



Autumn 2026



Welcome to Niab Fruit

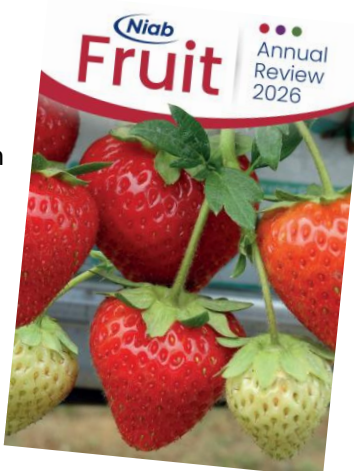
Niab Fruit keeps fruit industry members informed about Niab's latest research projects that help the industry solve current production problems.

We do this through organised technical events, attendance at fruit industry trade shows, technical articles published in the trade press, and our own Niab publications. Dedicated [Niab Fruit](#) pages on the Niab website provide various resources, including details and results from our wide range of research projects on tree fruit and soft fruit crops. The site also includes electronic versions of recent publications and presentations from recent events, outputs from the Niab demonstration centres, and links to the Apple and Plum Best Practice Guides.

Earlier this year, we published our Niab Fruit Annual Review 2026, which provides the industry with an overview of the fruit research portfolio led by Niab at our East Malling site, along with progress reports and results to support grower businesses.

In this year's Autumn Newsletter, we bring news of a range of events and activities that Niab has been involved in, along with news of upcoming events and some of the newest fruit research projects that began in 2026.

Scott Raffle
Niab Knowledge
Exchange Manager



Niab Soft Fruit Webinar

Wednesday 9th December 2026
9.10 am-2.15 pm

[BOOK HERE](#)

This year's annual Soft Fruit event will be presented by Niab as an online webinar to provide the industry with the latest results of a wide range of research projects led by Niab and other researchers.

Sessions will be included on the latest developments in insect pest management covering spotted wing drosophila, aphids and thrips in strawberry. A session on novel approaches to sustainable soft fruit production will include information on maximising yield potential in strawberry, managing pollinators in protected crops, and a new polymer that can reduce water and fertiliser use in soft fruit crops.

There will also be a session providing updates on the Soft Fruit Genetic Improvement Network and variety development.

For full programme details and to book your place at the event, visit niab.com/events to register to attend.

BAPL/Niab Apple and Pear Day

In February, Niab jointly hosted an apple and pear technical day with British Apples and Pears Ltd at The Mumford Building in East Malling.

80 people attended, with over 100 others joining via the live stream. The programme incorporated talks from Niab staff covering research on pest and disease management, including apple canker, woolly apple aphid, rosy apple aphid and apple blossom weevil.

Updates included work on detecting early signals of tree stress, precision orchard management and soil testing for holistic biological soil health. The presentations were supplemented by industry updates from BAPL, HCP Ltd, and agronomists who shared their experiences with novel approaches to crop management. Presentations from the event are available on the [BAPL website](#).

Niab continues to manage a large proportion of the BAPL-funded apple and pear research portfolio, so there are plans to repeat the event at East Malling in February 2027. Look out for more details over the winter months.



Niab hosts international cider training course

In March, Niab hosted a foundation training course on cider and perry production at East Malling. Run by the Cider Institute of North America, this was the first course of its kind held outside of the USA.

The Institute regularly runs online courses available to anyone in the world, but it has held previous 'in-person' events only in the USA. Delegates attended from countries including the USA, Canada, Australia, Italy, France, and Lithuania, as well as from closer to home in Ireland, Wales, and England.

The five-day course offered a comprehensive introduction to cider and perry production. Participants learned the essential skills and knowledge needed to create high-quality products, while learning from researchers and cidermakers in Kent.



After completing the course, delegates had to pass the qualification exam to earn the Foundation Certificate in Cider & Perry Production, which is a prerequisite for advanced courses. More information on the training courses offered is available at www.ciderinstitute.com.



Several Niab staff were involved in the course, including Belinda Kemp and Dona Frost, who presented talks and hosted the practical training sessions for the trainers held in the Wine Innovation Centre. Scott Raffle welcomed everyone and shared the history of the East Malling site. Flora O'Brien led a tour of the rhizolab, and Abi Johnson provided a tour of the apple genebank.

Informing East Kent Fruit Society

Every year, Niab works with the East Kent Fruit Society (EKFS) committee to deliver a programme of speakers at its seasonal farm walks in Kent and the South-East. This raises the profile of Niab's work in the fruit sector while informing EKFS members about research results relevant to the farm walk they attend.

This year, the orchard blossom walk in April featured updates on research into apple and pear spring pests and orchard nutrition.

Visitors learned about investigations into parasitoids for SWD control and matching nitrogen application to strawberry demand at the soft fruit walk in June.

Presentations covered precision fertigation of stone fruit and bait spray research for SWD control at the stone fruit walk in July, and soil amendments to improve apple establishment, the BMSB surveillance programme and apple replant disease were the focus on the walk through the winning apple orchard in August.

We look forward to supporting the EKFS programme of walks again in 2027.



Niab welcomes BAPL/National Fruit Show AGM to East Malling

Once again in March, Niab at East Malling hosted the joint AGM for British Apples and Pears Ltd and the National Fruit Show. This included the prize-giving for the National Fruit Show's long-term apple storage competition and reports on the activities of both organisations over the past year. BAPL continues to spend a large proportion of the voluntary levy it collects on research and development projects, many of which are led by Niab. As key industry bodies, we are keen to support BAPL and The National Fruit Show each year by hosting their regular meetings and events at East Malling, which gives us the opportunity to promote the close working relationship we have developed with both.

Teagasc students visit Niab at East Malling

In April, 46 horticultural students and lecturers from Teagasc in Ireland visited East Malling to learn about the wide range of fruit research Niab manages. Welcomed by Scott Raffle, they heard about the history of the site and our early work, along with what Niab does today to support the fruit industry, from producing more fruit with fewer inputs, developing novel approaches to crop protection, supporting breeding programmes through genetic research and how Growing Kent & Medway has supported the food, drink and horticulture sector in Kent and Medway. Scott is pictured with the whole group, who were impressed by the breadth of our work.



Supporting the local community

Niab has traditionally supported the community around its East Malling site, including our local secondary school, The Malling School.

In May, ten students and their careers advisors visited the site to learn more about horticultural research. As near neighbours, the school takes an active interest in what we do and periodically asks Niab to give short talks to students about our work.

Following a recent presentation by Scott Raffle, the school visited Kew Gardens and set the Year 7 students the task of designing a kitchen garden, explaining which crops they would include and why. Scott and colleagues judged some of the best entries and chose the top ten.

The 'chosen few' had the chance to visit us and learn more about the activities we do. Hopefully, some of them will be inspired to take more interest in plant science when they leave school.



Year 7 students tour the rhizolab with Scott Raffle



A year in focus

Growing Kent & Medway, led by Niab, has supported the fruit sector in finding solutions to key industry problems by awarding many research grants over the last five years. The results and outcomes of some of these projects can now be explored via a new website that went live in early 2026: growingkentandmedway.co.uk

The website features case studies on fruit research into apple scab and spotted wing drosophila management, the benefits of biochar in supporting microbial diversity, managing energy use in apple stores, and turning surplus fruit into sustainable food powders.

The grant and sustainability training programme, *Growing Green*, has helped reduce waste and enhance recycling and sustainability on fruit farms. The site also hosts a range of useful reports from the Growing Green initiative relevant to fruit, including Energy Efficiency, Water Resilience, and Waste Valorisation.

Further reports are also available on alternative proteins, reducing the carbon footprint of the food system in Kent and Medway, finding value in fruit crop waste, and an agri-food skills strategy.

Growing Kent & Medway is an innovation and enterprise cluster led by Niab. UKRI's Strength in Places programme has funded it for the past five years. While formal funding has now finished, we are committed to the sustainability of the innovation programme and to ensuring its legacy and impact continue both in the Kent and Medway region and nationally. To discuss how Growing Kent & Medway can support horticulture R&D, email contact@growingkentandmedway.com

Niab and Growing Kent & Medway (GKM) presented the results of some of its key fruit research projects to visitors at Fruit Focus 2026, which was this year hosted by The East Malling Trust at Bradbourne House.

Despite the severe and at times oppressive heat, the Niab exhibition stand attracted large numbers of visitors during the day and particularly for our formal stand tours where the results of each of four projects were presented. Adam Walker provided progress on Innovate UK-funded research (in partnership with British Berry Growers, WB Chambers, Hall Hunter Partnership and Hugh Lowe Farms Ltd) to deploy the parasitoid *Pachycrepoideus vindemmiae* to control spotted wing drosophila on commercial fruit farms.

Sarah Arnold presented the latest results on Innovate UK-funded work (in partnership with Olombria, Asplins, the Summer Berry Company and the Natural Resources Institute) to test and develop blends of native hoverfly species to control key aphid pests of soft fruit crops under protection.

Francis Wamonje presented work funded by The Worshipful Company of Fruiterers to investigate whether UK native parasitoids exist that will control the forest bug and brown marmorated stink bug. Mat Papp-Rupar outlined the results of GKM and Innovate UK-funded research (in partnership with Blaise Plants and Recoir) to enhance raspberry propagation with coir amendments.

In two separate Soft Fruit and Tree Fruit Niab Research Hours in the NFU Fruit Forum, Niab staff also provided results of research covering thrips and SWD control, optimising strawberry propagation, optimising nitrogen and carbon dioxide in TCEA strawberry production, optimising nitrogen application in apple, improving precision fertigation of stone fruit, precision orchard management, and detecting early signals of tree stress.

The GKM team were also present on the Niab stand to provide visitors with information on the comprehensive range of support packages GKM has administered since 2021 to support the food, drink and horticultural industries in the Kent and Medway region, with a particular focus on fruit businesses.



New Projects 2026/27

Niab has begun work on a range of fruit research projects this year. Several seek to develop natural control management systems for fruit pests and diseases; two aim to develop new monitoring and mapping systems for pests and diseases; and one aims to improve biopesticide establishment. Another seeks to develop a bio-based compostable superabsorbent polymer to retain moisture in substrate-grown strawberries. Others support improved fruit production in fully controlled-environment agriculture systems. The projects are being undertaken either for or in association with industry partners, increasing the potential adoption of results by growers.

Title: ARMOR – Automated recognition & mapping of apple canker improving orchard productivity, resilience and sustainability

Funder: Defra Farming Innovation Programme – Feasibility

Industry partners: Fyto Ltd (Lead), Agrovista UK Ltd, AM Fresh UK Ltd, Living Optics Ltd

Term: July 2026 to June 2028

Project leader: Matevz Papp-Rupar

Apple canker (*Neonectria ditissima*) continues to cause major crop losses for UK growers, and management relies heavily on labour-intensive crop scouting, pruning, and largely ineffective fungicide sprays. No current methods can detect early infection or map infection pressure in an orchard. This project will develop a hyperspectral, AI-based canker detection and mapping system for commercial orchards, producing a handheld and tractor-mounted prototype that can detect visible and early-stage canker symptoms at scale. This technology will help growers remove canker lesions more effectively and reduce crop losses.



Title: Agri-SAP – Agriculture-optimised superabsorbent polymers for improved productivity and resilience of UK food production.

Funder: Defra Farming Innovation Programme – Feasibility

Industry partner: Planet Smart Ltd (Lead)

Term: July 2026 to June 2028

Project leader: Matevz Papp-Rupar

An estimated 45% of irrigation water used in agriculture is wasted, with run-off fertigation water causing pollution and reduced biodiversity. Beneficial microbes can enhance plant nutrient uptake whilst reducing water and fertiliser demand, but they often fail to colonise soils and substrates effectively. Superabsorbent polymers (SAP) offer an alternative, increasing the water-holding capacity of soils and substrates by 20-25%, but they degrade into microplastics. This project will develop a bio-based, compostable SAP that retains moisture, improves nutrient use efficiency, and helps beneficial microbes survive. It will be tested on strawberry and lettuce.

Title: PROSPER – Pome fruit Resilient Orchards through strategic Sustainable Pest & disease Ecology Research

Funder: British Apples and Pears Ltd

Term: April 2026 to March 2029

Project leaders: Matevz Papp-Rupar and Sarah Arnold

Recent BAPL funding has allowed Niab to investigate novel solutions to a number of apple and pear pests and diseases through annual funding programmes.





Now adopting a longer-term vision to find more sustainable solutions, BAPL has commissioned this three-year programme to carry out five dedicated work packages with the aim of 1) developing integrated and sustainable management of rosy apple aphid, apple canker and scab; 2) testing new tools for sustainable apple scab and canker management; 3) controlling woolly apple aphid with contact-acting treatments; 4) controlling apple blossom weevil and related species; and 5) advancing codling moth mating disruption.

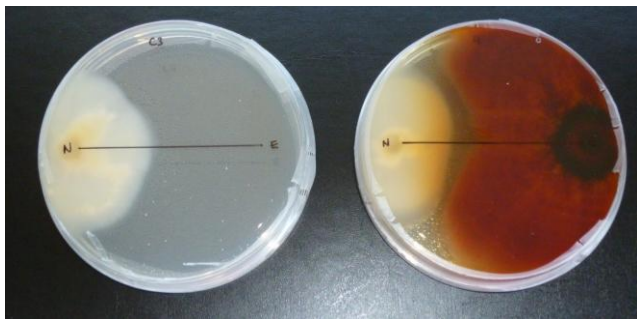
Title: Crop resilience through AI-guided microbiome engineering (NOAH)

Funder: Horizon European Innovation Council

Research partners: University of Utrecht (Netherlands) (Lead), National Institute of Agricultural Research (France), The Hyve BV (Netherlands), University of Aarhus (Denmark)

Term: January 2027 to December 2031

Project leader: Matevz Papp-Rupar



Niab regularly isolates microbial organisms from fruit and other horticultural crops and demonstrates their ability to control horticultural plant pathogens in laboratory conditions. However, when tested in commercial plantations where microbial communities are vast and complex in nature, the same level of control has not been achieved.

This project proposes a foundational shift in how microbial inputs (bioinoculants) are designed, tested and applied. It will build AI-based predictive models to improve the development, deployment, and establishment of bioinoculants, aiming to enhance their ability to help plants mitigate stress and disease.

Title: M-LAB – Multimodal monitoring using light, acoustic and biomolecular tools for *Pentatoma rufipes* and *Pentatoma halys*

Funder: Defra Farming Innovation Programme

Industry partners: Russell IPM Ltd (Lead), Agrovista UK Ltd, AM Fresh UK Ltd, Optigene Ltd

Term: June 2026 to May 2028

Project leader: Francis Wamonje



Forest bug (*Pentatoma rufipes*) can give rise to 40% crop loss in apple and pear while the invasive pest brown marmorated stink bug (*Halyomorpha halys*) has the potential to cause greater damage when it becomes established in the UK. A more reliable pest detection system is needed to identify their presence earlier, before damage is done.

This project will develop and test multimodal traps and methods that use light-based, acoustic, and molecular (eDNA) detection to provide growers with a faster, more sensitive, and more cost-effective monitoring system.

This will allow growers to intervene before pests reach economically damaging thresholds.



Title: Phenology-guided aphid biocontrol in raspberry: PHENOGUARD

Funder: Innovate UK ADOPT

Industry partners: WB Chambers Farms Ltd (Lead), Biobest UK Ltd, Hall Hunter Partnership (Farming)

Term: December 2026 to November 2028

Project leader: Francis Wamonje

Aphids have become a major problem in protected raspberry and alternative biocontrol methods are urgently required. A recent Growing Kent & Medway funded project showed that the brown lacewing (*Micromus angulatus*) will successfully prey on the large raspberry aphid (*Amphorophora iadei*) in the spring at temperatures of 12°C and above. It also showed that naturally occurring parasitoids will prey on the aphids, but different species dominate during the season. This project will investigate early-season use of brown lacewings for control and whether parasitoid release programmes can better match seasonal changes in natural enemy communities.

Title: Low volume ProBandz bait sprays for pest control in fruit crops

Funder: Innovate UK ADOPT

Industry partners: New Farm Produce Ltd (Lead), A.C. Hulme and Sons, Amsbury Storage & Packing Ltd, Microbiotech Ltd, N.P. Seymour Ltd, Russell IPM Ltd

Term: April 2026 to December 2027

Project leader: Charles Whitfield

One novel technique that has given good results in the control of spotted wing drosophila (SWD) is the use of the phagostimulant bait adjuvant ProBandz which is applied with a conventional control product at a reduced rate (as low as 10% of the recommended rate) and as a narrow band spray. This project will mechanise the low volume application of ProBandz using newly developed equipment and evaluate its efficacy in controlling SWD across different fruit crops. The work will provide evidence from trials on commercial farms that the technique can reduce control product use, lower input costs and environmental impact, whilst ensuring crops are protected.



Title: Spotted Wing Drosophila (SWD) – parasitoid wasp interactions: Do native fruit flies reduce the effectiveness of parasitoid releases?

Funder: The Worshipful Company of Fruiterers

Term: February 2026 to January 2028

Project leader: Sarah Arnold

The pupal parasitoid *Pachycrepoideus vindemmiae* has been approved in the UK as a commercial biocontrol agent but to date, mass releases of *P. vindemmiae* have had little impact on pest numbers. *Spalangia erythromera* is another native generalist parasitoid wasp in the UK which is a potential predator of SWD.



This project will investigate if *S. erythromera* can be reared in the laboratory and if it reduces the population of *Drosophila* species. It will also ascertain if *S. erythromera* and *P. vindemmiae* are compatible as a mixed biocontrol and which fruit and non-SWD hosts they prefer in field conditions. The results will shape future research projects into dual parasitoid biocontrol.

Blackcurrants are facing increasingly challenging growing conditions, with climate change bringing excessively wet soil conditions in winter, early frosts and hail in spring, and scorching drought conditions in summer.

In this project, Niab is working with the funders to evaluate organic soil amendments, including wool, pelletised pasteurised manures, and green waste products, to improve soil organic matter, moisture retention, and nutrient cycling. Niab will assess soil health, plant establishment, bush vigour, yield, and berry quality to identify the most effective approaches to improve resilience across UK blackcurrant production.

Title: Can novel fertilisers cut nitrogen use in blackcurrants

Funder: Suntory Beverage & Food GB&I

Industry partners: C.H. King & Sons

Term: April 2026 to March 2028

Project leader: Eleftheria Stavridou



This two-season project evaluates a range of novel foliar nitrogen fertilisers in mature blackcurrant plantations at a commercial grower site in Kent. Using full-row plots, the trial will compare these new products against the grower's standard nitrogen programme and a reduced-rate conventional feed.

The team is tracking crop nitrogen status, leaf physiology, yield and fruit quality, including sugar and vitamin C content. The aim is to give growers practical, field-based evidence on whether these products can maintain crop performance while reducing reliance on conventional nitrogen.

Title: Improving soil health in blackcurrant plantations

Funders: Blackcurrant Growers Ltd, UK Blackcurrant Growers Association, Suntory Beverage & Food GB&I

Term: April 2026 to March 2030

Project leader: Eleftheria Stavridou





Title: RedShift: A Strawberry Engineered for TCEA Cultivation

Funder: Defra Farming Innovation Programme

Industry partners: Flex Farming

Term: February 2027 to January 2029

Project leader: Graham Dow

Niab has performed a considerable volume of research into improving yield potential of strawberry in Total Controlled Environment Agriculture (TCEA) conditions, which allow precise control over light, temperature, humidity and nutrients. However, research to date has used strawberry varieties that were bred for outdoor and protected cropping but have limited yield potential in TCEA. This project will leverage genome editing to develop a breeding pipeline for novel strawberry varieties designed to thrive in TCEA. The long-term goal is delivering the UK's first strawberry variety producing high yield, energy efficiency, and top-quality fruit in fully controlled systems.

Title: INSAIGHT: Integrated Nature-based Solutions for AI-driven Growth & Harvest-readiness Technologies

Funder: European Commission (HORIZON-CL6-2026-02-FARM2FORK-06)

Industry partners: University of Gothenburg (Sweden), Lithuanian Innovation Centre - LIC (Lithuania), Instituto Tecnológico de Aragón - ITA (Spain), Ísponica (Iceland), McGill University (Canada), Kytos (Belgium), INRAe (France), Harvest AI (Germany), Gartenbauzentrale Papenburg – GBZ (Germany), ASAJA (Spain), HortiScience Innovation Center - HIC (Netherlands), and Steinbeis Innovation (Germany).

Term: January 2027 – December 2031

Project leader: Katia Zacharaki

Growers producing crops in controlled environment conditions lack reliable tools to detect early symptoms of biological instability and crop stress. They would also benefit from technology that supports timely decisions and optimises crop growth. This project aims to provide this technology by generating early biological indicators and integrating them with phenotypic, physicochemical, and operational data to develop a grower-controlled decision-support system. Ultimately, the INSAIGHT project will allow controlled environment growers to anticipate crop stress earlier, optimise crop steering and harvest planning, reduce avoidable losses, and improve resource efficiency.

Title: SPECTRA SHIFT – Spectral-tuning additives for polymer films to enhance resilient plant growth in protected horticulture

Funder: Defra Farming Innovation Programme

Industry partners: Lambda Energy Ltd (Lead), Queen's University Belfast

Term: July 2026 to June 2028

Project leader: Eleftheria Stavridou

Previous research by Niab has shown that increasing photosynthetically active radiation (PAR) in tunnel-grown strawberry crops increases total yield. In this project, the industry partners are working with Niab to test a new cost-effective, non-toxic and sustainable luminescent down-shifting (LDS) additive for polythene covers employed in horticultural tunnels. This additive converts under-utilised ultraviolet wavelengths of sunlight into plant-active red light, enhancing PAR. By unlocking more PAR from sunlight, the project aims to increase crop yield by 10-20% while improving fruit quality and uniformity and extending the growing season.



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