NIAB Fruit

Newsletter
Autumn 2023

Welcome to NIAB Fruit

In 2023, NIAB launched 'NIAB Fruit', a new outreach programme to keep the fruit industry informed of the latest research, best practice and other activities that NIAB is using to support fruit growers.

Our first 'NIAB Fruit Annual Review 2023' was published earlier this year, providing an annual portfolio of our current fruit work. Since then, many growers, agronomists, technologists and others involved in the fruit industry have registered to receive our ongoing information which will include invitations to fruit related NIAB events, alerts to new information on our NIAB Fruit web pages and other relevant up-dates on our activities.

Our Autumn Newsletter offers some information about our facilities that support the industry, news on our work to support the development of new research scientists, and updates on our activities in the past year. You can also learn about the ongoing support provided to the industry by Growing Kent & Medway.

If you are still to register to receive information from NIAB Fruit, contact scott.raffle@niab.com

NIAB's strawberry breeding programme moves to Bayer

Bayer's Head of Crop Science Rodrigo Santos, Bayer's President of Global Vegetable Seeds Inci Dinnenberg and NIAB CEO Professor Mario Caccamo

NIAB's strawberry breeding programme, including the strawberry varieties within the Malling™ Fruits portfolio, has been acquired by Bayer.

Under the terms of the transfer, to be finalised in January 2024, the strawberry programme will continue to operate from NIAB's East Malling site in Kent. NIAB retains the raspberry and cherry variety breeding programmes.

NIAB is extremely proud of the strawberry breeding programme that first began at East Malling in 1983 and more recently, from 2008 to 2023, was funded via the East Malling Strawberry Breeding Club (EMSBC) with investment and support from both public and private companies, to which we thank all those involved.

In that time we have launched nearly 50 varieties of soft fruit with sales exceeding 400 million plants, including the popular and well-known strawberry Malling™ Centenary and raspberries Malling™ Bella and Malling™ Charm. Bayer's acquisition will ensure this success, and legacy, is protected and strengthened, opening up new opportunities and markets for this leading programme. We look forward to continuing our links with Bayer, ensuring the benefits of high-quality crop research and innovation are transferred effectively into practical agriculture.

CTP for Fruit Crop Research: developing our researchers of the future

NIAB is one of several research providers for the Collaborative Training Partnership for Fruit Crop Research (CTP f FCR). This research programme began in 2017 to train the next generation of skilled scientists to work in the fruit and wider horticultural industry. It is funded by the Biotechnology and Biological Sciences Research Council (BBSRC) along with industry partners Berry Gardens Growers Ltd, Marks and Spencer Plc, The National Association of Cider Makers, Worldwide Fruit Ltd and The Worshipful Company of Fruiterers.

Using NIAB as a primary base for research, the students also take advantage of the excellent established training opportunities afforded by the Universities of Cranfield, Essex, Harper Adams, Lincoln, Nottingham and Reading. To date, nine students from the programme have been awarded a PhD, most recently Nicholas Doddrell and Eithne Browne.

Nicholas undertook work to evaluate the variation in photosynthetic carbon assimilation, intrinsic water use efficiency and fruit yield across the East-West axis of polytunnel grown cultivated strawberry. Eithne studied Phytophthora in raspberry and identified a number of Phytophthora and Phytopythium species associated with the disease, providing a number of targets for future resistance breeding. She has recently found employment with Teagasc as a research officer in Johnstown Castle in Ireland, investigating factors affecting the soil and plant microbiome of cereals, potato, legumes and lentils in the context of climate change.

At Fruit Focus on 12th July, two of the CTP students were awarded prizes by The Worshipful Company of Fruiterers. Samantha Lynn was awarded the 'Fruiterers Student Prize' for her work on genetic resistance to strawberry powdery mildew while Cindayniah Godfrey received the 'David Hohnen Prize' for her work on interactions between apple and woolly aphid.

Full details about the CTP studentship programme and all the projects that have been funded can be found at www.ctp-fcr.org/

SoCoBio Doctoral Training Partnership summer school comes to East Malling

NIAB is a partner within the South Coast Biosciences Doctoral Training Partnership (SoCoBio DTP). This is a Biotechnology and Biological Sciences Research Council (BBSRC) funded Doctoral Training Partnership offering a broad, four-year research training programme which provides students with the skills they need to develop into future bioscience leaders in academia or in industry.

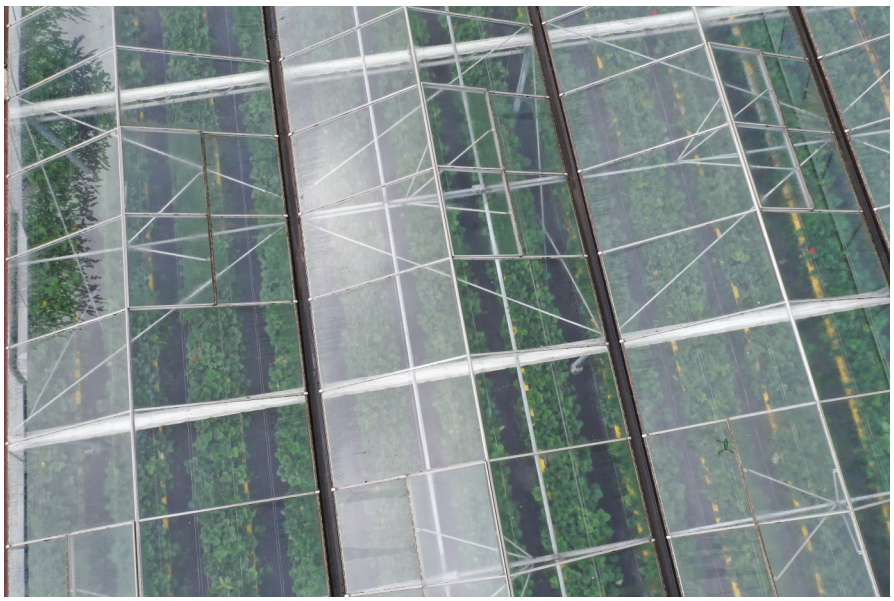
NIAB collaborates with four south coast universities including the Universities of Kent, Portsmouth, Southampton and Sussex, who all have notable strengths in the biosciences and institutional strategies that focus on delivering regional, national and international impact. Launched in 2020, the partnership has a mission to attract, train and deliver a pipeline of skilled, top doctoral talent to the region, the wider UK and for global society. The students study bioscience topics from medical, animal, microbiological and ecological projects to the plant science projects that are done at NIAB's East Malling site, where we currently have four SoCoBio DTP students.

On 4th July, we welcomed a cohort of the students to East Malling as part of their SoCoBio summer school to learn about NIAB's horticultural and fruit research,

and to introduce them to the skills and expertise that are required to work in our industry, along with the types of employment available. More information about the SoCoBio DTP can be found at: https://southcoastbiosciencesdtp.ac.uk/

The students are pictured above learning about the resource use efficiency and environmental control work being undertaken at NIAB's WET Centre with NIAB's Trevor Wignall.

Glasshouse services available for the fruit industry



NIAB has a full range of glasshouse and growth room facilities that are used by our research scientists at both our Park Farm (Cambridge) and East Malling (Kent) sites. The facilities at East Malling were constructed in 2021/22 with funding from Growing Kent & Medway, The East Malling Trust and Kent County Council. They include some state-of-the art glass, allowing NIAB staff to replicate the very best glasshouses that are used by the industry, making our research relevant to current commercial practice.

NIAB works collaboratively with industry partners to develop projects designed to find solutions to crop production problems commonly faced by the commercial fruit sector. The glass is equipped with a full range of irrigation facilities, lighting design and screens for night break lighting or sun-shading. We also have climate-controlled compartments with heating and cooling facilities, which are also fitted with black out blinds. The growth rooms have independently controlled environmental conditions and range in size.

Examples of how the glass is currently being used include research on tomatoes to study crop nutrition and heat stress, investigating methods of reducing the breeding cycle for apples, and studying the performance of strawberries bred at East Malling at a range of temperatures. The growth rooms allow research into Total Controlled Environment Agriculture (TCEA) systems enabling us to study the full yield potential of fruit plants under optimum growing conditions.

For further information contact:
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Trials services on offer to fruit businesses

NIAB offers a range of technical support through bespoke trials services, technical innovation, independent evaluation and commercial demonstration, all of which is accredited by ORETO, ISO and GEP. Specifically, we offer help in crop protection, crop production systems, vines and wine production, variety and novel crop trialling, true-to-type DNA fingerprinting and growing media trials.

Crucially, the work we do is independent, authoritative, comprehensive and impartial.
For further information contact:
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Horticultural Trials Coordinator
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Fruit, wine and vine events with NIAB in 2023

Fruit Focus 2023

Fruit Focus was again hosted at East Malling this year on 12th July. The NIAB exhibition stand promoted 'NIAB Fruit', the new outreach programme which keeps the industry informed of the current fruit research activities that are being managed by NIAB scientists. Visitors to the stand were also able to learn more about NIAB's demonstration sites including The WET Centre, The Plum Demonstration Centre and The East Malling R&D Vineyard. There was also a chance to learn more about our ongoing research into spotted wing drosophila (SWD) management and control, apple canker research, and new investigations into habitat diversity on fruit farms and the impact that these have on naturally occurring beneficial insects.

NIAB was also heavily involved in Growing Kent & Medway's Fruit Research Innovation Hub. The Growing Kent & Medway Team joined forces with Innovate UK (IUK) and The Biotechnology and Biological Sciences Research Council (BBSRC) to promote a series of projects being funded by all three organisations that have delivered new knowledge and technology that can be adopted by the fruit growing industry. Visitors to the Hub were able to learn about new research into SWD and identifying a sex pheromone for apple sawfly, whilst also having the chance to view drone technology for estimating fruit and yield data, new imaging devices, a 3-D food printer, colour tinted semi-transparent panels and a soil corer for measuring soil carbon capture.

Visitors also had the opportunity to join farm tours of The WET Centre, The Plum Demonstration Centre, The R&D Vineyard, The Produce Quality Centre and The Growing Kent & Medway visit to the new glasshouses where the latest technology was on show. This included an instrument that can identify air-borne pathogens from DNA in air samples, a vertical farming cabinet where roots are fed using nutrient sprays, a new hydrogel form of growing medium, and a robotic crop scouter that can also estimate strawberry yields.

NIAB Vine & Wine Discovery Day

In response to a rapidly expanding grape and wine industry in the UK, NIAB established a research and demonstration vineyard in 2015. NIAB's aim is to undertake an applied research programme to improve berry yields and juice quality in the vineyard, while using resources responsibly and sustainably in ways that can be implemented in the UK's cool-climate commercial vineyards.

In 2021, funding from Growing Kent & Medway, The East Malling Trust and Kent County Council enabled NIAB to build a new winery and earlier this year (see right), NIAB appointed world leading oenologist Dr Belinda Kemp (see below) to work with the UK industry to steer its research to meet the needs of UK grape growers and wine producers. The winery

ensures that the chemical and sensory composition of juice and wine produced from treatments in the research vineyard can be evaluated.

On 14th September, NIAB held a 'NIAB Vine and Wine Discovery Day' for grape and wine producers. Led by Belinda Kemp, delegates learned about NIAB's plans to work with the industry through its new 'Grape and Wine R&D Consortium' by delivering research and support programmes which are open to grape growers and wine producers through 'Full', 'Associate' or 'Patron' membership of the Consortium. The delegates were also informed about the extensive research that NIAB entomologists have done to improve the management and control of spotted wing drosophila. Tours of the vineyard and NIAB's unique underground 'Rhizolab' were also organised to demonstrate the facilities that NIAB has to provide future research projects.

Further information about our research and membership of the 'NIAB Grape and Wine R&D Consortium' are found on the viticulture and oenology pages of the NIAB Fruit website at www.niab.com/membership/niab-fruit

LEAF Sustainability Day

As a LEAF Innovation Centre, NIAB's East Malling site was chosen as a venue for a LEAF Sustainability Day on 4th October. In the morning session, delegates learned about NIAB's work to demonstrate the latest technology and best practice methods employed in precision irrigation and environmental management within protective tunnels. Set at The WET Centre, the work has explored ways of maximising yields of strawberry and raspberry with reduced inputs of water and fertiliser, whilst also identifying ways of recycling water and utilising available light more effectively. The delegates were also briefed on how NIAB entomologists have been working on

LEAF
LINKING ENVIRONMENT AND FARMING

environmental projects to optimise the impact of wildflowers and habitat diversity on farms to increase both pollination and the influx of beneficial insects.

In the afternoon, they received a tour of the site to view and discuss the management methods used to establish and manage wildflower areas. They also had the chance to view The WET Centre to see how the new technology is being employed to achieve improved resource use efficiency.

BEESPOKE

NIAB's entomologists at East Malling were research partners in the recently completed BEESPOKE project. With the number of wild pollinators decreasing in recent years due to loss of flower-rich habitats, this INTERREG North Sea Region Programme funded project set about to increase the number of pollinators and crop pollination on local and landscape scale by providing new expertise, tools and financial knowledge to land managers and policy makers, in order to create more resilient agro-ecosystems. It aimed to develop new products and approaches to increase the diversity of insect pollinators and crop yields by 10%.

NIAB organised a BEESPOKE training day for fruit and other producers in October 2022 to report on the results of the research carried out at East Malling. Industry experts Fred Denne (T. Denne & Sons) and Marek Novichowski (Wildlife Farming) provided their experience of the optimum seed mixes to plant and how to establish and manage them, while Charlotte Hudson (Hugh Lowe Farms Ltd) shared her own practical experiences of establishing and managing wildflower areas of her farms. There was also a guided tour of the various wildflower areas that have been established at NIAB's East Malling site. The presentations from the event can be viewed at: www.niab.com/beespoke-increasing-pollinators-and-pollination-increase-fruit-yields

During the project, a series of grower guides, evaluation tools and tutorials have been produced offering guidance on the recognition of bees and pollinators, how to successfully establish perennial wildflower areas, and recommending optimum seed mixes for different pollinating insects and crops. Specifically for fruit crops, wildflower mixes have been developed that will attract and support pollinators in apple, pear, cherry, blackcurrant, raspberry and strawberry. The full range of guides and other information is found on the BEESPOKE website at: https://northsearegion.eu/beespoke/

Book your place on NIAB's Soft Fruit Technical Day – Thursday 30th November

This year's annual soft fruit day will be held as a virtual event on 30th November, providing the industry with the latest results of a wide range of research projects led by NIAB and other researchers. The event runs from 9.20am until 2.40pm, with a morning interval and lunch, breaking the day into three sessions.

Session 1 will include information about Growing Kent & Medway's Food Accelerator Programme, new digital crop management technology, coir recycling and resource use efficiency in protected strawberry and raspberry.

Session 2 focuses on novel approaches to disease control, along with up-dates on new strawberry and raspberry varieties from Malling Fruits.

Session 3 will provide up-dates on controlling soft fruit pests, new research into SWD control, and the role of landscape complexity on abundance of predators and pollinators.

Registration will be available soon on NIAB's online Events Hub at www.niab.com/event-hub/book-your-place

New Projects 2023/24

NIAB has begun work on a series of fruit research projects this year which all seek to make fruit production more sustainable. Whether developing more sustainable methods for improving crop health and crop protection, producing plants in a more sustainable way with reduced inputs, or improving the efficiency and speed of fruit plant breeding, all projects seek to increase efficiency of production in ways that are sympathetic to the environmental problems growers face today.

CROP SCIENCE AND PRODUCTION SYSTEMS

Title: Optimising the propagation environment in TCEA systems to maximise strawberry yield potential in all production systems
Funder: Defra Farming Innovation Programme
Industry partners: Vertical Future, Berry Gardens Growers Ltd, The Blaise Plant Company Ltd, Cocogreen Ltd, Clockhouse Farm, Delta T Devices, Hugh Lowe Farms Ltd, Linton Growing Ltd, University of Reading
Term: June 2023 to May 2026
Project leader: Mark Else

Total Controlled Environment Agriculture (TCEA) growing systems offer a potential solution to our expanding population, climate change and food security. The strawberry industry is keen to employ such systems in the propagation of high quality planting material. Working with a multi-disciplinary team of researchers, technology companies and growers, NIAB will develop a method to produce high quality, virus-and disease-free strawberry plant propagules with assured high cropping potential in TCEA systems.

GENETICS, GENOMICS AND BREEDING

Title: Turning over a new leaf: Use of state-of-the-art phenotyping and genomics to breed for cost reducing plant architecture in strawberry
Funder: Growing Kent & Medway
Industry partner: Edward Vinson Plants Ltd
Term: April 2023 to March 2025
Project leader: Dan Sargent

To reduce both growing and harvesting costs, strawberry growers need plants with both an open habit and good fruit presentation. Working with Edward Vinson Plants Ltd, NIAB aims to develop molecular markers to help breed new strawberry varieties with improved plant architecture. We will use cutting edge machine-learning technologies to capture data on plant architecture and use this, along with information about the DNA of the strawberry plants to develop new tools to achieve their goals.

Title: Next generation apple breeding for resilient UK production
Funder: Growing Kent & Medway
Industry partner: WorldWide Fruit Ltd
Term: June 2023 to March 2025
Project leader: Amanda Karlstrom

The control of fungal diseases in apple significantly adds to production costs. The long-term aim of the industry is to breed apples with resistance to these diseases. However, breeding is a long-term process and typically takes 20-25 years from crossing to release. In this project NIAB is working with WorldWide Fruit Ltd to develop novel breeding methodologies that will enable a shorter breeding cycle for apple and ensure a faster route to market for resistant varieties. The methodologies will include the use of genomic selection, marker assisted selection and speed breeding.

PEST AND PATHOGEN ECOLOGY

Title: Novel approaches to pest and disease control in apples and pears
Funder: British Apples and Pears Ltd
Term: April 2023 to March 2024
Project leader: Michelle Fountain

UK apple and pear growers list pest and disease control as their highest research priority and to this end, British Apples and Pears is funding NIAB to investigate novel approaches. We will try to harness beneficial endophytes for canker control and reduce overwintering inoculum for scab control. Inoculating trees with earwigs will be investigated to control woolly apple aphid. Precision monitoring, semiochemical and biological manipulation will be investigated to control hard bodied pests, while IPM approaches will be reviewed for future UK codling moth control.

Title: Sustainable management of apple canker
Funder: Biotechnology and Biological Sciences Research Council
Industry partner: Worldwide Fruit; Avalon Fresh
Term: October 2023 to September 2025
Project leader: Xiangming Xu

In this BBSRC funded project, NIAB will study a bacterial endophyte (from the genus *Sphingomonas*) associated with both scion tolerance and canker control, and also known to promote plant growth, to understand if it persists from season to season or whether repeated application is necessary. In addition, NIAB will study the impact of soil pH, soil organic matter and nutrient levels and type, on the development of canker symptoms from latent infection that occurred in the nursery. This could help growers to select sites with minimal risks to canker development during tree establishment.

Title: Exploring the links between soil microbiome and carbon sequestration in a cross-section of agricultural soils (arable, pastural, orchards)
Funder: Growing Kent & Medway Business Innovation Voucher
Industry partners: Verdant Carbon
Term: June 2023 to May 2024
Project leader: Matevz Papp-Rupar

Orchards provide a natural sink for carbon dioxide but we need to improve our understanding of how the soil microbiome can be manipulated to improve soil carbon storage capability. NIAB will work with Verdant Carbon to understand the links between soil microbial abundance/diversity and the volume of carbon sequestered in different agricultural crops (arable, pasture, orchards). We aim to identify any correlations between levels of specific soil microbes and soil carbon content across the soil profile (10-100 cm) and between soil management practices (regenerative and conventional).

Title: Precision pollination for improved nutrition and shelf-life
Funder: Innovate UK: Better Food for All
Industry partners: AgriSound, CHAP, PheroSyn, Biobest
Term: September 2023 to August 2025
Project leader: Sarah Arnold

Are we achieving complete levels of pollination to maximise nutrition and shelf-life in protected strawberry? AgriSound has developed a sensor that employs acoustic detection methods to detect and count functional groups of insects, including pollinators. NIAB will test if it can measure pollinator activity within strawberry crops and if it will allow growers to detect areas of high or low pollinator activity which could negatively affect the crop. The team will also assess new tools (produced by PheroSyn) that will redirect insect activity from areas with excessive pollination to those with insufficient pollination.

Title: DCM: Digital Crop Management for glasshouse pests and diseases
Funder: Innovate UK: Defra and UKRI Farming Innovation Programme
Industry partners: Abbey View Produce, British Tomato Growers Association, Fargro, Fotenix, Thanet Earth
Term: January 2023 to May 2026
Lead partner: Fotenix
NIAB project leader: Charles Whitfield

Traditional crop scouting often identifies issues after damage has already begun. This work will utilise the latest diagnostic technology and agronomic knowledge to co-develop a crop scouting service, informed by spectral diagnostics (wearable and mounted diagnostic hardware) that can detect the early establishment of any event which adversely affects yield, and which can be integrated within crop management systems. The work will focus on glasshouse tomatoes and peppers, but the results will benefit growers of other protected crops, allowing them to implement management and control earlier.

Title: Predicting strawberry fruit infection by Mucor and Rhizopus using climatic conditions and pathogen inoculum levels
Funder: Biotechnology and Biological Sciences Research Council
Industry partner: Berry Gardens Growers
Term: June 2023 to November 2023
Project leader: Xiangming Xu

Strawberry growers need to be able to predict when soft rots caused by *Mucor* and *Rhizopus* might occur, allowing them to implement control at the optimum time. Previous research began the process of developing models to predict the risk, but further data is still needed to complete, validate and finalise the models for use in practice. This new project aims to obtain further data on the incidence of *Mucor* and

Rhizopus, weather conditions and the level of airborne inoculum within a specific period in commercial strawberry crops, to complete the work.

Title: Innovative push-pull control of spotted wing drosophila, an invasive pest of fruit crops
Funder: Innovate UK
Industry partners: Russell IPM, Rumwood Green Farm, University of Greenwich (NRI), WB Chambers
Term: April 2023 to March 2025
Project leader: Michelle Fountain

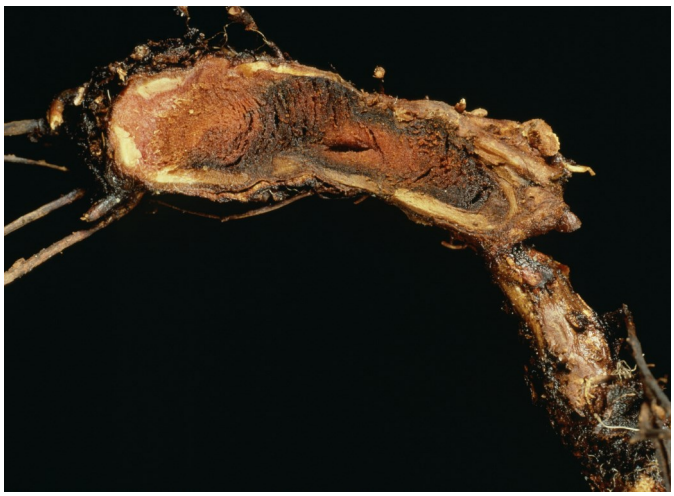
Growers are under pressure to reduce reliance on conventional spray products to control SWD. Recent research has identified chemical repellents that cause a reduction in egg laying in strawberry, whilst monitoring traps have been used to reduce overwintering populations in habitats adjacent to fruit crops in the winter. This project will combine these methods and evaluate a 'push-pull' approach using innovative long-lasting, biodegradable repellent formulations. The system will be compatible with IPM programmes and if successful, will reduce industry reliance on spray control products.

Title: A phenology-perceptive integrated biocontrol programme for Large raspberry aphid (*Amphorophora idaei*) control: PHENCONTROL
Funder: Growing Kent & Medway
Industry partners: Asplins PO, Biobest, Rumwood Green Farm
Term: May 2023 to April 2025
Project leader: Francis Wamonje

With a lack of effective control measures available for large raspberry aphid under glass and polythene structures, UK growers need effective biocontrol measures for the pest. NIAB will test a strategy to deploy *Micromus angulatus* (brown lacewing) for predation of aphid eggs and spring hatching female aphids, when temperatures are still low. We also aim to develop an optimal parasitoid species mix which will spread uniformly across the plantation, whilst investigating novel ways of spreading *Chrysoperla carnea* (green lacewing) across plantations to control hot-spot outbreaks of aphids.

Title: Reducing the risk of oomycete pathogens, thrips and weevils for sustainable, coir based soft fruit production
Funder: Biotechnology and Biological Sciences Research Council
Industry partner: Overland Ltd
Term: March 2023 to November 2023
Project leader: Matevz Papp-Rupar

Despite the UK soft fruit industry moving production almost entirely into coir substrate, a number of persistent pests and pathogens continue to require management and intervention. This project is studying the biology of pests, pathogens and biocontrol agents in both virgin and recycled coir. The research aims to investigate the diversity and function of the microbiome in recycled and virgin coir substrate, and in particular survival and efficacy of biological control agents in virgin and recycled material.



Title: Development of sustainable recycled growing media
Funder: Growing Kent & Medway
Industry partner: Overland Ltd
Term: April 2023 to March 2025
Project leader: Matevz Papp-Rupar

Soft fruit growers are heavily reliant upon virgin coir for their production but the material and transport costs have been increasing recently and are becoming unaffordable. Overland Ltd has worked with NIAB to develop a way to recycle coir that offers better crop yields and quality than directly re-using or composting the coir. In this project they will further optimise their recycling processes to reduce the risk of pests,

pathogens and weeds and decrease the energy input. They will investigate potential microbiome imbalances in recycled media and the scope for further reducing disease risks using biocontrol microbes.

Title: Improving propagation efficiency and production sustainability in intensive cultivation systems for a Kent-bred raspberry variety
Funder: Growing Kent & Medway
Industry partners: Blaise Plants, Recoir
Term: July 2023 to June 2025
Project leaders: Louisa Robinson-Boyer, Matevz Papp-Rupar, Feli Fernandez

The annual demand for high quality long-cane raspberry material is continuing to rise, but demand is outstripping supply and the quality of plants purchased is not always uniform with survival rates lower than growers would expect. This project will investigate the use of commercially available beneficial microorganisms in raspberry propagation to improve plant establishment with fewer inputs, with the aim of increasing the survival rate of the plants whilst enhancing plant uniformity and final yields.

Growing Kent & Medway Business Innovation Vouchers supporting Kent's fruit industry

The primary purpose of the Growing Kent & Medway programme is to support the plant-based food, drink and horticultural industries in the region, helping them to grow and thrive in the area. Tapping into the UK Government's 'Strength in Places' fund, Growing Kent & Medway has already supported the construction of new state-of-the-art research facilities, whilst the programme is now funding a series of research projects where the science partners are collaborating with businesses to develop both sustainability and circularity within their operations.

Growing Kent & Medway also developed a 'Business Innovation Voucher' scheme in 2022. These vouchers, worth up to £15,000 each were set up to support innovative ideas addressing specific challenges in six areas including energy use, sustainable packaging, reducing food waste, water, alternative proteins and sustainable crop production. Following a competitive tendering process, eleven projects successfully secured vouchers, with four of them involved in fruit related innovation.

Edward Vinson Ltd is collaborating with Richard Colgan at The University of Greenwich, to develop new improved raspberry varieties for BerryWorld Plus Ltd's breeding programme, with improved texture, offering higher quality fruit and prolonged shelf-life.

A.C. Hulme & Sons is collaborating with Richard Colgan and Debbie Rees at The University of Greenwich to improve the long-term storage of Gala apples by studying how Gala fruits of differing maturity stages respond to the use of Dynamic Controlled Atmosphere and what effect it has on the overall storage life of the fruit.

J.L. Baxter & Son is investigating the health benefits of an Asian pear. Working with Lori Fisher at the University of Kent, the company is using this voucher to identify any key components of the juice such as fibre content, vitamins, and minerals that may be offering health benefits, including a cure for hangovers.

Verdant Carbon is identifying land management techniques that lend themselves to carbon storage. Working with Matevz Papp-Rupar at NIAB, they are measuring both the volumes of carbon stored and the associated microbiological analysis from a range of soils with different soil management methods across 16-20 farms in Kent. Conventional and regenerative agriculture farms producing tree fruit, arable crops and livestock will be included.

New funding for another round of 'Business Innovation Vouchers' will become available soon. Businesses wishing to be kept abreast of new funding opportunities should sign up to Growing Kent & Medway to receive regular information. To sign up or find more details about the range of current programmes being funded visit the website www.growingkentandmedway.com/

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