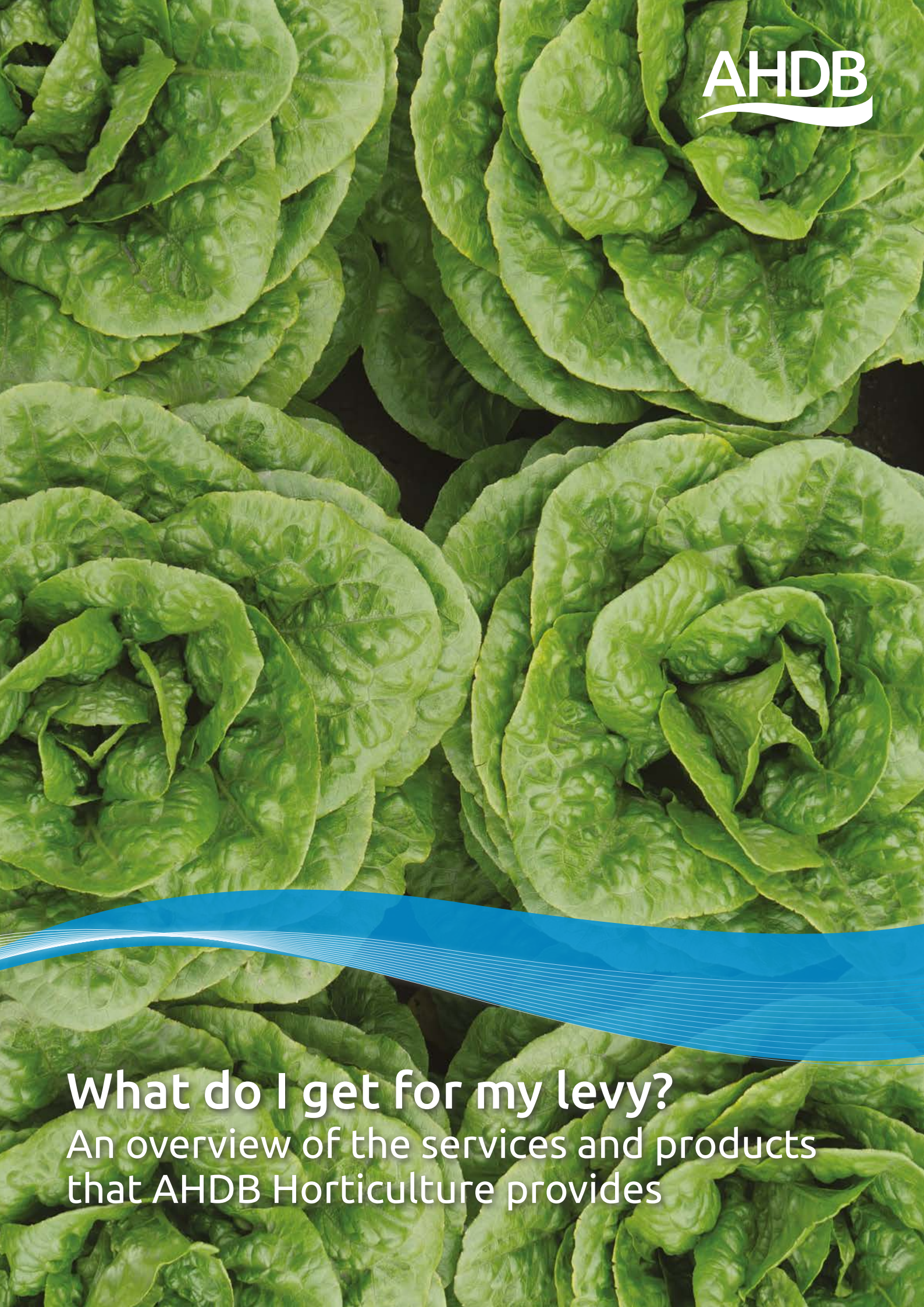

What do I get for my levy?

An overview of the services and products that AHDB Horticulture provides

Voting in the Horticulture ballot

A ballot on the continuation of the statutory horticulture levy will open on Wednesday 13 January and be centred on a single yes/no question on whether or not the statutory levy should continue.

We're delighted to be working with UK-Engage, an independent ballot services provider who will run the ballot and count all the votes. You can find out more about them at **www.uk-engage.org**

UK Engage will issue voting papers to levy-payer businesses in the week commencing 11 January 2021.

Who can vote?

If you have paid horticulture levy to AHDB in the 12 months preceding the end of this ballot on 10 February 2021, you are eligible to vote – one vote per business. Votes will be verified against levy payment records.

More on eligibility criteria can be found at: **ahdb.org.uk/horticulture-ballot-faqs**

How to vote

Voting will be via post or online. Business owners of all levy-paying businesses will receive a pack through the post that will provide the detail on how to cast a vote.

When does the ballot open and close?

The ballot will be open from Wednesday 13 January to midnight on Wednesday 10 February.

To have your say on the future of the statutory levy in Horticulture, make sure you vote!

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AHDB Chair's introduction

What do I get for my levy?

It's a simple question and one that is both easy and hard to answer at the same time. So, let's answer this question in two parts.

Part 1: AHDB Horticulture levy payers get access to a vast pool of expertise from our staff and the wider research community that AHDB supports. Our research teams focus on the key areas that levy payers tell us are important to them, with the largest research investment being in crop protection. Our Knowledge Exchange team, supported by colleagues across the business, creates engaging events and programmes to share with you latest knowledge, innovations and practical learnings from the research that AHDB funds.

Part 2: Why is it difficult to answer this question? Horticulture is complex. In AHDB, we classify it into six subsectors, which are split by types to recognise the distinctions in crop groupings, of which there are over 300 crops. Across these individual crops, we recognise there are genuine differences between the challenges faced, requiring specific and targeted solutions. Equally, however, there are common challenges faced by growers, regardless of their crop, which are best tackled collectively.

Our programme for change

We recognise the need for major change to improve value for levy payers. AHDB's new strategy lays out how we will improve levy-payer engagement, reduce bureaucracy, focus on our activities and reduce costs – including those associated with back office support. We know that growers want AHDB to be a lean, efficient organisation and we are committed to making that happen.

What I see as one of the fundamental benefits of the AHDB Horticulture sector is the very fact that it is so broad and complex. There is no other organisation in the UK that is engineered to provide industry-wide knowledge exchange for the benefit of all growers.

It is of great importance that AHDB's programmes continue to be available and provide fundamental support to the work of horticultural advisors, but I often find in conversations with growers that this means that many growers do not know how much the industry depends on their investment in AHDB

This document outlines in more detail what you get for your levy, as well as what you may lose if the levy was to go.

Nicholas Saphir
AHDB Chair

Our five commitments to you

- We will communicate regularly on how your levy has been spent and the benefits – engaging with levy payers to determine priorities
- We are working with growers and the supply chain to design a modern levy system
- We will develop a board and advisory structure that reduces both bureaucracy and costs
- For Horticulture, we will focus on business performance, underpinned by independent evidence
- We will hold a regular ballot on the future of the levy – so you can express your views on the value of AHDB to your business

To see the strategy, go to: **ahdb.org.uk/strategy**

Horticulture Chair's introduction

> “AHDB is currently the only public funder of applied research in horticulture in the UK dedicated entirely to addressing the direct concerns of growers”

Supporting the industry. Securing the future.

At a time when the industry faces such unprecedented changes, AHDB's work on crop protection, emergency chemical approvals and driving labour efficiency is more important than ever.

All of the levy spend in Horticulture is, and will continue to be, grower-led and focused on finding solutions to new and existing on-farm challenges. Applied research and innovation is the lifeblood of the horticultural industry, translating theory into practical outcomes that benefit growers' businesses.

AHDB has invested £30m of growers' levy in research and development projects to tackle pests, weeds and diseases across hundreds of crops over the last five years and pioneered new breeding programmes.

AHDB secures 70% of all EAMUs (Extension Of Authorisation For Minor Use) and nobody else has the level of credibility and access we do to the chemical companies and CRD (Chemicals Regulation Division).

And we are leading the way in fast-tracking new products into the crop protection toolkit, investing £1.7m over four years to assess a range of bioprotectants and botanicals, alongside conventional pesticides.

Our new five-year strategy reinforces the unique role AHDB has in providing the world-class knowledge that growers need to make the best business decisions possible. However, AHDB also needs to evolve. What worked 10 years ago isn't necessarily right today. We intend to broaden our engagement and respond to the challenges growers have raised with us on levy, costs, communication and transparency.

My impression from speaking to growers is that, despite evident frustrations with AHDB, most are reluctant to imagine a future without it. By law, the forthcoming horticulture ballot is a simple 'yes/no' vote on the continuation of a statutory levy; it cannot take into account the reforms we are making.

I hope growers will feel confident that we have taken on board all of their criticisms and are embarking on a process of fundamental change.

Hayley Campbell-Gibbons
AHDB Board and Horticulture Sector Chair

AHDB Horticulture sector plan

Below is the Horticulture sector plan from the new AHDB strategy. To see the whole strategy, visit the webpage at: **ahdb.org.uk/strategy**

1. Crop protection

- Working with the industry, agrochemical manufacturers, regulators and national and international grower groups, we will develop and expand our programme of plant protection product approvals. This will focus on Extension of Authorisation for Minor Use (EAMUs) and emergency approvals to ensure British growers continue to have access to essential crop protection products
- We will continue to invest in plant protection product evaluation and support the pipeline of new valuable products for growers
- We will invest in Integrated Pest Management (IPM), working to coordinate industry data and insight to develop early-warning systems and improve control strategies for diseases, weeds and pests. We will also develop tracking and monitoring programmes to help growers anticipate and manage threats such as Spotted Wing Drosophila and Tomato Brown Rugose Fruit Virus in a way which saves both time and money

2. Labour shortages

- We will help growers get the best out of the workforce they have through expanding and developing our pioneering SmartHort programme, concentrating on Lean management principles to help businesses identify where time and effort is going to waste and where staff costs, time and efficiencies could be improved
- By bringing together growers, scientists and technologists, we will increase the uptake of robotics and automation in the horticulture sector. This will help ensure innovation is practical and cost-effective, enabling businesses to make the best use of available labour

3. Environment

- We will support the industry's move to net zero through investment in the GrowSave knowledge exchange programme, focused on solutions to understand changing legislation and incentives, and deploy environmental control strategies
- Funding programmes such as GREATsoils, the AHDB Nutrient Management Guide (RB209) and the Water Efficient Technologies Centre, growers can both see and access best practice in resource-use efficiency, soil management and water use. This will help businesses both meet new environmental policy requirements and respond to the challenges of a changing climate

4. Industry insight

- Where there is demand from a sector, we will provide data, insight and services to maximise British horticulture's market potential

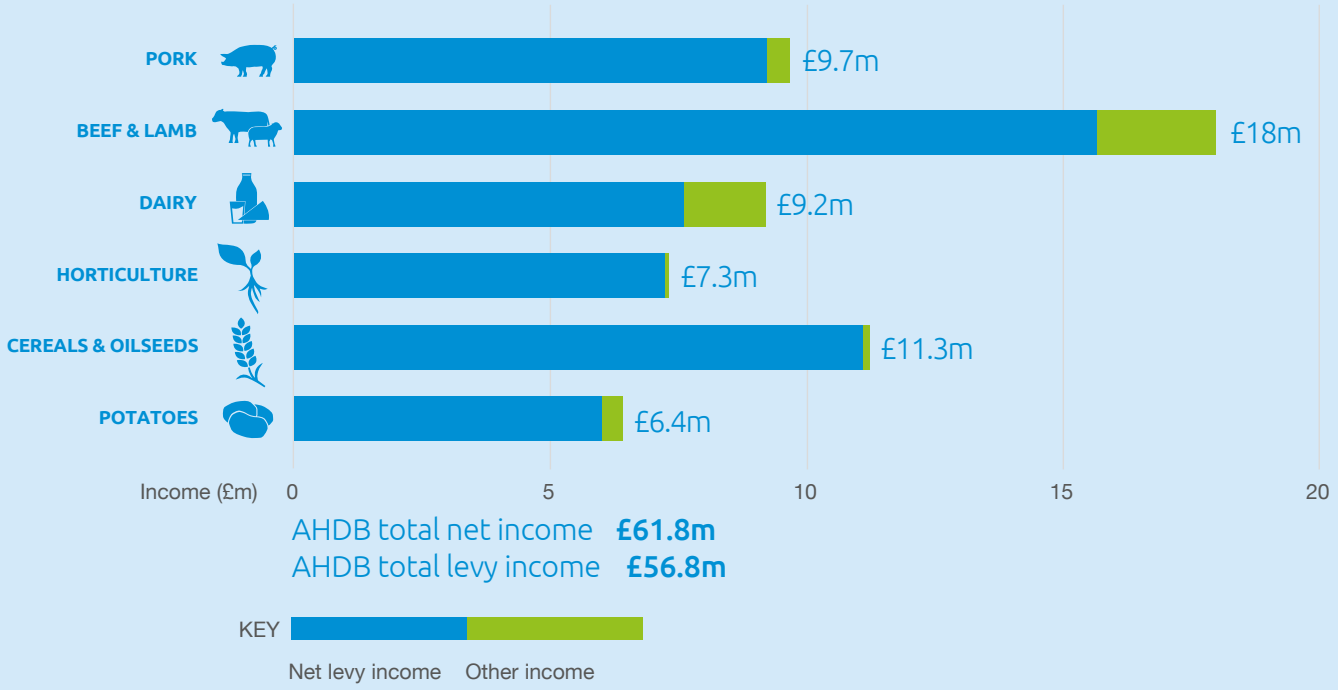
To see more from AHDB Horticulture:
ahdb.org.uk/horticulture

How your levy is spent

Income

Horticulture income (levy and non-levy) for the financial year 2020/21 is estimated to be £7.3m. In the context of AHDB's total estimated income, this compares as follows:

AHDB invests in applied research, focused on providing practical outcomes for levy payers

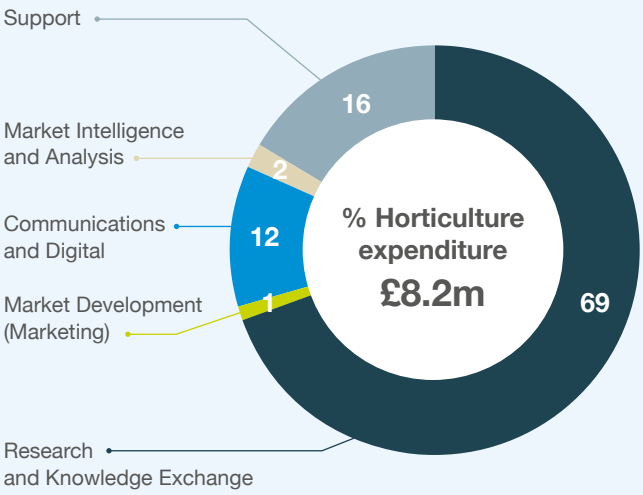


In March 2020, the Horticulture levy rate reduced by 10%, from 0.5% to 0.45%. This reduction is reflected in the projected income figures above.

Expenditure

Our planned expenditure in Horticulture for this financial year (2020/21) is £8.2 million. This is higher than our estimated annual income due to a managed approach to reduce horticulture reserves. The largest proportion of our investment focuses on our technical activity across Research and Knowledge Exchange.

The key areas of planned spend in 2020/21 are:



Research and Knowledge Exchange (69%)

Our knowledge exchange programme is specifically designed to connect growers with the latest research and innovation both in the UK and from overseas.

AHDB's annual research investment is allocated across six sector panels:

- Field Vegetables – page 12
- Hardy Nursery Stock – page 24
- Protected Edibles and Mushrooms – page 30
- Protected Ornamentals, Bulbs and Outdoor Flowers – page 24
- Soft Fruit – page 18
- Tree Fruit – page 18

Panels are made up of growers and industry representatives to ensure that investment is grower-focused and grower-led. Budgets are based on how growers allocate their levy in their annual Horticulture Return.

Communications and Digital (12%)

Our Communications and Digital team works closely with Research and Knowledge Exchange to create and deliver a wide range of tools and resources for levy payers. This includes face-to-face and online events, publications such as *The Grower*, websites, apps and articles to ensure that research output and knowledge is relevant and accessible.

Market Development and Market Intelligence and Analysis (3%)

Market Intelligence and Analysis represents 2% of our total expenditure. Our team of specialists provides market insight on key issues, such as Brexit and its impact on the UK horticulture industry.

Our contribution to the Market Development function (1%) is to investigate and support the development of market opportunities. Investment is also in AHDB's education programme – *Food – a fact of life* – delivered in partnership with the British Nutrition Foundation.

Support (16%)

Horticulture makes a proportionate contribution to AHDB's back office functions supporting delivery. This includes a share of Finance, HR, Facilities and IT costs. The costs of running the AHDB Horticulture Board and six horticulture sectors are also included. As outlined in the new AHDB strategy, we are committed to be more efficient across all parts of the organisation. The first step will be to streamline AHDB to deliver savings in staff and support costs.

Note: Staff costs are included in each area of spend, e.g. Research and Knowledge Exchange, Market Development, etc.

To find out more, go to:
ahdb.org.uk/what-do-i-get-for-my-levy-horticulture

EAMUs: Helping growers to keep growing

Your levy protects crops by helping growers manage pests, diseases and weeds

EAMUs (Extension of Authorisation for Minor Uses, formerly SOLAs) are a lifeline for many growers, giving access to fungicides, herbicides, insecticides, acaricides, plant growth regulators and seed treatments to help you to grow your crops.

With the continuing loss of crop protection products as a result of changing UK and EU legislation, the AHDB Horticulture EAMU programme is vital to ensure UK growers have the essential crop protection products they need to remain competitive.

At AHDB, we are committed to helping you to continue to grow your crops successfully and profitably.

Since 2013, our commitment to support all UK growers via our EAMU programme has delivered:

- An investment of over £2m
- Securing over 560 EAMUs
- Across 200+ crops

AHDB secures 70% approx. of all EAMUs

...that's 560 across 200+ crops since 2013

The EAMU process – a year in the making

The need for a product has been identified by a grower or grower group

↓

AHDB Horticulture will then discuss the potential to obtain an EAMU with the manufacturers and the Chemical Regulations Directorate

↓

Where all parties consider it suitable, an EAMU application will be submitted

↓

Where residues data is required to support such a use, funding for data generation will be considered in discussion with the relevant crop panel and/or grower association

↓

Feedback on progress of the EAMU request will be provided within three months of receipt

What will a 'No' vote mean?

- **Funding to support the production of 70% of the UK's EAMUs will be removed**
- **Brexit means that UK growers may no longer have access to crop protection products via the EU. AHDB's expertise and knowledge obtained over the last seven years will no longer exist to support the UK through the transition**
- **EAMUs won't last forever. The EAMU team is looking to the future and feeding their expertise into AHDB's investment into the usage of bioprotectants and botanicals alongside conventional pesticides. A no vote means that AHDB cannot support programmes to future-proof UK growers**

"19 of the 59 products that could be used in our glasshouse are from the AHDB EAMU programme. This is essential work"

Robert James, Thanet Earth and AHDB Horticulture Board member

Meet the team

Joe Martin, Crop Protection Senior Scientist – Pesticide Regulation

Joe is a specialist in crop protection regulatory trials and has overall responsibility for the EAMU programme, SCEPTREplus and AMBER (bioprotectants) projects.

E: joe.martin@ahdb.org.uk

Adam Doxford, Crop Protection Scientist – Pesticide Regulations

Adam is a specialist in pesticide regulation and has expertise in improving the IPM compatibility of pesticides and improving their targeted use.

E: adam.doxford@ahdb.org.uk

Jo McTigue, Crop Protection Scientific Officer – Pesticide Regulations

Jo has specific crop responsibilities, which include: risk register, ornamental crops, tomato, cucumber, pepper, aubergine and mushroom.

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Our top resources

Follow us on twitter at **@AHDB_Hort** to be the first to hear about EAMU approvals.

Sign-up for the monthly **Crop Protection News** e-bulletin using the Keep in Touch form on our website.

Find out more at: **ahdb.org.uk/eamus**

Meet the grower: The benefits of Lean techniques in horticulture

For many horticultural businesses, the challenge of accessing reliable and affordable labour is one of their biggest concerns. In response, AHDB developed SmartHort, a programme to help growers make improvements to their labour efficiencies and to investigate new automation and technologies.

As part of this activity, three Strategic SmartHort Centres were launched to demonstrate practical ways of introducing Lean techniques to horticultural businesses of any size or crop. Willie Russell, from Easter Grangemuir Farm, Fife, was one of the growers who took part. Here, he explains how his business benefited from the workshops.

What are Strategic SmartHort Centres?

Developing staff skills is a key priority for the farm. Willie became involved with Thomas Thomson Strategic SmartHort Centre in Perthshire at the suggestion of colleagues.

“Much of my time is spent managing people and processes, looking for ways to reduce our costs while continuing to produce quality products,” said Willie.

The workshops introduced the key principles of Lean, including:

- Pull systems to make the supply chain more efficient
- Visual management aids to trigger when to order new stock
- Reorganised workspace to reduce the walking and waiting time

Willie found the ‘waste walks’, which look at where efficiencies can be made in the business, particularly useful. “The information has always been in front of us

in plain view, but it took this course to help me process it and work out how to alter certain areas of the business to become more efficient.

“It has made it easy to see on paper where the business could be more effective and what is effective already.”

Participants were encouraged to put the Lean principles shown at the centres into practice in their own businesses. In Willie’s case, he focused on broccoli production, specifically looking at the packhouse.

“Broccoli production is labour-intensive and any way we can cut down the costs and become more efficient is positive,” he explained.

> “I would 100% recommend this project to every business, no matter what size you are”

Positive changes

Some of the changes Willie has implemented have already had a substantial impact.

“The changes I’ve made include placing a whiteboard in the packhouse with the day’s orders on it so that it is visible for everyone. This has reduced the downtime, changing from one order to another. When the forklift driver is not busy, he looks at the order and prepares the boxes or crates that will be used for the next order. This has saved 5–10 minutes per order switch.

“Making the flow of broccoli to the broccoli stalk trimmers continuous has made the process more efficient too. This was an easy fix, by training the stalk trimmers how to do their job smoothly.

“Implementing Kanban – a new way of scheduling – has been a huge positive in the overall production system, meaning less downtime.

“The next step is to look over the whole business and see if there are other quick fixes that can be done to lower costs and become more efficient. I am also going to have a meeting with my colleagues and hopefully train them in Lean principles.”

How do I get involved?

Willie is keen to encourage others in the horticulture sector to get involved with SmartHort.

“I would 100% recommend this project to every business, no matter what size you are.

“This programme of work trains you to think about your business differently. It makes you realise the little things that, in the past, you have noticed but not identified as a bottleneck or an inefficiency.

“With costs going up for everything, apart from our product, we, as farmers, need to work on how to cut costs, while still producing a quality product.

“The workshops have been a great experience for me. I’ve enjoyed meeting new people and broadening my mind on how other businesses work and how other products are produced,” he said.

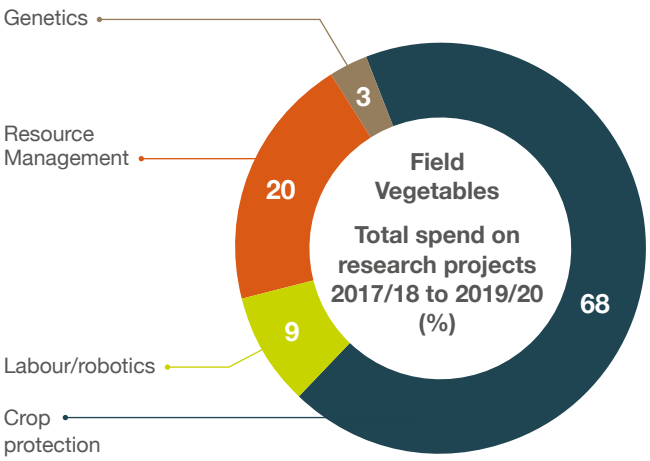
“My favourite part, so far, has been the fantastic conversations that we have all had about how we do a certain task in our operation, compared with how other businesses do it.

“No matter what the product, I have been able to extract small points from the conversation and use them to my advantage.”

Want to read the full article? Go to:
ahdb.org.uk/horticulture-research-in-practice

Field Vegetables: Investing your levy

Did you know we invest over two-thirds of Field Vegetables levy in crop protection?



Today's applied research is tomorrow's crop protection

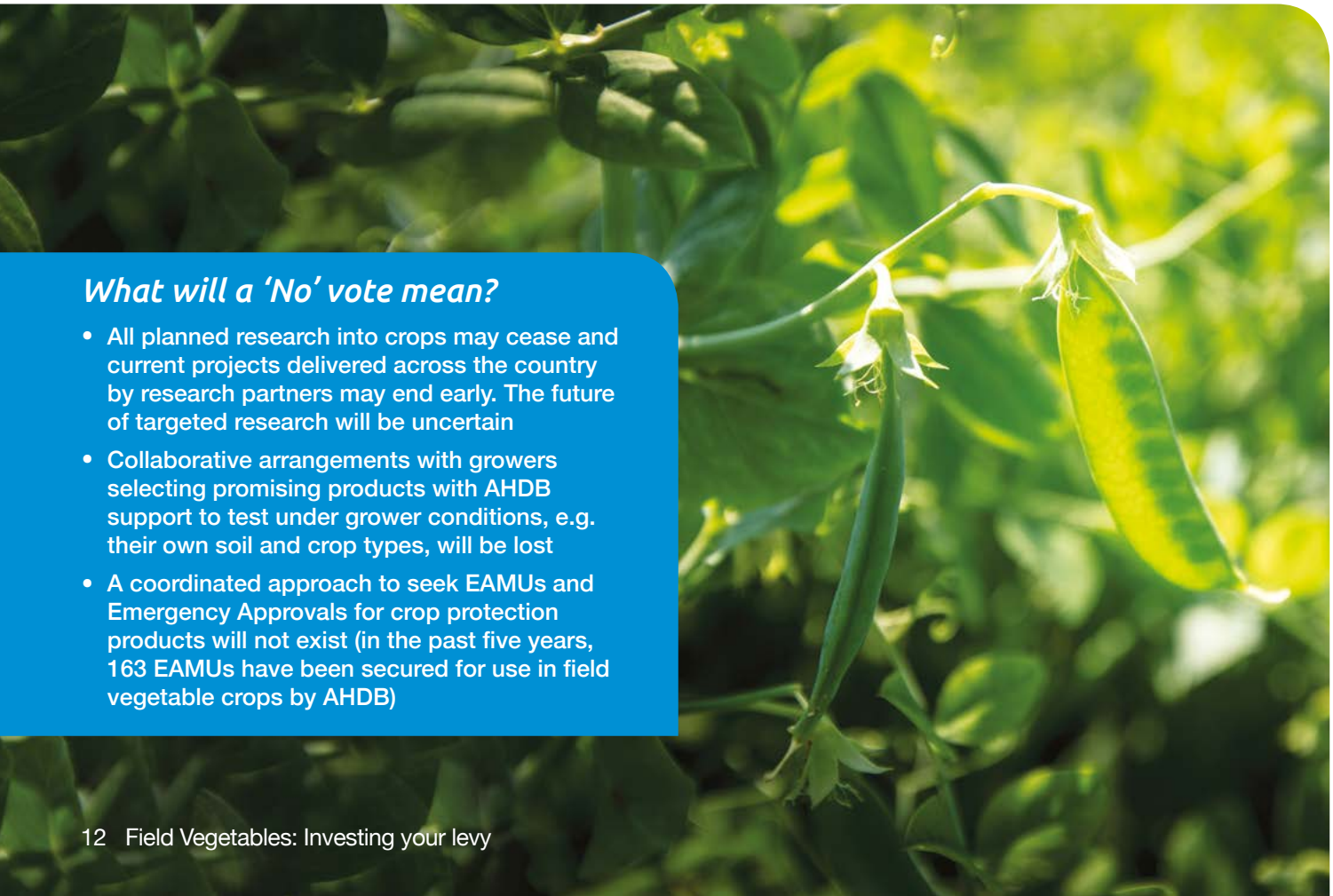
Thinking sustainably

The SCEPTREplus programme covers a wide number of pesticide and biopesticide options for important pests, weeds and diseases of field vegetable crops (see page 27). However, there are several more difficult crop protection problems that need alternative approaches to develop sustainable solutions.

We're delivering a research programme to tackle grower-led priorities, like:

- Refining detection, decision support and cultural control options as a priority for *Fusarium oxysporum* in onions (basal rot in field and store), which can cost up to £22m per year, and a new strain in lettuce, where outbreaks cause total crop loss
- Downy mildews in lettuce, spinach and onions combined can cost up to just under £39m per year. We're developing practical management options for risk from seedborne infections, improving forecasting and decision-support tools, testing crops for signs of resistance to approved products, and environmental control options for protected crops
- Bean seed fly is an increasing problem in a range of UK crops, including peas, beans, onions, brassicas, lettuce and courgettes, and often causes devastating loss. We're working with PGRO and the University of Warwick to refine cultural control options for crop management

We're also looking at tackling cavity spot in carrots, which can cost up to £13.6m per year, and developing tools to underpin control of virus infections in field vegetable crops.



What will a 'No' vote mean?

- All planned research into crops may cease and current projects delivered across the country by research partners may end early. The future of targeted research will be uncertain
- Collaborative arrangements with growers selecting promising products with AHDB support to test under grower conditions, e.g. their own soil and crop types, will be lost
- A coordinated approach to seek EAMUs and Emergency Approvals for crop protection products will not exist (in the past five years, 163 EAMUs have been secured for use in field vegetable crops by AHDB)

Strategic Centres – Research in real-life

The field vegetable sector has four Strategic Centres with multiple trial sites. They have been established with growers to develop and deliver trials on farm in commercial settings to ensure that research is applicable, accessible and can be shared with growers across the UK.

Strategic Centre for Field Vegetables – Brassicas

- Trial site 1 – Lincolnshire: looking at post planting herbicides for kale and collards and the control of *Botrytis* and *Phytophthora* in storage cabbage
- Trial site 2 – Cornwall: growing cauliflower and spring greens, variety trials and a focus on season extension
- Trial site 3 – Scotland: investigating the performance of products for downy mildew in the Scottish environment including herbicides, cover crops and biostimulants

Research highlight

Growing media – peat-free sustainable alternatives for brassica propagation will be demonstrated on site as part of our 'Alternative growing media' project to reduce peat use in horticulture production.

Strategic Centre for Field Vegetables – Carrots

- Trial sites: most recently Yorkshire and Nottinghamshire
- Using 75 different varieties from eight seed companies

Research highlight

Breakage testing – a new element to the variety trials will consider how easily the different cultivars break when dropped, also known as the 'bounce' test. New varieties will be compared with the industry standard, 'Nairobi'.

Strategic Centre for Field Vegetables – Onions

- Evaluating new varieties trials in Norfolk and Essex for performance in the field and in store
- Herbicide programmes testing outcomes of SCEPTREplus trials

Research highlight

Planting density – the aim of the trials is to find the best plant population density to give a higher percentage of 70–90 mm bulbs. This information will allow you to investigate further on your own soil types.

Strategic Centre for Field Vegetables – Peas and Beans

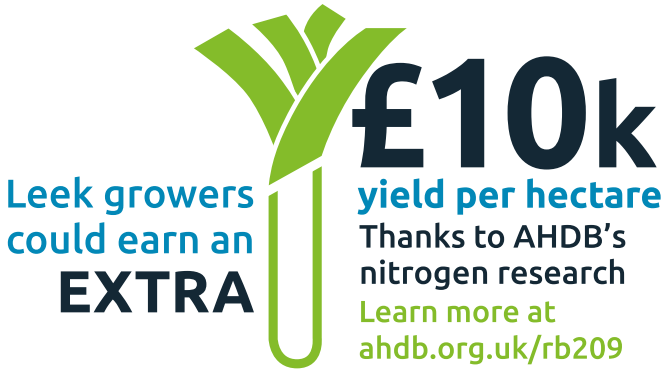
- Main pea trials are taking place with PGRO in Lincolnshire: looking at pea downy mildew tolerance and developing strategies to manage bean seed fly

Research highlight

Utilising technology accessible to all, we've developed an app that growers can download to their smartphones to help them report incidents of bean seed fly as part of their management strategy.

> "7 out of the top 10 most commonly used pesticides on bulb onions are EAMUs generated by the AHDB – without this system in place we would not have a competitive onion industry in the UK"
>
> **Andy Richardson, Allium and Brassica Agronomy, Allium and Brassica Centre, Lincs**

Return on your levy



Looking to the future

A co-funding opportunity that AHDB has obtained from the Biotechnology and Biological Sciences Research Council (BBSRC) Link project, leverages £640K funding for future research on downy mildew genetics in legume crops.

Our top resources

Sign up to our spring to autumn weekly Pest Bulletin to find out what's happening in your area in real time.

Easily identify pests and diseases with our Crop Walkers' Guides.

The Strategic Centre for Field Vegetables – Herbs and Leafy Salads with BHTA and G's salads delivering demonstration trials focusing on weed control.

Meet the team

Grace Choto, Knowledge Exchange Manager

Grace is the Knowledge Exchange Manager for leafy salads, herbs, asparagus, outdoor cucurbits, plant propagation, sweetcorn and soils. She is also the lead on fruit and vegetable food safety.

E: grace.choto@ahdb.org.uk
M: 07501 476983

Cathryn Lambourne, Crop Protection Senior Scientist

Cathryn is a specialist in plant pathology, IPM across field vegetable crops, research manager for alliums, brassicas and propagation, and panel manager of the Field Vegetable Panel.

E: cathryn.lambourne@ahdb.org.uk

Kim Parker, Crop Protection Scientist

Kim is a specialist in plant pathology and has expertise in plant disease management and IPM. She is the panel manager for protected edibles and mushrooms, and a research manager for leafy salads, asparagus, herb and watercress grower groups.

E: kim.parker@ahdb.org.uk

Dawn Teverson, Knowledge Exchange Manager for broadacre field vegetable crops – brassicas, carrots, onions, leeks

Dawn is a specialist in legumes and plant pathology and has expertise in IPM, especially genetic resources.

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The online home for Field Vegetable applied research:
ahdb.org.uk/horticulture/field-vegetables

AMBER: Elevating IPM

All of the below can be applied to aphids

Your levy is future-proofing crop protection

Application and Management of Biopesticides for Efficacy and Reliability (AMBER) is the title of a study that's developing a pest-control model to identify optimal biopesticide control strategies.

The problem

- Pests (including invertebrates, plant pathogens and weeds) have a major impact on crop production, reducing yield and quality
- It is estimated that about a third of the potential global crop yield is destroyed by pests before it is harvested
- Issues surround synthetic chemical pesticides, e.g. harm to the environment, safety to pesticide spray operators, overuse resulting in resistant pests, environmental legislation removing products from the market, etc.
- IPM uses 'biopesticides' (pest-control products based on natural agents, e.g. living microbes) which are more complicated to use than traditional pesticides

The solution

AMBER is looking at:

1. Making spray application more efficient through analysing the systems that growers can easily access, e.g. spray equipment, water volumes, timing, dose, spray coverage, as well as product persistence, environmental conditions, effect on target pest/disease, incidental effects on other P&D, phytotoxicity, and effects on non-target organisms (i.e. released or naturally occurring biological control agents).
2. Integration of biopesticides with online environmental monitors (biofungicides) and getting better information on compatibility with pesticides and natural enemies. We are also undertaking targeted work on specific crops that has been requested by some industry sectors (primarily mushrooms).
3. Pest population modelling to inform application strategy for bioinsecticides, including the viability of the release of predators/parasitoids, e.g. control of aphids on sweet pepper, whitefly on poinsettia and combining host-plant resistance with biocontrol in brassicas.

Meet the team

Joe Martin, Crop Protection Senior Scientist – Pesticide Regulation

Joe is a specialist in crop protection regulatory trials and has overall responsibility for the EAMU programme, SCEPTREplus and AMBER (bioprotectants) projects.

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Wayne Brough, Knowledge Exchange Manager – Ornamentals

Wayne is responsible for hardy nursery stock, protected ornamentals, bedding and pot plants, cut flowers and bulb crops. He also has responsibility for the ornamentals strategic centres, implementation of integrated pest management and adoption of alternative growing media by the industry

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Find AMBER at: **ahdb.org.uk/amber**

Meet the grower: Stopping spotted wing drosophila

A.C. Hulme & Sons is a family-owned, mixed farming business, based in Kent. Tom Hulme manages their 400-acre tree fruit business. Here, Tom explains how he has worked with AHDB to tackle spotted wing drosophila – one of the biggest threats to the UK fruit industry.

Why is Spotted Wing Drosophila a problem for the UK fruit industry?

Spotted Wing Drosophila (SWD) is an invasive fruit fly of soft and stone fruit crops.

While SWD arrived in the UK in 2012, A. C. Hulme & Sons were first affected two years later. Tom explains, "We first experienced commercial SWD damage in our cherry crop in 2014. We have a relatively late site due to the delaying plastic we use to cover our cherries and we lost over a third of our crop.

"It was economically devastating to our business that summer as we not only lost revenue but also had no work for our seasonal staff for a three-week period, which led to significant costs in finding other work for them in order to retain them in our business to harvest our top fruit crops."

For A.C. Hulme & Sons, working closely with AHDB and the SWD steering group was going to be important to help them manage this new pest.

"We focused very clearly on all options for controlling the pest in 2015, and I personally began to engage very closely with the researchers at East Malling. This ultimately led to taking a position on the Tree Fruit Panel and direct involvement in the SWD research programme," says Tom.

Making changes to control SWD

Tom explains, "There has been a huge and impressive amount of research undertaken on behalf of the industry to determine how to control this devastating pest and this has very clearly driven decision-making on my farm.

"Since 2014, we have experimented with all available options to control the pest, but our efforts have since focused on three clear aspects.

"Firstly, all of our cherries are grown under plastic covers with SWD insect netting around the outside which limits the population inside the orchard. AHDB shared research findings that helped us determine the minimum size of mesh to use as we were very concerned about airflow reduction leading to rotten fruit.

> "There has been a huge and impressive amount of research undertaken on behalf of the industry to determine how to control this devastating pest and this has very clearly driven decision making on my farm"

"Secondly, we implement a strict orchard hygiene regime, seeking to remove all fruit from the orchard as we undertake the harvest. This is costly and frustrating for our staff but is clearly important.

"Finally, we closely follow the AHDB recommendations with regard to the timing and application of chemical actives, including extending our spray intervals as a result of work undertaken by NIAB EMR on our farm investigating the control period of Tracer and Exirel in 2018 and 2019."

Securing plant protection products for SWD

In 2020, AHDB's crop protection team were successful in obtaining seven Emergency Authorisations, including Benevia 10OD, Exirel 10SE and Tracer, for a range of soft and stone fruit crops.

For Tom, these authorisations remain critical. He argues, "It is clear that there is no silver bullet with SWD and the many actions we take in our business [insect netting, orchard hygiene, trapping to guide pest levels, etc.] have led to a satisfactory level of commercial control of the pest.

"But chemical control [based around Tracer and Exirel, which are both subject to recurring annual EAMUs] is the most important aspect of these efforts. I feel strongly that without this wide-ranging approach, we would not be able to achieve commercial control on our farm."

The future of SWD research

Our future focus will be on the most promising areas, such as bait sprays, winter control and developing a push–pull system. AHDB will continue to support growers with applications for EAMUs and Emergency Authorisations. In SCEPTREplus, we'll be looking at finding egg-laying deterrents.

Tom adds, "There is a lot of work still being undertaken on behalf of the industry and I am privileged to have the opportunity to feed in my views on which direction this research takes as a result of my position on the AHDB Tree Fruit Panel.

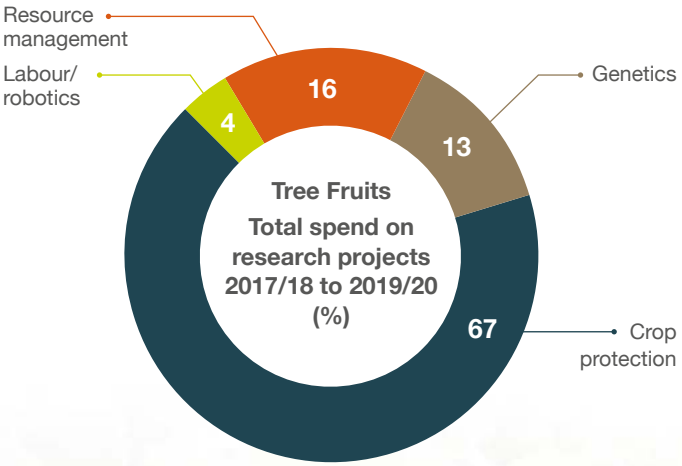
"Many of the work streams are exciting, particularly the various biocontrol options that are being pursued.

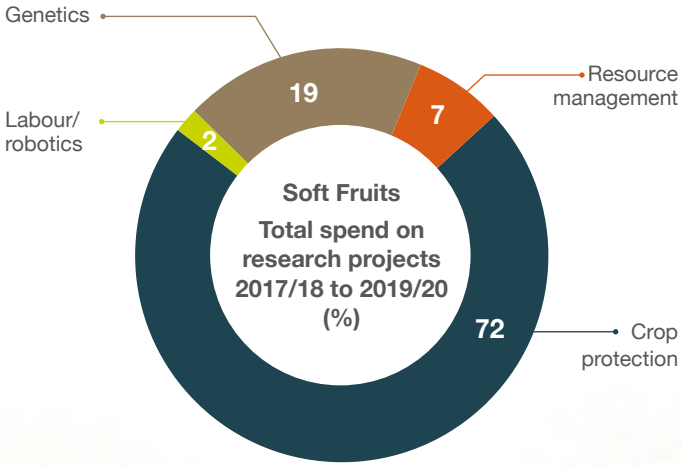
"However, my focus remains on available chemical actives. These are currently highly dependent on annual EAMUs and the length of period they offer control, which can be affected significantly by all sorts of factors, such as climate, sunlight and humidity."

Want to read the full article? Go to:
ahdb.org.uk/horticulture-research-in-practice

Fruit: Investing your levy

Did you know we invest over two-thirds of Fruit levy in crop protection?





AHDB has invested more than £215K into the Apple and Pear Rootstock Breeding Club which has ensured that new varieties of rootstocks are available to all UK apple and pear growers

What will a 'No' vote mean?

- The withdrawal of funding, support and possible disbandment of the UK industry SWD Working Group
- The loss of support to ensure that new varieties have an open release for use by all UK growers
- Research into IPM compatible products to future-proof fruit crop protection may stop

Confronting the challenges of the future, now

The future control of pests, diseases and weeds is, fundamentally, dependent upon research. From preparing strategies for tackling emerging issues to finding solutions to fill the gaps left by loss of traditional control methods, AHDB is dedicated to supporting the future of the fruit industry.

Our research has developed novel and alternative approaches to the control of key pests and diseases. This has resulted in new guidance for growers, ensuring that commercial production of UK fruit crops remains viable.

Spotted Wing Drosophila (SWD): Tackling emerging disease threats

Since the arrival of SWD in the UK, we have worked with CRD to successfully secure crucial Emergency Authorisations for products to control SWD. Without this, levy payers have no way of controlling the pest.

AHDB established the UK industry SWD Working Group and has continued to support the group and fruit growers by sharing information, monitoring results of worldwide research and dealing with sensitive information and crisis management.

By 2021, we will have spent more than £1.6m on research alone. Our comprehensive knowledge exchange programme covers what we've learnt from:

- Trials to identify the most effective products against SWD
- Trials to determine the best methods for monitoring in plantations and packhouses
- A monitoring programme across England and Scotland
- Development of safe methods for disposal of waste fruit
- Developing a push–pull system so that the pest can be pushed away from the crop and attracted into traps
- Developing the use of bait sprays in combination with spray control products to improve the efficacy of the limited available chemical controls
- Reducing winter populations of SWD through precision monitoring
- Identifying potential organic forms of control

Breeding and Genetics: The next generation

By funding breeding and genetics, AHDB is investing in the future of the fruit industry. Supporting breeding is a long-term strategy to support IPM, decrease labour costs and improve fruit quality.

Breeding programmes for tree fruit are a corner stone of IPM, particularly as effective, pesticides are lost or are ineffective due to climate change and resistance.

In soft fruit, breeding programmes take a holistic approach, focusing on a range of consumer and grower driven needs.

The East Malling Strawberry Breeding Club has released five strawberry cultivars since 2008. This includes 'Malling™ Centenary', which is now the UK industry standard June-bearer, accounting for 60-70% of the UK market, with sales in 2017/18 exceeding 50 million plants.

New varieties are in the pipeline, offering further benefits in terms of disease resistance and consistent yield profile.

The Raspberry Breeding Consortium has benefitted from associated research projects that have run in parallel to the commercial programme. Released this year, 'Glen Mor', is the first fresh market raspberry with resistance to root rot, the most important disease in raspberry.

This will:

- Ensure that new varieties are 'open' and available to all UK growers
- Improve the sustainability of new varieties by developing durable pest and disease resistance thereby reducing waste and the use of pesticides
- Increase productivity and fruit quality
- Extend the cropping season in the UK

Fruit strategic centres: showcasing best practice

Our strategic centres for fruit demonstrate best practice, applying cutting edge research in a commercial setting:

- In soft fruit, the WET Centre has put into practice AHDB funded projects on water saving technologies; more than 10 major UK strawberry growers have now adopted this
- In tree fruit, the Plum Demonstration Centre continues to showcase practical ways of increasing both yield and fruit quality e.g. running trials comparing plums grown outdoors and under protection, 23 new plum cultivars and different fertigation techniques

Over the last 5 years AHDB has achieved 84 EAMUs for soft fruit and 59 for tree fruit

> We are totally dependent on the emergency clearances that the AHDB has helped the industry to secure, without these there would be no cherry industry left

Nigel Kitney, agronomist and apple grower

Meet the team

Scott Raffle, Knowledge Exchange Manager

Specialist in tree fruit and soft fruit, with particular experience in IPM programmes, fruit variety development and fruit storage.

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Katja Maurer, Crop Protection Scientist

Specialist in plant pathology, integrated pest management and biological control. Manager of the AHDB Soft Fruit Panel.

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Rachel McGauley, Plant Physiologist

Specialist in plant physiology, and in the soft fruit and tree fruit industries. Manager of the AHDB Tree Fruit Panel.

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Our top resources

Find the latest applied research news at our Strategic Centre pages.

Listen to growers, experts and industry combine with the AHDB podcast channel.

The online home for Fruit applied research is found at:
ahdb.org.uk/soft-fruit and ahdb.org.uk/tree-fruit

AHDB studentships: Funding tomorrow's industry, today

AHDB invests in, and currently supports, 42 PhD studentships to ensure that young talented researchers are focusing their work in science relevant to the Horticulture industry.

The Collaborative Training Partnership for Fruit Crop Research (CTP-FCR) began in 2017 and supports 31 PhD studentships for UK horticulture.

Led by Berry Gardens Growers Ltd., it is jointly funded by AHDB, the Biotechnology and Biological Sciences Research Council (BBSRC) and a consortium of businesses with interests in soft, stone and pome fruit.

Together with NIAB EMR, the programme also brings on board six universities with the expertise and capabilities to tackle strategically important research and development areas, including crop protection, robotics and artificial intelligence (AI), genetics and plant physiology.

Christina Conroy

With both a summer and winter form of Spotted Wing Drosophila (SWD), and control methods limited to good hygiene and spray products, Christina has been developing a new year-round push–pull control strategy. Her research is the first to find behavioural differences between the summer and winter morphs and is identifying repellents that are effective within the crop.

"In the short term, my research will help growers be aware of the differences in summer and winter morph behaviour, and plan accordingly. In the long term, this could aid in the creation of a push–pull control strategy. The repellent identified in this research will 'push' SWD from the crop and commercially available attractants 'pull' it into a trap."

Raymond Kirk

Raymond's technology of the future research aims to bring human intuition and apply it to camera systems. This will allow growers to detect, classify maturity and weigh non-destructively at a large scale, while also tracking individual berries through the season with the use of GPS and producing counts for yield forecasting as harvest approaches.

"Ultimately, my research will contribute to significantly reduced labour costs, with the advent of harvesters. Labour efficiency will also be bolstered with smarter deployment in field, a result of large-scale analysis of current crop performance. Finally, yield estimates will be more accurate and reflective of inner-row variances and crop profiles."

Through this programme and the horticulture levy, the next generation of researchers will be trained to support the UK's horticultural industry

Meet the team

Scott Raffle, Knowledge Exchange Manager – Fruit

Specialist in tree fruit and soft fruit, with particular experience in IPM programmes, fruit variety development and fruit storage.

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Find out more at: **ahdb.org.uk/horticulture-studentships**

Meet the grower: Putting growers at the heart of the Bedding and Pot Plant Centre

Mike Smith oversees the nursery programmes, growing techniques and product ranges at W. D. Smith and Son. He comes from a long line of horticulturalists and has been an active member of the British Protected Ornamentals Association (BPOA) technical committee since 2007.

Here, Mike explains how AHDB's Bedding and Pot Centre (BPPC) has put growers in control of their own research and development, as well as providing the industry with an opportunity to connect and learn from each other.

A new approach to research

The BPPC was set up in 2014 to run technical research trials and explore new product and market opportunities for growers of pot and bedding plants.

Based at Baginton Nurseries, Warwickshire, it was designed to help listen and respond to the needs of an industry and connect a sector which grows a hugely diverse range of crops around the UK.

Want to read the full article? Go to:
ahdb.org.uk/horticulture-research-in-practice

"The old way projects were presented to us for funding was generally led by researchers, and although many of the papers were interesting, they may not have necessarily been on topics that were important to us at that point.

"By setting up the BPPC, we put the growers in control of the research and development. The nature of the BPPC management group and BPOA technical committee members means that these issues are discussed by some of the most experienced and forward-thinking ornamental businesses before we get anywhere near funding.

> "These are grower trials for growers"

"The researchers and scientists are guided by people who have an understanding of the issues of everyday glasshouse production."

Connecting the industry

One of the core aims of the BPPC is to allow growers to come together to view trials, discuss results, share their challenges and explore ideas for future research. Annual open days have been held at the centre to enable the industry to meet up and learn from each other.

"The summer open days were timed to coincide with the National Plant Show at Stoneleigh in June each year, encouraging a good turnout of growers to view and discuss the results together. The centre brings so many growers together to discuss the trial, from inception to results – we all gain so much more from these different views.

"We are very lucky to be in a friendly industry where so many people are open with ideas. Having a centre like this can bring the best out of this."

Getting results

The trials at the BPPC covered a broad range of topics, from improving cutting success, manipulating plant growth control, to trialling new varieties and extending the growing season. Results have helped growers make informed changes to their production, for instance highlighting the potential of the product Terpal (ethephon + mepiquat chloride) for use as a plant growth regulator on both a range of bedding plants and poinsettias.

"We run our own trials on our nursery, but we can't afford the time and space to do them to this scale. Work packages have included evaluations of potential new plant growth regulators, which were extremely important with the loss of active ingredients and dose rates.

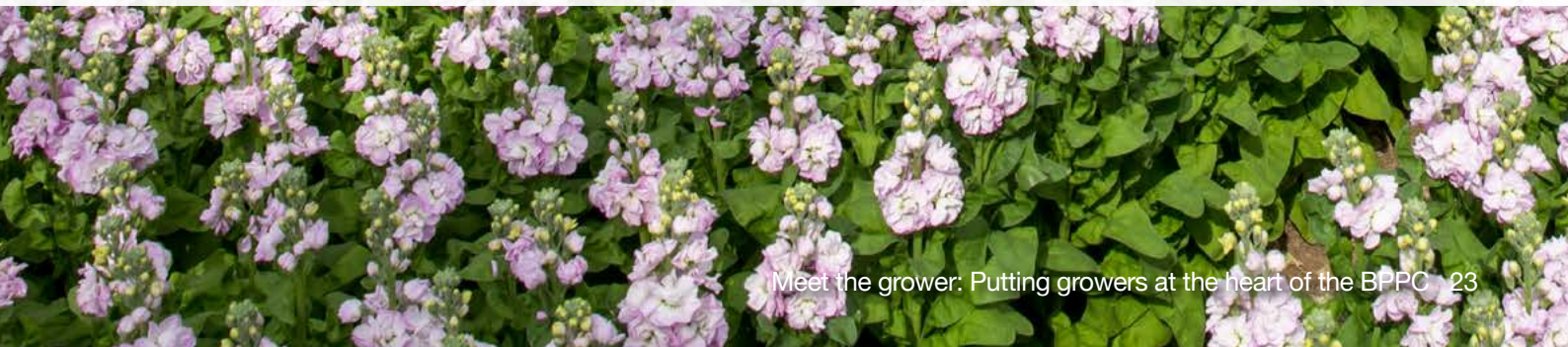
"Looking at potential new crops by forcing a range of perennials to flower for the early spring market, at this time we have a small range of impulse products available to the market. The centre has done many other projects that have provided simple take-home messages to growers.

"We had a problem we couldn't find a solution for with necrotic spots on verbena. Once I brought this forward, I found I wasn't the only one. We created a work package combining our collective knowledge and experience to see if we could replicate these issues at the BPPC so we could learn how to prevent it. We are now sowing our own verbena again here at W. D. Smith & Son," states Mike.

Looking further ahead

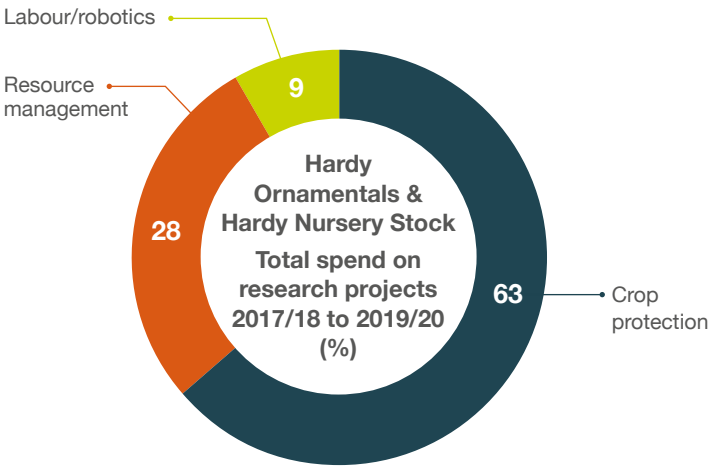
Reflecting on the future of the centre, Mike says, "The BPPC has become a way of bringing growers together, from international study tours looking at advances in glasshouse production in America and the Netherlands to assessing techniques and trials around the UK.

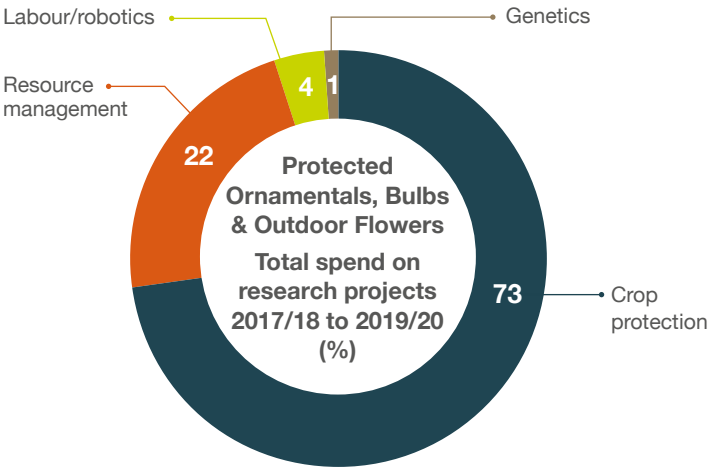
"I hope we can continue to bring these results together in environments that growers understand and trust. I believe we are in a uniquely social industry where we can learn and share ideas with one another. I hope that the BPPC can continue to grow to become the centre for this, which will be beneficial to all involved."



Ornamentals: Investing your levy

Did you know we invest the majority of Ornamental levy in crop protection?





What will a 'No' vote mean?

There will be no other single, unbiased organisation which has the ability to:

- Review all the potential crop protection products on the market in liaison with the chemical companies
- Trial them to find those that work against the issue being reviewed and ensure they are crop-safe
- Then apply for the specific EAMU to make the product available for ornamental growers in one process

> Our EAMU team utilises this evidence to secure critical access to crop protection products. Over the last five years, the team has secured 94 EAMUs for the ornamental sector

Joe Martin, Crop Protection Senior Scientist – Pesticide Regulation

Steering the machine of crop protection

AHDB drives the development of effective crop protection programmes across the horticulture industry. We provide unbiased evaluation and assessment of products with a unique oversight of the development process, from initial trial to application, in a commercial setting via our Strategic Centres. This enables the identification and development of the most suitable crop protection programmes for growers' crop systems.

For the ornamental sector, with the sheer number of different crops grown, the total area or plant number is often too small to justify significant product development. Our SCEPTREplus programme is the solution. Cross-panel trials identify the most effective products for different plant species and production systems.

We are committed to advancing the UK ornamental industry

Since 2018, AHDB has obtained five EAMUs for biopesticides and physical-acting products for use on a range of ornamental crops.

Defra aims to eliminate peat in growing media by 2030. We have initiated and managed the £1.07m collaboration between AHDB, Defra and wider industry to produce a model that can predict how alternative growing-media materials perform in a mix. This will fast-track new substrates and give growers the confidence to use them. With over 100 trials examining 213 different growing media blends, AHDB is playing a pivotal role in building up the skills base essential for growers to manage new growing-media alternatives.

Vine weevil is one of the most destructive pests of container-grown hardy nursery stock. A conservative estimate of 3% crop loss due to vine weevil means improved control could be worth an extra £28m per year to the ornamental industry.

With legislation set to remove key control products from commercial use, AHDB is working to fill the gap. Focusing on the 'little and often' use of nematodes, alongside traps and controls to target adults, we can help growers keep vine weevil numbers to a minimum.

Pansy mottle syndrome can cause between 5–20% losses, worth between £100–£400K per year. This is an issue that growers regularly talk to us about. So we have facilitated partnerships that include scientific experts and growers, to research this significant disease. The research is currently focusing on identifying important environmental factors that need to be carefully managed at key stages in the growth of crops and how this may affect the syndrome's development.

Strategic Centres

The Cut Flower and Pot and Bedding Centres provide our diverse sector with an excellent testing ground for products being delivered by SCEPTREplus, as well as other models and tools to improve production. Recent work included testing the crop safety of five fungicides on key bedding plant and cut flower crops to provide confidence to industry in their commercial use to control powdery mildew.

The Cut Flower Centre was particularly successful in working to control downy mildew on stocks. Following widespread incidences of the disease in the UK and Europe, growers found the disease problematic to control. Tests found that the pathogen was tolerant to products containing metalaxyl-M, so spray programmes were adjusted accordingly, with detailed recommendations to industry published through our knowledge exchange resources. Growers have since brought the disease back under control.

In the last 4 years, SCEPTREplus work covering a range of ornamental crops has identified:

- 5 new effective options for weed control
- 4 effective options for pest control
- 17 effective options for disease control

> We have had some issues regarding storage and handling of biopesticides. We got involved in the AMBER project because we wanted to improve the effectiveness of our biopesticide use. By investing in and using a boom sprayer, we are able to reduce the amount of pesticides that we apply by up to 30% and it greatly reduces the amount of time taken to complete the task. Since we invested in it last year, we have quickly recouped the expenditure and it has proved to be a very useful piece of equipment for us

Gary Woodruffe, Crop Manager, Bordon Hill Nurseries

Meet the team

Wayne Brough, Knowledge Exchange Manager

Wayne is responsible for hardy nursery stock, protected ornamentals, bedding and pot plants, cut flowers and bulb crops. He also has responsibility for the ornamentals Strategic Centres, implementation of integrated pest management and adoption of alternative growing media by the industry.

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Georgina Key, Resource Management Scientist

Georgina trained as an ecologist, with a specific interest in agriculture and horticulture, before working in academia for several years. Her role includes identifying priorities for growers and building a research programme to address those priorities, mainly within ornamentals.

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Our top online resources

Add to your crop protection toolbox with our ***Recommended Resources: crop protection in ornamentals.***

Visit our IPM in Horticulture pages for the latest news, updates and tips.

The online home for Ornamentals applied research:

protected ornamentals
ahdb.org.uk/protected-ornamentals

hardy nursery stock
ahdb.org.uk/hardy-nursery-stock

bulbs and outdoor flowers
ahdb.org.uk/bulbs-and-outdoor-flowers

SCEPTREPLUS

Meeting the needs of now

Testing new and alternative plant protection products

AHDB's SCEPTREplus delivers applied research on high-priority disease, pest and weed problems in horticulture. Our aim is to support the approval of sustainable plant protection products and develop integrated pest management programmes.

The problem

- Dwindling choice of plant protection products due to actives being withdrawn
- Tighter restrictions on the use of approved products
- Increasing pressures on environmental impact
- Over-reliance on available actives can lead to resistance
- High costs, complexity and resource requirements mean plant protection companies often won't develop products specifically for use on minor horticulture crops
- Diverse pest, weed and disease pressures on huge array of crops mean it is difficult for the market to invest in specific solutions

The solution

SCEPTREplus is looking for sustainable alternative solutions by:

- Testing novel chemical and biological plant protection products by working with manufacturers to identify new products with a realistic chance of getting to market
- Trialling existing products on different targets, crops or application timings
- Using a risk register to respond to the most pressing industry needs each year – due to active withdrawals or new pests
- Extrapolating data from one model crop to make trials on different crops cheaper and quicker

Meet the team

Joe Martin, Crop Protection Senior Scientist – Pesticide Regulation

Joe is a specialist in crop protection regulatory trials and has overall responsibility for the EAMU programme, SCEPTREplus and AMBER (bioprotectants) projects.

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Debbie Wilson, Head of Knowledge Exchange

Head of Knowledge Exchange. Debbie leads the team delivering Knowledge Exchange across the range of crops and production systems in commercial horticulture and has worked in applied horticultural research and knowledge exchange for 30 years.

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AHDB'S SCEPTREplus fast tracks your crop protection toolkit

259 products tested	**71** trials	**50** different crops
49 approval applications	**19** EAMUs secured	**2** on-label approvals
54 pests, weeds and diseases	...since 2017	

To find out more, go to: **ahdb.org.uk/sceptreplus**

Meet the grower: Supporting cucumber growing in the UK

Anchor Nurseries Ltd has been growing cucumbers for over 60 years. Under the leadership of James Broekhuizen, Nursery Manager, the business is continuing to innovate and modernise. James is also the current Chair of the Cucumber Growers Association (CGA).

Tackling pests and diseases in cucumbers

As with most horticultural crops, controlling pests and diseases with a dwindling choice of plant protection products is challenging for cucumber growers. The main threats for the industry are diseases such as gummy stem blight (*Mycosphaerella melonis*) and Pythium root rot, as well as pests including glasshouse potato aphid (*Aulacorthum solani*) and southern green shieldbug (*Nezara viridula*).

AHDB works closely with the CGA and industry representatives to research and develop integrated pest management (IPM) strategies to tackle these key pests and diseases.

“AHDB has the resources and intellect to be able to pool information together to help improve the industry,” says James.

One example of this work is the development of a lateral flow device to detect gummy stem blight in cucumber crops. This tool was the culmination of projects which demonstrated that understanding the risk of infection, by collecting spores in the glasshouse, could help growers make useful management decisions. The lateral flow device gives growers the ability to carry out the test themselves and get results in less than 30 minutes.

As Cathryn Lambourne, Crop Protection Senior Scientist at AHDB, said: “This work helped identify the spread of infection within nurseries and led us to develop hygiene protocol recommendations that could help to reduce crop loss by 40%.”

Securing new plant protection products

The SCEPTREplus programme has been running trials into some of the key pests and diseases for cucumbers to identify and test novel and alternative plant protection products.

For glasshouse potato aphid, seven products were tested that were either new to the crop or new near-market products. Two of these products led to 99% control of the pest during the trial and applications are being made to secure authorisations for these.

We also work closely with the CGA and plant protection companies to submit applications to CRD for Extensions of Authorisation for Minor Use (EAMUs). Recent successes for cucumbers include Azatin, Decis Protech and Floramite 240 SC.

“EAMUs have had the largest impact for ourselves as a business. With the withdrawal of many active

> “We have worked alongside AHDB to help tackle some of the wider industry problems that we do not have the resource to tackle by ourselves”

ingredients, cucumber growing in the UK has become a lot more difficult and costly," James said.

"We rely on AHDB to help fight the removal of certain chemicals, as well as to fight for the equal right to use chemicals that are also used in EU countries. The EAMU scheme helps the UK industry stay profitable and legal."

Reducing energy costs

The AHDB GrowSave programme aims to help growers find ways to save costs through improving efficiencies while still producing quality yields.

"The GrowSave platform has helped push people into Next Generation Growing, as well as to look at RHI benefits of biomass boilers or heat pumps."

Next Generation Growing (NGG) aims to optimise the growth of the crop, while saving energy and reducing costs. The techniques create an environment in which the plant thrives and, if implemented well, it can also lead to a 20% reduction in heat use.

Skills and labour

James notes, "As 'good' labour is getting harder and harder to source, we need more information and training in how better to recruit, motivate and manage our future employees."

SmartHort has been set up to help upskill the horticulture industry in labour management and efficiencies. Many protected-cropping businesses have taken part in workshops to help find and retain the best workers.

AHDB's Skills team also runs a 14-month formal qualification programme – Professional Manager Development Scheme (PMDS) – supporting managers within the industry to make positive changes in their business.

"I was lucky enough to gain a place on the 2019/20 PMDS course. This allowed me to network with many other managers from different fields. It also taught me some very good management theory applicable to our industry."

The future

"Future work on all forms of labour would certainly be beneficial to UK growers. In addition, it is vital that the EAMU scheme is protected, and that new approvals are constantly pushed to the forefront to ensure our growers have the tools they need to do their jobs effectively and profitably. Any further research on new chemicals to help support the industry would be hugely welcomed."

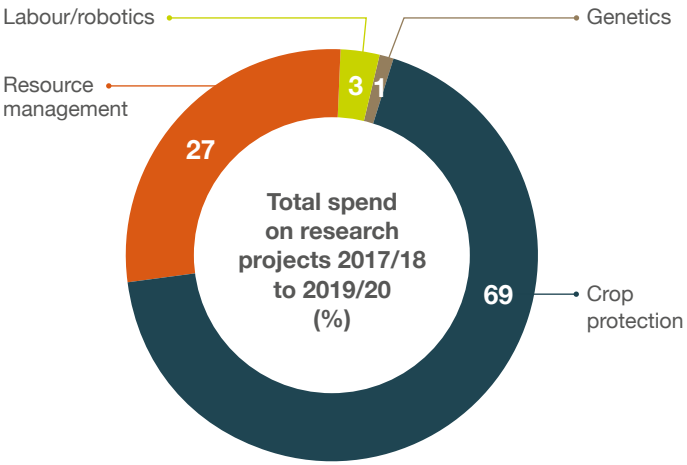
Want to read the full article? Go to:
ahdb.org.uk/horticulture-research-in-practice

Protected Edibles and Mushrooms: Investing your levy

What will a 'No' vote mean?

- No organisation would be primed to coordinate a rapid and effective response to new devastating threats such as ToBRFV and lettuce fusarium wilt
- Plant protection products, such as Azatin, Decis Protech and Floramite 240 SC, would be unlikely to get EAMUs (AHDB has secured 40 EAMUs for the protected edibles and mushrooms sector over the last five years)
- Advice on energy-related financial packages, progress towards industry priorities like net zero and regulation changes would be lost through closure of the GrowSave horticulture programme

Did you know over two-thirds of the Protected Edibles and Mushrooms funding focuses on crop protection?



Protecting your crops

Working with growers, AHDB has set up a risk register that helps us predict and respond to new and emerging threats and ensures we continue to invest resource in the most critical pests and diseases that may impact your business.

Fusarium wilt in lettuce

No other control options exist other than fungicides, so to help prevent crop loss from happening, AHDB continues to make EAMU applications to support fresh-produce growers.

Fusarium wilt in lettuce can result in 100% crop loss

Tomato Brown Rugose Fruit Virus (ToBRFV)

In cases where total crop destruction is required, there is a potential cost of at least £500K/ha, with additional costs due to biosecurity measures and crop wastage. Our research has identified which disinfectants are most effective in minimising ToBRFV spread and which are best for post-infection clean-up on a range of glasshouse surfaces.

ToBRFV is a major threat to UK tomato production

AHDB has developed diagnostic tests for gummy stem blight on cucumber. Nurseries can now measure fungal spore load and use our treatment decisions guide.

Downy mildew of basil was first reported in the UK in 2010 and our applied research has helped the industry to identify and control the disease.

At the request of mushroom growers, we are undertaking targeted work on the integration of biopesticides with online environmental monitors (biofungicides) and gaining further understanding as to their compatibility with pesticides and natural enemies.

> “As an indication of how successful the basil downy mildew work has been, when we look at when we first got the disease, 80% of our basil was being infected. This year, we had two pots with the disease. That really shows you how we’ve come to understand how this disease works and how to control it”

Simon Budge, Vitacress Herbs

Meet the team

Grace Choto, Knowledge Exchange Manager – Field Vegetables (leafy salads, herbs and speciality veg)

Grace is the Knowledge Exchange Manager for leafy salads, herbs, asparagus, outdoor cucurbits, plant propagation, sweetcorn and soils. She is also the lead on fruit and vegetable safety.

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Nathalie Key, Knowledge Exchange Manager (protected edibles, vine crops, mushrooms)

Nathalie has been responsible for the AHDB knowledge exchange activities for protected edibles (tomatoes, peppers and cucumbers), mushrooms and narcissus for two years.

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Cathryn Lambourne, Crop Protection Senior Scientist – Disease

Cathryn is a specialist in plant pathology and field vegetable crops in horticulture and panel manager of the AHDB Field Vegetable Panel.

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Kim Parker, Crop Protection Scientist – Diseases

Kim is a specialist in plant pathology and has expertise in plant disease management and IPM in horticulture in the UK and overseas. She is also the panel manager for protected edibles and mushrooms, and a research manager for leafy salads, asparagus, herb and watercress grower groups.

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Robert Saville, Crop Protection Scientist

Robert is a specialist in phytopathology and has expertise in IPM and crop production systems across a broad range of horticultural crops. He is a research manager across protected edibles, mushroom, tree and soft fruit panels.

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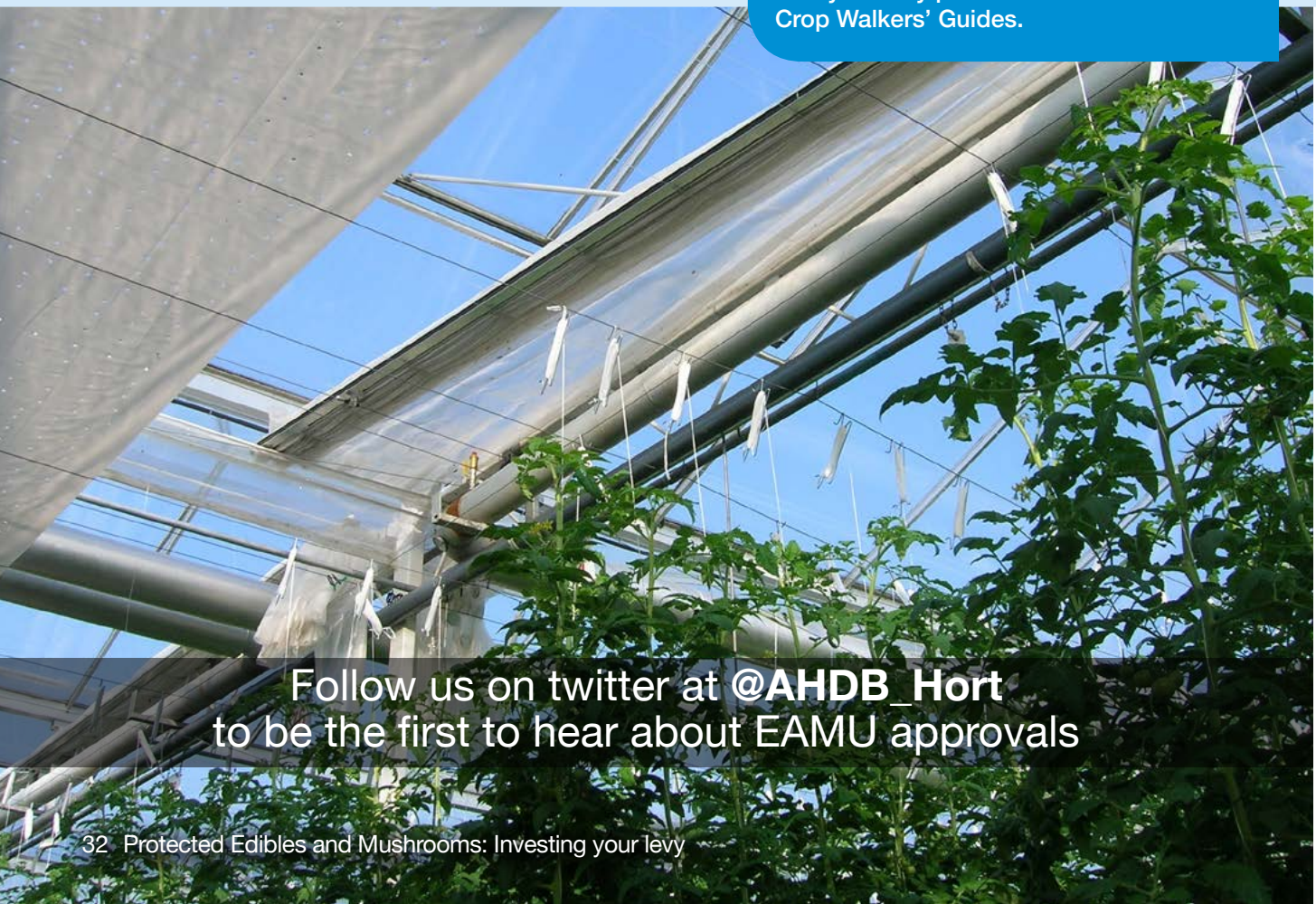
Our top resources

Follow us on twitter at **@AHDB_Hort** to be the first to hear about EAMU approvals.

Easily identify pests and diseases with our Crop Walkers' Guides.



GrowSave: Your levy gives you return on your investment

Saving growers energy and money, GrowSave is your one-stop shop for all things energy related.

What is it?

At an estimated £135m cost to the protected cropping industry in 2014, energy is a significant cost to the protected edibles and protected ornamentals sectors.

GrowSave is a knowledge exchange programme that uses a network of industry partners to give growers unique and unrivalled access to the latest information about how the UK's leading farmers and growers are increasing efficiencies and saving energy.

The Horticulture GrowSave programme focuses on:

- Energy efficiency – back-to-basics approaches, from monitoring energy use to making practical changes on site to reduce energy loss
- Access to renewable sources of energy – keeping abreast of incentives to support new installations, with case studies to inform growers installing the most suitable system
- Effective use of glasshouse climate-control systems for the delicate balance between energy efficiency and maintaining a healthy crop
- Air movement – creating an even climate and improving crop quality and uniformity in greenhouses and polytunnels
- Lighting – improvements in horticultural lighting technology
- Next Generation Growing (NGG) – giving the crop exactly what it needs, when it needs it

Who's involved?

The GrowSave team consists of the UK's leading energy specialists from NFU Energy, who have extensive experience of working with growers and farmers to reduce energy costs. This means that the information is independent, unbiased and of high quality.

> "GrowSave has helped us work out how to get the best out of the RHI when we installed our biomass boiler – that has significantly cut our heating costs"

James Broekhuizen, Anchor Nurseries Ltd.

Have questions? Here's your contact

Nathalie Key, Knowledge Exchange Manager (protected edibles, vine crops, mushrooms)

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Find out more at:
ahdb.org.uk/growsave

SmartHort: Innovating today

SMARTHORT

> We have previously identified some improvements that could be made, but the tools we have been given help us to evidence the cost benefit of investing to make those changes

Volmary, SmartHort Strategic Centre host, Lincolnshire

What will a 'No' vote mean?

- No other organisation making international advances on new horticultural technology and automation accessible to the whole industry through focused study tours
- No other organisation bringing different businesses together to coordinate and make the most of new technological advances with wide industry relevance
- No other organisation making Lean training accessible to a diverse group of horticultural businesses, ensuring ideas and feedback are shared for the benefit of the whole industry

Reducing costs, improving labour efficiency and productivity

Labour shortages and increasing labour costs are a challenge for all horticulture businesses. SmartHort, created by AHDB for growers, aims to address these challenges by focusing on:

- Ways to improve labour efficiencies
- Increasing staff retention through smarter management practices
- Investigating how innovation, technology and automation can support

Employment accounts for 40–70% of many horticulture business costs. Seasonal labour costs have increased by 34% in the last four years (Andersons).

SmartHort helps growers to identify potential new technologies and robotics, focus on processes and identify ways to improve labour efficiency, costs and productivity.

SmartHort is a pioneering programme of events, training and an online hub that brings the latest science, information and intelligence on agri-automation and technology, as well management techniques such as Lean and Champion, from around the world into one place. And, crucially, in a format that growers can easily access.

22 horticulture businesses attended

3 SmartHort Strategic Centres in 2019

estimated combined labour efficiency savings of

over £425k in their first year

25–40%
labour efficiency and productivity savings per business

400 delegates have attended 20 SmartHort labour training workshops

Whether it's crop protection, production and harvesting systems, or the product we grow, SmartHort's international community of growers, tech firms, innovators and researchers will fuel an exchange of ideas and knowledge to drive a transformation in food and plant production.

The SmartHort Conference 2019 saw 16 international experts discussing robotics and automation in horticulture. There were 216 delegates, 540 livestream views and 1,400 follow-up views.

SmartHort offers live updates and insights on the research projects growers are currently investing in through their AHDB levy – from PhDs on grower-reprogrammable robots, to 3D mapping of broccoli crops for robotic harvesting, and vision systems for fruit picking.

Linking grower automation needs with leading experts Warwick Manufacturing Group has attracted £65K of funding through our SmartHort Automation Challenge.

By introducing management techniques such as Lean, Champion and Continuous Improvement, you can make a difference to your business, regardless of its shape or size. They can apply throughout your production system – from picking to packing – and play an important role in helping to recruit, retain and motivate staff.

During the coronavirus pandemic, AHDB worked with 42 edible horticulture producers over six months to collect independent data on labour resource and the impact on productivity. This information was shared with industry and Defra to ensure that the impact of coronavirus was fully understood.

To see SmartHort in practice, go to the field vegetable case study on page 10.

> "Having the real-time info was really refreshing… It was really important to have the actual data, rather than the usual rhetoric that gets talked about"

Grower feedback during a weekly data interview

Meet the team

Grace Emeny, Senior Knowledge Exchange Manager

Grace leads AHDB's SmartHort project and works on issues related to labour shortages in horticulture, including working to improve labour efficiency, as well as looking for longer-term solutions through new technologies and robotics.

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Debbie Wilson, Head of Knowledge Exchange

Debbie leads the team delivering knowledge exchange across the range of crops and production systems in commercial horticulture and has worked in applied horticultural research and knowledge exchange for 30 years.

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Find SmartHort case studies and success stories at:
ahdb.org.uk/smarthort

NOW OPEN

Register for our online open '**Town Hall**' events where you'll have the chance to meet our Chair, Nicholas Saphir, AHDB Board and Horticulture Sector Chair, Hayley Campbell-Gibbons, and other members of the horticulture team.

Ask the questions you want answered ahead of the ballot on your levy. We want you to come and have your say, plus give us feedback on the **new five-year strategy** and what that means for the future of horticulture at AHDB.

Sign up at: ahdb.org.uk/horticulture-town-hall

11 January
Town Hall online meeting for fruit growers

12 January
Town Hall online meeting for field vegetable growers

13 January
Town Hall online meeting for protected edibles and mushroom growers

14 January
Town Hall online meeting for ornamental growers

25 January
Town Hall online meeting for fruit growers

26 January
Town Hall online meeting for field vegetable growers

27 January
Town Hall online meeting for protected edibles and mushroom growers

28 January
Town Hall online meeting for ornamental growers

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

AHDB