown as a trap crop, protecting potato crops by stimulation of nematode hatching prior to potato cropping.

Earlier investigative work between 2021-2024, including Innovative Farmers field labs and Innovate UK-funded trials, have shown that trap crops can offer up to 80% efficacy against potato cyst nematode.

This trial aims to see if the costs of establishing DeCyst Broadleaf can be offset by using it as silage for cattle, exploring the best methods for harvesting and baling. The bales will be lab-assessed for toxicity and nutritional value, then trialled to see if cattle will accept it as a feed.

Field lab Lead Researcher Dr Bill Watts of Produce Solutions said: "Potato cyst nematodes are the biggest pest threat to UK potato farmers.

"The UK's potato industry is worth about £600 million. Potato cyst nematodes cause between £25 and £50 million in losses every year.

"We know that trap cropping is highly effective, and we've developed guidelines to make them as reliable as possible.

"Now we want to see if we can use the trap crops for cattle feed, which could create a cash crop opportunity in addition to their role in potato crop protection.

"We have lots of potential practical applications. If we can turn the crop into bales, we have transport opportunities.

If the crop doesn't work as animal feed, then we could investigate the bales for anaerobic digestion or other markets.

"The potential wins are huge – a successful trial could open the door for wider uptake of DeCyst Broadleaf for any UK potato farmer."

Field lab Lead Researcher Dr Bill Watts is keen to find out whether a trap crop can be turned into a cash crop for potato growers.



"If the crop doesn't work as animal feed, then we could investigate the bales for anaerobic digestion or other markets."

Dr Bill Watts, Field lab Lead Researcher



### Further solutions unveiled by Grimme

New features for 2025 season have been revealed for bunker harvester, receiving hopper, bed former, separator and apps.

RIMME launched the largest investment programme in the family company's 160-year history this year and at its recent press day, the German manufacturer revealed some of the latest machinery and technical updates aimed at potato growers.

Despite the generally difficult situation in the agricultural machinery industry, sales for 2024 are stable thanks to good producer prices and high demand for innovative machines, its current managers, Christoph and Philipp Grimme, who are the fifth generation of the family, revealed.

"The vegetable sector demands further solutions in mechanisation, which offers great growth potential," they said in a joint statement.

#### Limited numbers of bunkerharvester

The EVO 280 two-row potato bunkerharvester, with MultiCrop intake, will be available in limited numbers in 2025, having just been presented by the company.

Improved accessibility, convenience and user-friendliness continue to be the focus, in addition to unrivalled separation and throughput performance. An interchangeable system is now available for both the pick-up and the separator, enabling rapid adaptation to different crops and harvesting conditions.

Thanks to a standardised interface for electrics and oil supply, the newly developed, parallel-guided "MultiCrop-Intake" enables different harvesting intakes to be changed in a record time of less than five minutes. Each of the available intake versions can be coupled with the swing frame across all machines, taking the channel width into account. Locking between the components of the the

machine and the intake-frame is convenient and tool-free from one side of the machine. At the touch of a button, the user interface of the GRIMME Digital Interface (GDI) also adapts to the intake being used.

The specific crop intakes can be configured separately from the machine. All known intake variants are available, including further options for harvesting various crops out of ridges, beds or windrowed crops. With ShareProtect, the intake now also has a three-stage overload protection system: One overload protection device on the share blades, another one on the brackets for each share and a final one for the entire share frame.

The force is generally applied closer to the main frame, which increases the stability of the entire machine, especially at high harvesting speeds and in difficult harvesting conditions. In addition to the standard V2A sheets in the swing frame, two different channel widths of 1500 mm and 1700 mm are still available. For harvesting spraying tracks the digging depths can be specified for each of the two ridges so that the crop flow is better distributed on the main webs - even with only one row to be harvested.

The disc coulters have been designed with a larger diameter, which results in an even better cutting and rolling effect. Each disc coulter is mounted on a single bracket and can be individually adjusted in height and distance to the main web and share. If required, an additional disc coulter can be fitted on the left and/or right.

The third separator can be replaced using an optional exchangeable frame. The changeover from finger web ('ClodSep') to deflection rollers ('EasySep') and vice versa can be completed by two people in around 30

minutes with the help of a farm machine (e.g. telescopic loader). In addition to the separator, the software is also changed at the touch of a button so that the correct user interface is always available for the specific separator.

For tractors which are prepared for Tractor Implement Management (TIM), GRIMME offers the Speedtronic-Cruise option. The machine uses various parameters to adjust the driving speed of the tractor in order to achieve the optimum balance between throughput and crop protection at all times. The operator is significantly relieved and the machine is consistently driven with the same work result.

For improved comfort of the picking staff, the platform on the right-hand side of the machine can be extended as standard. Customers can also choose between the short, wide or the long, narrow trash conveyor, which allows two people to pick final clods and/or stones. An optional available pre-cleaning roller system is used to sort out triples and clods into a separate container or stone bunker and also reduces the workload of the picking staff.

#### **New hopper features**

For the 2025 campaign, the receiving hopper models of the RH-Combi series have many new features, with high-performance picking and sorting in a single pass with gentle crop handling being the focus points of the revised series.

The hopper is equipped with padding on the side walls in the 3.10 m - 3.50 m wide front section as standard. This minimises intensive mechanical stress on the harvested crop when filling the hopper for the first time. The hopper floor was also completely redesigned. The conveying 'pockets' are deeper to improve the entrainment effect and residual emptying.





The maximum hopper floor speed has been increased to 5.0 m/min for high throughput rates. In addition, the lower "bend" was equalised so that the hopper floor rises more gently. The crop therefore flows very evenly onto the cleaning rollers.

The straight bunker floor of the RH 24-60 "S", already introduced in the new RH family, is now also available in the series of RH-Combi. This version of the receiving hopper is primarily used for particularly sensitive vegetables.

The spacious picking table offers space for up to 8 people. A height-adjustable platform raiser is now available so that every workstation can be set up as comfortably and ergonomically as possible. Lighting is also available so that everything can be picked reliably at dusk and in the dark.

The CLS clod separator unit is characterised by its high and reliable separation performance. To improve crop protection, the separating wedge between the steel roller and the discharge conveyor as well as the side walls of the crop cross conveyor have been padded.

#### Separator production begins

Series production of the AIRSEP 290 began this year, with a new, functional design.

The AirSep separator, which was introduced in 2013 and awarded a gold medal by the German Agricultural Society (DLG), has undergone extensive further development in recent years and has been integrated into an independent new machine series - called AIRSEP 290.

Numerous changes, such as the modified crop flow and the optimised installation position of the AirSep blower, have significantly increased reliability and stability. The AIRSEP 290 is equipped with a fully hydraulic drive. This means that all main webs, including the optionally available intake web and the separators, can be adjusted independently of the engine speed (PTO speed) of the tractor.

#### **Bed formers revised**

The BF and BFL bed formers series has seen revisions for the one, two or three-bed system.

The main frame has been extensively redesigned to meet the increased requirements for soil cultivation. In addition, the newly developed hydraulic stone protection system has been integrated into all models. With the new BF 400, the BF- and BFL- series will now comprise three models, which will be available from the beginning of 2025.

The wall thicknesses of the main frame has been increased and the connection points between the plough bodies and the main frame have been reinforced. This also results in a new three-point linkage, which is now also compatible with the standard lower linkage categories CAT 3 and CAT 4. This allows the use of larger tractors.

In addition to the hydraulic stone protection, the hydraulic stone protection PRO is now available. A hydraulic cylinder has been installed instead of a shear bolt. This allows the plough body to deflect even further upwards in the event of contact with a large stone in the soil.

Another advantage is that the driver no longer needs to intervene once the stone protection has been triggered and the plough body automatically returns to its working position.

A 'Heavy Duty' package is offered for the plough bodies of the BFL series, which is available in combination with the new PRO stone protection system. This package includes reinforcements for the side plates and the plough body. This provides more stability, even in stony conditions, so that the side of the bed is pressed and slightly recompacted.

New soil guiding plates have been developed for the plough bodies of the BF series, which are designed especially for medium to heavy conditions. These soil guiding plates are attached to the uppermost part of the plough body. This prevents the soil from falling and at the same time forms a stable bed.

### Further applications introduced on portal

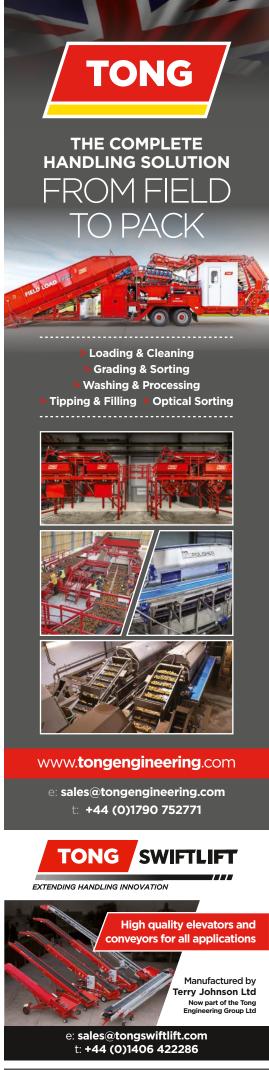
The new 'Fields' and 'Crops' applications are now available to users of the free myGRIMME end customer portal which was first launched in 2017.

With 'Fields', GRIMME has launched a new digital tool that enables the user to analyse the completed field work, such as planting or harvesting, in detail. For this purpose, numerous machine data are automatically documented in geo-referenced form so that the customer receives a precise overview of varieties, application rates, missing tubers, planting depth and yields. This functionality supports more effective planning and optimisation of individual plot management.

Users can either draw field boundaries in myGRIMME manually or import them directly from other existing systems. If a plot is then linked to a job ('task') in myGRIMME, the machine automatically assigns the available machine data to this area once the field work has been completed.

The new 'Crops' application allows different crops such as potatoes, beets and vegetables to be created in myGRIMME and colour-coded in the portal. It is also possible to subdivide the crops into varieties. These can be displayed and selected in real time via the operator terminal.

The different crops or varieties can then be geo-referenced with the respective machine data and visualised in "Jobs" and "Fields". A change of variety is clearly marked by colour and can help to prevent mixing, for example during harvesting.



### Supplier efficiency improved after trial of uploader

ONE of the UK's largest suppliers of potatoes has reported a 33% increase in efficiency and a 50% reduction in forklift movements since putting a box and bag unloader through its paces.

AKP Group has revealed the improvements after undertaking a two-month trial of Haith's new QuantaFill box filler at its Elsham site in North Lincolnshire.

Unveiled at Potato Expo in January, the QuantaFill features an in-feed conveyor that gently layers the crop into a buffer bunker, which is then lowered into the box. Active discharge doors then open to transfer the crop into the box, simultaneously raising as it fills. The manufacturer says the process ensures that the weight of the box is never lifted and the machine is not put under pressure, which eliminates fatigue or prevents damage to both the machine and the box.

The additional box-handling functionality allows the operator to place stacks of empty boxes into the machine. The boxes are then automatically de-stacked and transported to the filling module. After being filled, the boxes are re-stacked for the operator to remove from the line.

Founded in 1999 by third-generation potato farmers, Richard Arundel and Bruce Kerr, AKP Group is one of the UK's largest potato supply chain specialists, handling 150,000 tonnes a year across the group. AKP is also one of the UK's largest growers of potatoes with 750 hectares in its farming business.

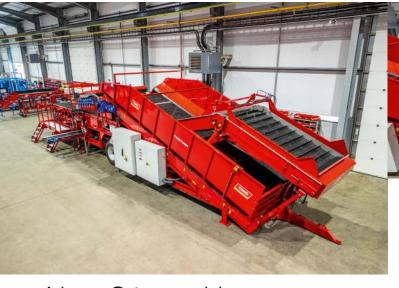
Operations Director, Ben Mordue, said: "We wanted to be quicker and more accurate when filling boxes. We can have up to 25,000 one-tonne boxes on the ground at any one time, and I might need to fill one thousand of them in a day with the smallest forklift movements possible, and, of course, I want to be kind to the potatoes. I don't want them damaged."

He said that after eight weeks of using the QuantaFill operations became at least a third faster and the company was able to use one less forklift than before, which he described as "a significant improvement".

"We have a long-standing relationship with Haith and were involved in the development of their Rota-Tip box tippler, of which we have several on-site here in Elsham, along with two Haith graders and a washer. The QuantaFill continues Haith's track record for innovating – it's incredibly efficient at loading, filling and stacking boxes, has a very small footprint and is four times as fast as a single box filler," he said.

AKP supplies to all sectors of the potato industry, spanning retail, food service and food manufacturing, both in the UK and overseas. Most recently, it has been using the QuantaFill to empty 1.2-ton jumbo bags of imported potatoes into one-ton boxes for retail packers at a rate of up to 60 tonnes per hour, though Ben believes the machine could run faster if required.





### New Stinger Hopper

TONG Engineering, UK manufacturer of vegetable handling equipment, recently introduced a new Stinger Hopper designed to streamline the unloading of live-bottom trucks and semis.

Whilst specifically engineered to meet the demands of the USA and Canadian markets, the manufacturer says the Sting Hopper will also be an ideal unloading machine for anyone unloading potatoes with livebottom trucks worldwide.

Sales Director Charlie Rich said: "What we have developed now, is the ultimate Stinger Hopper, one fully integrated even-flow machine with a built-in stinger elevator, resulting in a complete unloading solution that can receive crop direct from trucks."

The new hopper features a deep-flighted 6ft wide stinger elevator at the infeed, which is hydraulically adjustable to suit the height of the unloading trailers for ultimate versatility.

"We've fitted the stinger elevator with what we call a Droop Snoop. Like our popular box fillers, the end of the elevator lowers into to the hopper for the gentlest handling," said Charlie. "Both the stinger and the hopper are fitted with sensors that automatically detect the level of crop in the hopper, keeping the droop snoop in optimum position as well as controlling the speed hopper according to the level of crop. This ensures there is always a constant flow of product onto the handling line."

The new built-in Stinger elevator can be specified on any Tong even flow hopper, whether it's unloading onto a static handling line or a mobile grading and sizing solution. When added to a mobile even flow hopper, the Stinger elevator can be moved hydraulically into a transport position within seconds, making the machine quickly and easily transportable to its next destination.

Reinforced rubber hopper belts span the width of the hopper floor, giving more complete movement of the load which keeps crop tumbling and scuffing to a minimum.









### Record year for SR planters

THIS year has been a record year for Standen's SR potato planters.

Spring 2024 saw large seed arriving on farm, and growers wanting to upgrade their cup planter or move away from their belt planter, the Elybased company said, adding that the SR range of two-row, four-row, and three-row options for 2025 offer accuracy with large and long seed and forward speeds of up to  $10 \, \mathrm{km/h}$ .

"We are seeing strong interest and a good level of orders for spring 2025 already, across the whole range including Powavator Bed Tillers, UniPlus stone and clod separators, SR planters, and Baselier Combination planters," a company statement revealed.

The company is seeing a rise in popularity for combination planting. Many growers are now running two systems. Where they still need to use a separator, they are running a separate team, using the Baselier Combi planter on the land that has limited or zero stone content, which is enabling them to save costs.





### Three new cultivation launches

New box filler and two conveyors available for 2025.

HE first box filler to be launched by manufacturer AVR is one of three new potato cultivation machinery launches planned to coincide with its 175th anniversary.

The AVR Scorpio will be featured at various European trade fairs and exhibitions this autumn, alongside the new Mamba conveyor, successor to the CTK. The series production will commence in 2025.

The third machine to be launched is the Python-S single conveyor, the "little brother" to the Python which was launched last year.





#### Scorpio box filler

The AVR Scorpio box filler completes the AVR crop handling range and combines user-friendliness with capacity and gentleness in product handling. The capacity offered by Scorpio equals that of one experienced forklift driver.

In other words, it delivers one filled crate every minute.

The moving main belt is composed of two elements, with an inflection point in the middle. As a result, the separate elements are longer than that of most other models on the market. This guarantees low drop heights while ensuring that the potatoes are gently guided into the crate via a gradient that is not too steep. The limited inclination renders a belt with a profile superfluous, while the simple addition of a scraper is enough to prevent the accumulation of dirt.

The main belt is driven on both sides by a drum motor for optimal and equal traction in both directions. This allows drum motors that are quite small in diameter to be used, which minimises drop heights, while ensuring a large enough contact surface to prevent slipping. The rubber flaps on the main belt curb the speed at which the flow of potatoes slides downwards.

The crate filler is very easy to operate via the buttons on the electrical control box and the 7ins touchscreen. Thanks to the fully electrical control system, the Scorpio is energy-efficient and remarkably quiet, and can be operated very smoothly, the manufacturer states.

Sensors determine the position of the belt and a laser sensor continuously monitors the product level in the crate. Crates are automatically filled from the bottom to the top, with minimal drop heights during the entire process.

The installation of AVR Line Control software allows the Scorpio crate filler to communicate with all other AVR machines in the crop handling line. The entire line comes to a halt, for example, when both crates are full, and will automatically restart as soon as an empty crate is put in position and the main belt has reached the bottom of the empty crate.

If one crate is full and the other is empty, the crate filler will stop while the rest of the line and the AVR Line Control remains active. At that point in time, the crate filler will buffer some product on the belt and switch to the empty crate. This allows smooth switching from one crate to another, without impacting the capacity of the crop handling line.

The buffer effect can also be expanded to the Mamba conveyor via  $\ensuremath{\mathsf{AVR}}$  Line Contro.

The Scorpio can fill crates in just about all conventional dimensions. This is because the frame height and the crate position are adjustable. The indicator light allows the forklift driver to easily see if the crate has been positioned correctly.

Convenient options include an additional supply belt – which offers extra buffer capacity and facilitates 180° supply – as well as a frequency regulator for the infinite adjustment of the conveyor speed, switched power outlets and LED working lights.



#### **AVR Mamba**

The AVR Mamba is the successor to the CTK. Aside from a higher capacity, greater flexibility and optimum user-friendliness in adjusting the machine, the Mamba also features AVR Line Control.

The AVR Mamba conveyor can be used for a wide array of tasks.





This is partly because it is available in two different belt lengths: 6.5 or 10.5 meters. Because of its high capacity and considerable length, the Mamba 80-10 (10.5 meters) enables swift, efficient truck loading, while the Mamba 80-6 (6.5 meters) can be used seamlessly for the intake and delivery of potatoes in a crop handling line.

The wide angle of the V-shape belt maximises capacity, while the product cannot come into contact with the frame thanks to the considerable width of the belt. The belt is fitted with a profile, which makes it particularly suitable for the upwards transport of rolling products, as standard. A profile that is fitted with a scraper is also available.

The belt drive, by means of a drum motor, is located in the machine's head. This pulling drive prevents the belt from slipping.

The Mamba's dosing and intake height can both be easily adjusted with a hydraulic pump. Thanks to its low intake height, the Mamba can easily be placed underneath the Falcon reception hopper.

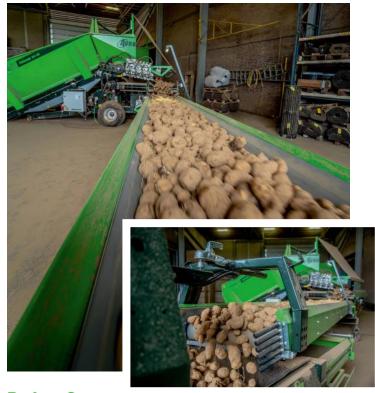
It can be fitted with caster wheels that can be positioned transversally, and thanks to the rotatable support point at the intake side, the Mamba can effortlessly be transported by just one person.

The Mamba is frequency-controlled as a standard. The speed can be adjusted infinitely. A second speed can also be set if desired, which is extremely convenient in combination with the AVR Scorpio crate filler if a heightened buffer capacity is desired when switching from one crate to another.

Just like the other machines in the AVR crop handling range, the Mamba can be connected to the AVR Line Control circuit.

The Mamba can be fitted with a hand pump to adjust the product discharge and intake heights through a simple electronic on/off control system without additional functions, with one basic speed.

Add-ons include extra power outlets, LED working lights and a protective cover for the conveyor belt.



#### **Python-S**

The single conveyor Python-S offers the same tried-and-true strengths and features of the Python T (Twin) and is available in three lengths: 7, 9 and 11 metres.

It is available this year in a limited edition and series production will commence in 2025.





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### 'Nozzle choice key to rapid potato haulm destruction'

Trials used to build up best practice dataset.

ECENT work by Certis Belchim has underlined the importance of nozzle choice in getting the most out of PPO-inhibiting desiccants in potato crops.

The firm has built up a strong dataset on best practice use and last year ran trials to look at the influence of nozzle choice and whether a pre-flail treatment of treatments such as Gozai (pyraflufen-ethyl) could speed up skin set and stolon detachment ahead of harvest.

The trial tested two nozzles: A standard flat fan and a Lechler IDTA nozzle.

The Lechler is an air induction twin flat fan nozzle with forward and backward facing fans. The nozzle is said to improve coverage



The Lechler is an air induction twin flat fan nozzle with forward and backward facing fans. The nozzle is said to improve coverage and offers 90-95% drift reduction over a standard flat fan.

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Certis Belchim's Technical Account Manager Jeremy Booth said two applications of Gozai plus Toil (95% methylated rapeseed adjuvant oil) were made in 300L/ha of water: T1 on September 6th and T2 on September 13th.

"One week after the first application, the plots treated with the Lechler nozzle improved the level of leaf desiccation by 45% and Gozai's activity on the stems by 20%," he said. "Using the backwards and forward twin fan nozzle will achieve the outcome you want much quicker than the standard."

Jeremy said a pre-flail treatment increased the speed of skin set and stolon detachment, and could be a useful application in some seasons.

With desiccation programmes about to start in earnest, he added that aside from nozzle choice, crop and environmental conditions at application have a big influence on speed of kill.

High UV light intensity helps improve activity of PPO-inhibitors like Gozai, so spraying at the start of a sunny day is best and if flailing, 15-20cm of stem should be left above ground to aid kill.



"Previous work has also highlighted the importance of water rate and we see that 300L/ha balances consistent results with sprayer efficiency," said Jeremy.

With reports of foliar late blight infection in crops this season, he stressed the importance of maintaining disease protection until all foliage is dead.

"We support the recommendation of Gozai + Toil with our blight fungicide Ranman Top (cyazofamid). Ranman Top offers good protection of both foliar and tuber blight, which is crucial at the backend of the season." PR





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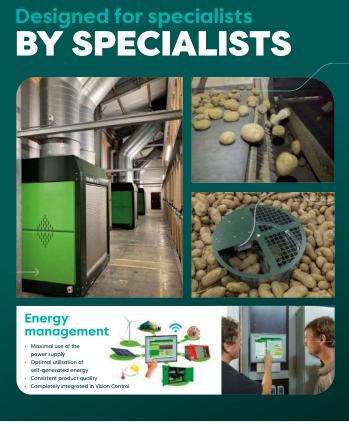


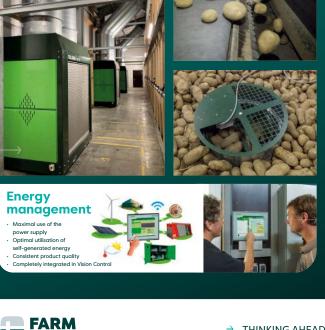
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# The power of stacking

Combinations achieve better results than single product applications in latest micro-trial.

RECENT micro-trial, carried out on potatoes by Agrology Ltd, has highlighted how an emerging trend of stacking biostimulants can achieve better results than using a single product.

The trial involved several treatments applied to potato crops, using a variety of biostimulant products both individually and in combination. The products tested included seaweed granules mixed into the soil, seaweed extract used as a tuber treatment, microbial in-furrow sprays, and seaweed foliar sprays. Each treatment was carefully applied to different sets of potato plants, and the results were measured to assess the impact on crop yield and quality.

What became clear from the trial is that the stacking of these biostimulants — using them in various combinations rather than in isolation —produced significantly better outcomes for the potatoes.

Stacking biostimulants works by leveraging the complementary effects of different products, each targeting a unique aspect of plant health. Seaweed extracts, for instance, are rich in hormones and nutrients that stimulate root growth and improve stress tolerance.

When used as a tuber treatment, they help the young potato plants establish more robust root systems early in their growth cycle.

Microbial products, on the other hand, enhance soil health by promoting beneficial microbial activity, which in turn improves nutrient availability and uptake. When applied in-furrow they ensure that the developing potato roots have immediate access to a thriving microbial community, enhancing their ability to absorb essential nutrients.

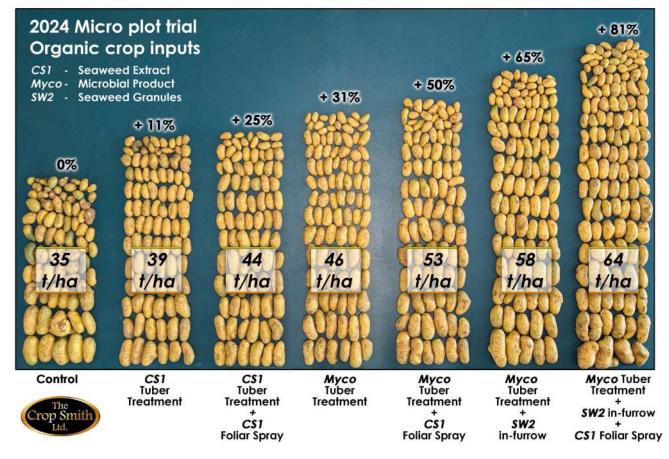
Seaweed granules, when mixed into the soil, slowly release their beneficial compounds, providing a steady supply of nutrients and growth-promoting substances throughout the growing season. This steady release ensures that the plants do not experience nutrient spikes, which can lead to imbalances and suboptimal growth.

Finally, seaweed foliar sprays offer a direct way to deliver essential nutrients and stress-relief compounds to the potato plants during critical growth stages. Regular foliar applications allows for rapid uptake, particularly during periods of high stress, such as hot and dry weather conditions or pest attacks.

The micro-trial revealed that while each of these treatments provided benefits when used individually, the most impressive results came from combining them. The stacking of seaweed granules with microbial in-furrow spray and seaweed foliar spray, for example, led to the highest yields and best overall plant health, showing an 81% increase. The potatoes from these treatments were larger, more uniform, and had fewer instances of disease compared to those treated with just one type of biostimulant.

Samantha Brown, Director of The Crop Smith Ltd which supplied the seaweed products used in the trial, said using a combination of biostimulants allows growers to address multiple aspects of plant health simultaneously, improving root development, enhancing nutrient uptake, boosting stress resistance, and optimising overall growth

"As the agricultural industry continues to adapt to the challenges of climate change, soil degradation, and the need for sustainable practices, the stacking of biostimulant products represents a forward-thinking strategy. It not only helps in maximising yields but also in producing healthier, more resilient crops with fewer chemical inputs," she said.





# Kickstart long-term growth and help growers, CLA says

OLSTERING the budget is key to kickstarting long-term growth in the rural economy and delivering on many of the Government's environmental targets for potato growers, the Country Land and Business Association (CLA) states.

The CLA has set out a powerful rationale for increasing the overall agriculture budget to £3.8bn a year by 2027/28 in England, with a £1bn budget in Wales.

Traditionally potato growers received payments based on acreage, but since Britain left the EU, the Government has been gradually moving to a new era of sustainable food production coupled with public payments for public goods in areas such as soil health, wildlife habitats, flood management and access to nature.

But the budget has remained static since 2014, despite spikes in inflation, major shifts in the importance of domestic food security in a changing world, and recognition of the scale of the environmental challenges, hence the CLA's call for an increase.

President Victoria Vyvyan said:
"Landowners can feed the nation and improve
the environment – but they can't do it on
a shoestring budget. Now is the time for a
budget reset. Without the right economic,
regulatory and political conditions, growers
will be unable to deliver on the multitude of
societal demands that ultimately fall on them.

"The CLA applauds the Government's ambition to reverse the decline in nature, pave the way to a net zero society, create homes and jobs in the rural economy, clean up rivers and stimulate health and wellbeing by encouraging community engagement on our farms – with the right budget.

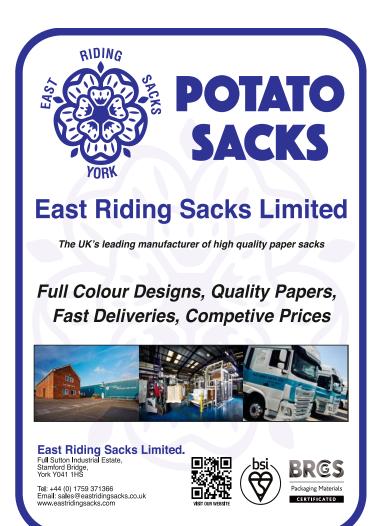
Many CLA members are already well along this journey – but we need to know the Government's ambition is real and not just a good soundbite. Achieving their aims costs money."

The CLA's paper sets out an assessment of the ring-fenced agriculture budget needed in England to meet the Government's commitments from 2025/26. The analysis is built on enhancing current schemes and programmes to meet the objectives, rather than on radical re-invention.

The budget covers three main programmes:

- The Environmental Land Management (ELM) programme, looking at new and existing schemes to incentivise and reward actions that contribute to the Environment Act targets. For example, the Sustainable Farming Incentive (SFI) is the cornerstone of payments for public good, and we estimate it will cost £1.5bn by 2027/28. High take-up of the various schemes will be crucial if the Environment Improvement Plan 2023's targets are to be met.
- The Nature for Climate programme, which covers woodland creation and peatland restoration.
- The rural productivity, resilience and food security programme, covering areas such as technology availability and uptake, skills, training, research and innovation.

The Basic Payment Scheme (BPS), the previous system of support, is being phased out and while it was worth £1.84bn in 2020, it will fall to £480m in 2025/26 and disappear completely by 2028/29.







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MIDLANDS Machinery Show, which will take place on November 20th and 21st, celebrates its 10th anniversary at the Newark Showground this year.

There are expected to be around 200 exhibitors, with 150 stands already booked. Agricultural businesses will showcase their latest range of tractors, machinery, services and technology to farmers, machinery operators, contractors and landowners.

Organised by agricultural charity, the Newark and Notts Agricultural Society (NNAS), the show will feature a discussion about what impact the result of the general election is likely to have over the next five years and the National Farmers' Union will host an environment conference on the first day of the show.

The safe operation of machinery, both in the field and on the road, will be covered by experts from LANTRA, Western Power and Lincolnshire Police.

### Solutions to engineering challenges to be highlighted

THIS year's IAgrE conference will explore the engineering needs and requirements of various stakeholders in the farm to fork supply chain as they work together to create an efficient, profitable food production system.

Organised by the Institution of Agricultural Engineers (IAgrE), the annual conference will take place on Wednesday, November 6th at Rothamsted Conference Centre, Harpenden.

Dr Mark Moore, Director of Government Affairs at AGCO and IAgrE President said: "We cannot solve the challenges of climate change, a growing population etc at the conference, but we can start to think about how we are going to tackle them - and the essential role that agricultural engineers will play in creating joined-up solutions."

The conference will explore improving the contribution that Agricultural Engineering can make to sustainable food production. Rather than focussing on the challenges, it will look at how solutions can be achieved and highlighting what engineers working in agriculture need to focus on for the future.

The conference will be opened by Dr Mark Moore, Director Government Affairs, AGCO Ltd and the President of IAgrE.

Speakers include: Kate Halliwell, Chief Scientific Officer, Food & Drink Federation; Jelte Wiersma, Secretary General, CEMA (European Agricultural Machinery Association); Kieran Walsh, Agronomist, Grounded Agvice; James Price, Perdiswell Farm, Oxfordshire.

The event will culminate in a panel discussion, where speakers will answer questions from the audience.

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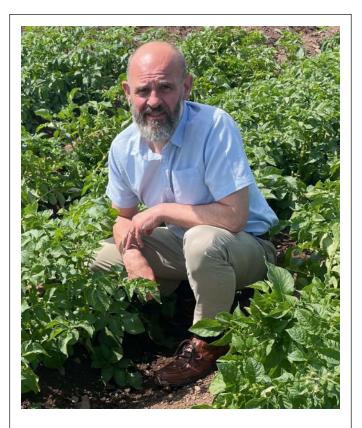
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### Hutton's expert to lead on European potato research

PROFESSOR Ian Toth, Director of the National Potato Innovation Centre (NPIC) and Scotland's Plant Health Centre at The James Hutton Institute, has been appointed as President of the European Association for Potato Research (EAPR), in recognition of his 35years' pioneering potato research.

Over the next three years, Ian will lead the association, comprised of more than 200 individual members and other sustaining members, with a network that spans Europe and beyond.

The EAPR aims to promote the exchange of scientific and technical information related to all aspects of potato breeding, production, protection, storage and utilisation on a global scale.

Ian will also lead the EAPR Triennial Conference in Scotland, set to take place in 2027, which will highlight Scotland's potato production and the country's many other achievements.

As Director of the NPIC, Ian has successfully collaborated with national and international partners to lead the Centre in its mission to find new and sustainable solutions for the potato industry and he will continue to work with the International Potato Partnership (IPP), which was recently announced at this year's World Potato Congress, with the goal of enhancing global collaboration across potato research and industry.

Ian said: "I'm looking forward to working with the scientists within the EAPR network, who are renowned for being the drivers of innovation for potato research in Europe.

"It has never been more crucial for scientists and researchers to unite in overcoming the many challenges that threaten the potato industry, not least climate change and the loss of plant protection products. I hope to integrate the ground-breaking research at the James Hutton Institute with those advancements being made across the research network globally."

### New international role for Hutton root scientist

PROFESSOR Tim George, Deputy Director of The International Barley Hub (IBH) at The James Hutton Institute, has been appointed as President of the International Society of Root Research (ISRR), in recognition of his expertise and global reputation in soil and root science.

The six-year tenure, which was confirmed earlier this month at the ISRR's AGM in Leipzig, will see Tim lead the global organisation, which has over 1000 members from the root research community.

He was elected through a process of peer nomination and voting by the ISRR's international committee, and will further the work of the organisation to promote collaboration and communication between root researchers across the globe.

Tim has been working for 25 years as a plant physiologist and soil scientist specialising in the dynamics of nutrients in the rhizosphere – the zone of chemical, biological, and physical influence generated by root growth. He also has a distinguished track record in leading teams of scientists in projects funded by the European Union and UK Research and Innovation, and is a board member of the European Plant Sciences Organisation (EPSO).

Speaking on this new role, Tim said: "It's an honour to have been elected by my peers to take on the role of President of the International Society of Root Research, and I hope to raise the profile of this hidden half of plants.

"Clarifying the root's role in solving some of the world's most pressing problems such as climate change mitigation and adaptation is extremely important, and I look forward to spreading the news about the great research being carried out by some of world's root scientists in this critical area of research which has ramifications for global food security and environmental sustainability."



# New Chair for processors association

JOHN Sedgwick, UK Potato Supply Manager at Lamb Weston in Wisbech, has been formally appointed as the new Board Chair of the UK Potato Processors' Association (PPA).

John has a career that has been grower-focused and agronomy centred across a wide range of fresh vegetables, as well as frozen and dehydrated potato products.

John succeeds Dan Hewitt (formerly of Valeo Snackfoods) in the role of PPA Board Chair.

He said: "It is a privilege for me to take on the role of Chair for the PPA. The sector has seen many challenges emerge in recent years, and I hope to be able to continue to help drive the association, and the sector as a whole, toward its full potential."

Director General Andrew Curtis said: "John is widely known and respected within the UK potato sector and I look forward to the energy and experience that he will undoubtedly bring to the role. Growers and processors in the UK have faced many challenges over the past few years. These include on storage, agricultural water shortages and flooding, access to land, seeds and to labour, increased costs, as well as access to actives and fertilisers. These challenges aren't going away and it's good to know that John is keen to help represent the sector and to raise the profile of the Association."

