

Horticulture and Potato Initiative

**Consortia-Building Workshop for the first call for
proposals**

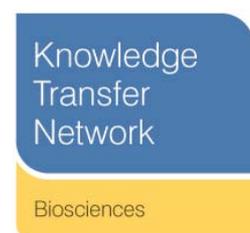
28 February 2012

**IET London Savoy Place,
2 Savoy Place, London, WC2R 0BL**



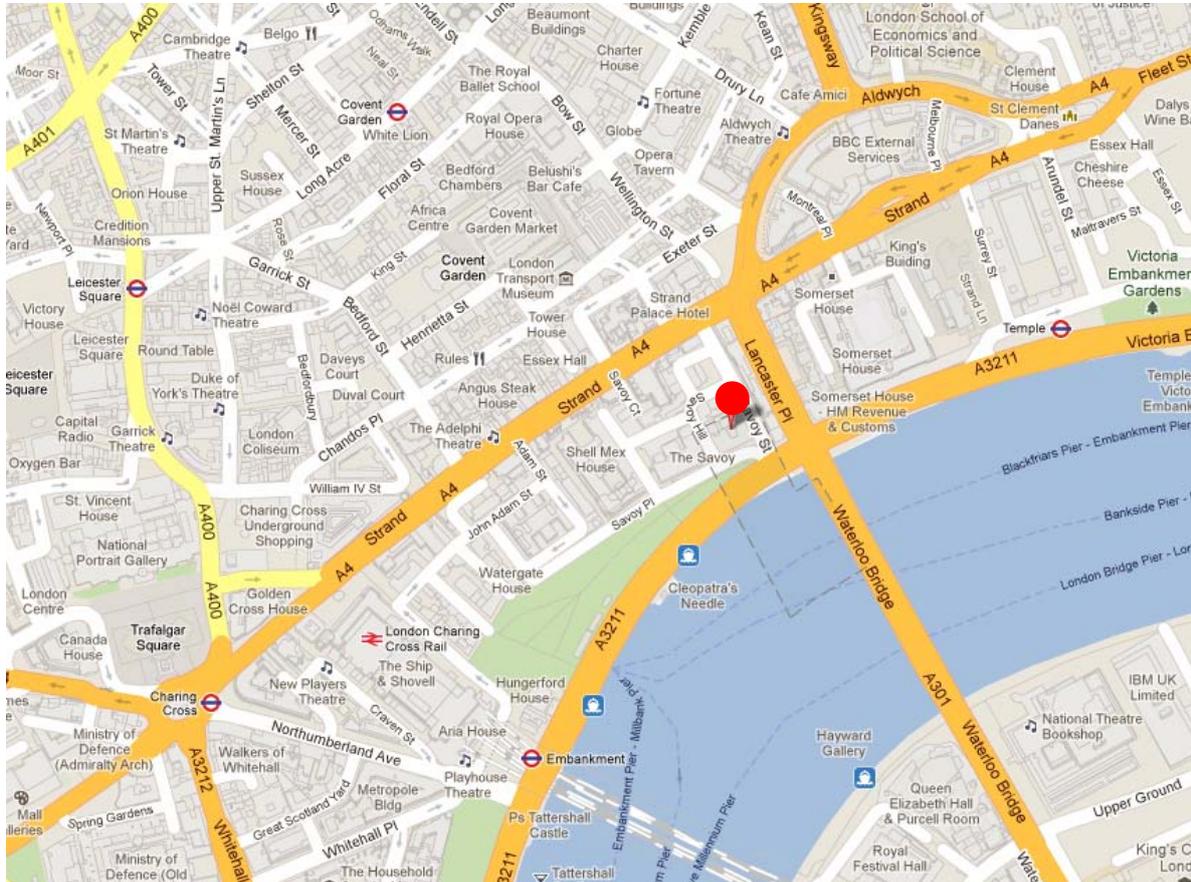
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DIRECTIONS

IET London: Savoy Place, 2 Savoy Place, London, WC2R 0BL



IET London: Savoy Place is within short walking distance of Charing Cross Rail station and a number of underground stations including:

- Embankment: Circle and District, Bakerloo and Northern
- Temple: Circle and District
- Leicester Square: Piccadilly and Northern
- Covent Garden: Piccadilly

IET London: Savoy Place - tel. +44(0) 20 7344 5479

Dan Godfrey - tel. +44 (0) 7886969700

WORKSHOP PROGRAMME

- 10.00 Arrival – registration, coffee and networking
- 10.30 Welcome and Introduction from the Chairman – Dr Bill Angus
- 10.40 BBSRC introduction to the initiative – Dr Andy Cureton
- 11.00 The Big Picture – Prof Bill Davies, Lancaster Environment Centre
- 11.30 BBSRC introduction to the consortia-building activities
- 11.40 Elevator pitches for Company Representatives – max 1 min to introduce yourself and your research interests
- 12.40 Lunch and networking
- 13.40 Breakout sessions on research themes
- 14.30 Facilitators feedback to the full meeting
- 14.50 BBSRC outline of way forward
- 14.55 Chairman’s final comments
- 15.00 Meeting Close – further networking time and coffee
- 15.15 Inaugural Steering Group Meeting (Steering Group members only)

WORKSHOP AIMS

The aims of the Workshop are to:

- Encourage networking between academic researchers and companies from the horticulture and potato sectors
- Facilitate the identification of project ideas that address the research challenges described in the first call for project proposals.

WORKSHOP GUIDANCE

The guidance below describes the consortia-building activities included in the programme.

Arrival and Networking

- On arrival you should hand a copy of your printed slide to the BBSRC secretariat. These will be pinned on to poster boards around the room to facilitate networking.
- Please feel free to pin your card to the slides of any people you would like to have a discussion with.

Elevator Pitches for Company Representatives

- If you are a company representative then we would like you to give a 1 min elevator pitch introducing yourself, your organisation and your research interests.
- Obviously you will need to be very succinct! The intention is to introduce yourself to everyone in the room so that they can find you in the crowd for a chat at some point during the day.
- If more than one person from your company is attending the workshop then please liaise with colleagues and appoint a single representative for this activity.
- A template slide is provided (attached to the same email as this document) please look at the example kindly provided by Sir John Bennet Lawes and make your own version – the idea is to have a few short summary bullet points not a slide crammed with text.
- **The chairman will be very strict with the 1 min time limit!**
- **These slides should be sent to bbsrc.horticulture@bbsrc.ac.uk by 9.00 am 27 February and you should also bring a printed copy on the day (see above).**

Lunch – Networking and Idea Notes

- An hour has been allowed for lunch to enable plenty of time for networking; please make sure you bring lots of business cards.
- During lunch we will also ask you to start noting down your ideas and grouping them on poster boards under each of the 6 research challenge headings (which define the scope of the first call, see www.bbsrc.ac.uk/horticulture):
 - Changing Seasons
 - Crop Maturity and Spoilage
 - Soil
 - Pests and Pathogens
 - Seed Quality and Vigour
 - Resource Use Efficiency
- Post-it-notes will be available for you to note down your ideas but there will also be one page pro-formas to use if you have a clearer idea of the project you would like to develop.
- **Please put your name on your post-it-note or pro forma**

Breakout sessions

- After lunch we will move into 6 breakout sessions focused on the research challenge areas to discuss potential project ideas.
- After 25 min we will rotate so that those who have more than one interest area can take part in the different discussions.
- The breakout discussion will be based on the notes that have been pinned on the boards. A facilitator will lead the discussion in each area and help to identify some of the important themes.
- Please use these sessions to identify people that you may like to collaborate with in developing project proposals.
- The facilitators will feedback some of the main themes to the whole meeting at the end of the sessions.
- BBSRC will collate the different ideas together and identify the individuals associated with those ideas – a summary spreadsheet of this information will be circulated following the meeting.

FIRST CALL INFORMATION

HORTICULTURE AND POTATO INITIATIVE: FIRST CALL FOR GRANT APPLICATIONS

INTRODUCTION

A rising global population combined with climate change and pressure on vital resources threaten global food security and an urgent response is needed. Delivering global food security means providing a sustainable, secure supply of good quality food from less land and with more efficient use of inputs. Food security is a key strategic priority for the Biotechnology and Biological Sciences Research Council (BBSRC) and we are contributors to Global Food Security, a partnership bringing together the food related research interests of the relevant Research Councils, Government Departments, Devolved Governments and Executive Agencies.

The edible horticulture and potato sector is an important component of the food security equation in the UK providing 60% of all vegetables consumed in this country and 95% of all potatoes (excluding processed frozen products). In contrast, the UK only produces 10% of the fruit it consumes and research is needed to support and strengthen this sector. As with other elements of the agri-food supply chain, the horticulture and potato sectors are faced with considerable challenges in terms of increasing production, reducing waste and improving sustainability. Through consultation with industry and related stakeholders from the sector, BBSRC has identified areas where targeted research support could help to address these challenges.

In line with its Business Interaction Strategy, BBSRC have launched the Horticulture and Potato Initiative to support collaborative research projects in this area. The Scottish Government have also agreed to contribute funding to this Initiative. The aim of the initiative is to support excellent quality, industrially-relevant research and to help foster productive networks and knowledge exchange between the research base and industry.

INITIATIVE AIMS

1. To support high quality, innovative, strategic research within UK universities and institutes to underpin the development of improved potato and edible horticulture crop production systems that sustainably deliver increased productivity and consistent, high quality food products.
2. To strengthen the academic research community and encourage collaborations which will move research closer to application in the areas of crop breeding, production and processing for food crops through interdisciplinary research and the provision of training.
3. To ensure the exchange of knowledge between the science base and industry through effective networking between academic groups and companies.

CALL FOR PROPOSALS

Submissions are invited to the first call of the Horticulture and Potato Initiative. Approximately £3.5M is available for grant awards through this call. A second call of similar value is planned as a future component of this initiative. The funding is from the BBSRC and The Scottish Government. Further details on specific guidelines for the call are in **ANNEX 1**.

There is a two stage application procedure. For the initial outline stage, proposals must be submitted on the outline proposal form, which is available on the Research Councils' Joint Electronic Submission system (Je-S; <https://je-s.rcuk.ac.uk>). The closing date for outline proposals is **25 April 2012 at 4pm**. Subsequently, full proposals will be invited from applicants successful at the outline stage.

To be eligible for this call, projects must have at least one industry partner. The industry partner(s) must provide a minimum of 10% of the full economic cost (FEC) of the project; a minimum of 5% must be a cash contribution but the remaining 5% may be in-kind resources. For the BBSRC-funded component, costs will be paid at 80%¹. Industry collaborators are expected to have production, manufacturing or research sites in the UK. The contribution of different levels of cash or in-kind resources from different industry partners is at the discretion of the individual consortia.

BBSRC has worked with industry to identify a number of important research challenges that are listed below. Projects supported through this initiative will address these challenges through pre-competitive, innovative and excellent science, which falls within BBSRC's scientific remit. Proposals may address any aspect of the research challenges.

It is crucial that research funded through this initiative is strategically relevant to the horticulture and potato industry sectors. Applicants will need to demonstrate that their proposed research has strategic relevance, identifying the likely impacts and how these will be achieved.

RESEARCH CHALLENGES

In-depth discussion with the horticulture and potato industries has identified a number of research areas that are important to companies across this sector. Targeted BBSRC funding could have a significant impact in addressing these challenges.

Central to the list of research challenges identified by industry are two broad and inter-related issues. The first is the necessity to adapt crop production practices to changes in our climate and to reduce the contribution of horticulture and potato production to greenhouse gas emissions. This means adapting to changing growing seasons, reduced water

¹ To calculate the cash contribution required, firstly determine the full economic cost of the project as a whole. Use 10% of this value as the minimum contribution required from the industrial partner, noting that 5% must be a cash contribution. Once the industrial contribution has been agreed, this amount should be subtracted from the original full project cost. The outstanding balance should then be requested from BBSRC. For example, if a project is fully costed at £360k, the industry partner should contribute a minimum of £36k, of which at least £18k must be cash. If the total industrial contribution is £36k, then the amount requested in the application to BBSRC would be £324k. BBSRC will fund 80% of the value requested in the application form.

availability, increased weather extremes, changing pest and disease pressures and increasing fuel costs and limiting the emissions of greenhouse gases by improving the efficiency of resource use.

The second issue is the necessity to sustainably increase the productivity of crop production systems in order to meet the rising demand for food from a growing global population. Climate change predictions suggest the UK and other Northern European countries are likely to become more important global food producers whilst other traditional food producing regions may become too hot or dry for large-scale field production. Research is vital for the industry to adapt to these changing pressures and demands.

Alongside the research challenges identified below, a number of current and emerging technologies exist that could make important contributions to addressing industry's challenges. Proposals are welcomed that use, improve or develop these technologies, whilst addressing the research challenges.

Where appropriate, projects supported by the Initiative should make use of systems approaches to research challenges incorporating mathematical and computational modelling to understand the behaviour of whole systems.

Horticulture is characterised by its complex production-systems which achieve quality through great attention to detail. Research supported through this Initiative should be related to real crop production systems in order to maximise the delivery of useful outcomes for industry.

The research challenges identified in consultation with industry are as follows:

Changing Seasons

Many varieties of crops grown in the UK are tailored to the specific climate conditions of this part of the world. Changes in temperature that are predicted with climate change will have a particularly important effect on the seasonal performance of crops and varieties will be needed that are suited to different seasonal patterns. Changes in rainfall patterns and the occurrence of extreme weather events will also have a major impact on un-protected crop production systems. Breeders will need to adapt current UK crops but there will also be opportunities for cultivating crops country-wide that are currently grown only in more southerly regions and for the introduction of novel crop species and their appropriate growing systems. Retailers are increasingly looking to source from within the UK and this means a demand for varieties that extend traditional growing seasons.

Crop Maturity and Spoilage

The horticulture and potato markets are largely driven by the demands of the consumer and the production of crops that meet consumer quality criteria is vital. One aspect of delivering quality produce is ensuring that items do not deteriorate after they have been harvested. Research is needed to better understand the genetic, biochemical and physiological aspects of maturity and spoilage in horticultural and potato produce and how this can be managed. Research is also needed to understand how maturity can be managed better within the field so that produce which is timely and uniform can be achieved to optimise usage and minimise wastage.

Soil

Soil is an essential resource for the majority of crop production systems. It is vital that we improve our understanding of how to manage and use soils sustainably. Research is needed

to increase our knowledge of the way in which plants interact with soils and other growth media to obtain nutrients and water, this will involve better understanding of root systems and their complex interactions with biotic and abiotic factors. This includes beneficial interactions such as mycorrhizal associations and detrimental interactions such as those with soil-borne pests and pathogens. Research in this area will help us to better understand the effects of different management practices on soil health and will help to tailor crop genetics to optimise plant-soil interactions.

Pests and Pathogens

All horticulture and potato crops suffer from attack by pests and pathogens that reduce yield and quality and contribute to considerable waste within crop production systems and in storage post-harvest. Research is required to understand all aspects of the interaction between crop plants and pests and pathogens including improved understanding of pest and pathogen lifecycles and virulence, crop resistance mechanisms at the genetic, biochemical and physiological scales and chemical, cultural and biological means of crop protection. In particular, biological control methods have become increasingly important in protected crop production in recent years. Research that helps to extend the benefits of this approach to other parts of the industry is required. This will include research on companion planting, bio-pesticides, semio-chemicals, natural predators and disease and pest forecasting.

It is particularly relevant for research in this area to take a crop management systems approach as the most effective and sustainable solutions are often those that integrate a variety of different approaches and which recognise the complexity of the interaction between pests and pathogens and their hosts. This research area is particularly timely given the current changes to the availability of different crop protection products as a result of changes to the EU pesticide approvals process.

Seed Quality and Vigour

The reliability of seeds to germinate uniformly and of seedlings to establish well is essential to the success of producers in delivering a quality crop. Poor germination and establishment leads to an in-efficient use of resources, including land and inputs, within the crop production system. Research is needed to better understand the mechanisms behind germination and establishment from the genetic level through to the physiological level. An improved understanding of seed specific diseases and the interaction between pathogens and seeds would help to breed stronger resistance and to improve treatments that would reduce losses. Knowledge of the effects of climatic conditions on germination and establishment is also particularly important in the light of predicted seasonal changes as a result of climate change. Better understanding of seedling vigour will contribute to the development of varieties that are better able to out-compete weeds and reduce the need for pesticide applications.

Resource Use Efficiency

All of the resources utilised in crop production systems have some degree of environmental and economic cost. To improve the economic and environmental sustainability of horticultural and potato crop production, resources must be utilised as efficiently as possible.

Research is needed to help address a number of key resource issues of importance to the sector, in particular:

Water

As highlighted above, it is predicted that summers will become drier in coming decades as the effects of climate change are felt more acutely and rainfall is subject to large regional variation within the UK. This will have the combined effect of increasing horticulture and potato producers' requirements for water and water retention whilst also increasing the competition with other users for limited resources. This issue is particularly important in general for crops which could be grown intensively to optimise resource efficiency and land requirements and for the potato sector and growers of other field vegetable species where irrigation is a necessity. Research is needed to provide varieties with traits for more efficient use of water and crop production systems that better utilise limited water resources.

Nitrogen

Conventional horticulture and potato production relies heavily on the use of nitrogenous fertilisers to deliver high crop yields. However, the production of nitrogen fertilisers is dependent on finite fossil fuel reserves and generates significant greenhouse gas emissions. In addition their use can lead to the pollution of watercourses and contributes further to greenhouse gas emissions through the release of gaseous nitrous oxides. Reducing the economic and environmental cost of nitrogen fertiliser use depends on improving the efficiency with which nitrogen is used in the crop production system. Research is needed to understand nitrogen use efficiency traits in crop species, both from the perspective of the efficiency of uptake from the soil and the processes by which resources are then utilised in the plant. Research is also needed to understand how nitrogen delivery can be optimised, this requires research into the way in which nitrogen acts in different soil environments and how supply can be matched to the demands of the crop. Greater understanding is required from the biochemical scale to the level of crop and landscape management.

Phosphorus

Readily available reserves of phosphorus are being depleted worldwide. Phosphorus is an important macro-nutrient component of fertilisers and its availability is vital for healthy plant growth. Research is required to improve the phosphorus uptake efficiency of plants, particularly the ability for crop plants to make better use of lower soil phosphorus levels. It is also important to identify how phosphorus can be delivered to the crop in the most appropriate form and at the optimum time for it to be used effectively and this means understanding how the nutrient acts under different environmental conditions and soil types.

Energy

The production of horticulture and potato crops can have a high energy demand whether crops are grown under protection or stored where CO₂, light and heat may need to be regulated, or are field grown, in which case the fuel requirements for cultivation, pesticide application, harvesting and storage can be significant. Improving the efficiency of energy use will also help to reduce the emissions of greenhouse gases throughout the agri-food supply chain. Developments in varieties and cultivation practices are required that help to reduce the energy costs of crop production.

Cross-cutting Themes

In addition to the research challenges identified above, there are two cross-cutting themes that should be considered in all research proposals:

- **Consideration of the system context.**
Research that contributes useful impacts for industry needs to consider the context of the whole crop production system, rather than studying any particular aspect in isolation. Therefore, research projects are encouraged that take into account the context of the wider crop production system.
- **Aiming to deliver broad relevance.**
Proposals that are relevant to more than one crop species or to different elements of the agri-food supply chain are particularly encouraged. Often research in one crop species will have relevance to many other crops species and BBSRC would seek to encourage this wider impact from the research where the opportunities exist.

ADDITIONAL CALL INFORMATION

GUIDELINES FOR CALL

- The objectives of the research proposed must fit within the Horticulture and Potato Initiative's research challenges and must fall within the remit of BBSRC.
- Research proposals must have at least one industry partner.
- 10% of the total (100% FEC) project costs should be provided by the industry partners, 5% should be cash which will be paid directly to the research institutions in the project. BBSRC will fund the remaining costs for successful awards at 80%.
- Research proposals are sought for funding for up to five years.
- Outline proposals must be submitted in the first instance.
- It is likely that the aims of this Initiative can best be achieved by an interdisciplinary approach. Therefore, collaborative applications which bring together groups with relevant expertise or experience to move research closer to application are particularly encouraged.
- Total funding of around £3.5 M is available from BBSRC for this call to support a portfolio of projects at fEC. A second call of a similar value is planned as a future component of this initiative.

APPLICATIONS PROCEDURE

There is a 2-stage application process:

- Outline proposals must be submitted in an electronic form using the Je-S system. A CV (maximum 2 pages; standard font and margin sizes) should be submitted for the Principal Investigator and each Co-Investigator and a completed Case for Support document (maximum 5 pages; see below) should be uploaded to Je-S. Please also refer to the Je-S guidance for Outline proposals in the help section of the Je-S site.
- **Applicants should note that under no circumstances should their application exceed the page limits described. Any outline submissions which exceed the stipulated page limits will be withdrawn.**
- The Initiative will open on Je-S on 15 February.
- The closing date for outline proposals is **25 April 2012, 4pm**. A Consortia-Building Workshop will be held on **28 February** at Savoy Place, London, WC2R 0BL.
- Successful applicants will be invited to write a full proposal for submission by **11 September 2012** (dates are for guidance only and may be subject to change).
- Pathways to impact will be required at the full proposal stage and these should be formulated to meet the needs of the horticulture and potato industry sectors.

CASE FOR SUPPORT

Applicants must supply a case for support document with their applications. The case for support should be submitted as a single document and contain the following sections. Standard font and margin sizes apply. **The whole case for support document should not exceed 5 pages and the "Summary of proposed research" section should not exceed 3 pages.**

Research area

- Please refer to the Research Challenges section of this document, which begins on page 2 and identify which challenge(s) your proposal is relevant to.

Strategic relevance (approximately 1000 characters including spaces)

- Please explain how your research proposal is strategically relevant to the horticulture and/or potato industries and the aims of the Initiative.

Summary of proposed research (approximately 12000 characters including spaces)

- Identify the aims and objectives of the proposed research.
- Summarise the proposed methodology.
- Explain why the proposed research is of sufficient timeliness and novelty to warrant consideration for funding.
- Comment on the extent to which the proposed project will provide research training and development opportunities of benefit both to the individual(s) employed, and to the wider science base beyond the completion of the specific project.

Impact (approximately 1000 characters including spaces)

- Please describe briefly your plan to enhance the social and economic impact of the proposed research.

Project Partners

- Please name all project partners and identify a lead contact for each. Please also indicate the expected contribution from each project partner towards the project costs (see the guidance provided on page 2).

Referees

- Please nominate four referees to be used if the proposal progresses to the full application stage.

CRITERIA FOR ASSESSMENT

The primary criteria for assessment are the quality of science proposed and the strategic relevance to the Horticulture and Potato Initiative. It is expected that any proposal that goes on to be funded through the Initiative will be competitive against comparable international work and will demonstrate alignment with the Initiative's aims. Proposals will be assessed against the following criteria:

- **Scientific Excellence**

The extent to which the proposal meets the highest international standards of current research in its field. High performance against this factor will indicate a project of the highest standard, competitive with the best activity anywhere in the world, demonstrating originality and innovative potential.

- **Strategic Relevance to the Horticulture and Potato Initiative**

Demonstrated alignment with the Initiative's aims and research challenges. Consideration of the cross-cutting themes of broad relevance and systems context. Relevance to the food-producing horticulture and potato industry sectors. Plans to enhance the impact of the research. Balance of the overall research portfolio of the Initiative.

- **Timeliness and Promise**
The extent to which the proposal is particularly appropriate at the present time, or offers longer-term benefits over and above the direct value of the research.
- **Economic and Social Impact**
The extent to which the output of the research will contribute knowledge that shows direct potential for economic return or societal benefits to the UK.
- **Value for Money**
The extent to which the resources requested, relative to the anticipated scientific gains, represent an attractive investment of BBSRC funds.
- **Staff Training Potential of the Project**
Where resources are requested for postdoctoral or other research staff the extent to which the proposed project will provide research training and development opportunities of benefit both to the individual(s) employed, and to the wider science base beyond the completion of the specific project.

ASSESSMENT

Outline proposals will be assessed by the Initiative Steering Group and will not be externally reviewed. Full proposals will be externally peer reviewed prior to final assessment by the Steering Group. The decision to fund proposals will be announced in March 2013 (dates are for guidance only and may be subject to change). Further details on assessment are as follows:

- In order to be considered fundable proposals must demonstrate both scientific excellence and strategic relevance to the horticulture and potato industry sectors.
- The Steering Group consists of a chair, 7 academic members and 7 industrial representatives.
- For assessments conducted by the Steering Group, each full proposal has two Introducing Members (IMs). One IM is from academia and the other is from industry.
- Where there is a conflict of interest (e.g. where a Steering Group member has pre-existing links to an applicant) individuals will leave the room while the proposal is being discussed.

STUDENTSHIPS

Due to the need to foster the development of research skills in this sector, BBSRC will support a number of four-year Targeted Priority Studentships associated with projects funded through this call.

Funding for awarded studentships will start in **2013/14**.

The competition for these studentships will be held later in the application process when further details will be provided on how to apply. No information on potential studentship projects is required at the outline stage.

Studentships will only be awarded to applicants receiving a research grant under this call.

ELIGIBILITY

UK Higher Education Institutions, Independent Research Organisations and BBSRC-sponsored institutes are eligible to apply. In addition, the contribution from the Scottish Government means that all Main Research Providers (MRPs) to the Scottish Government are also eligible. This includes the Moredun Research Institute, The James Hutton Institute and Biomathematics and Statistics Scotland (BioSS).

All projects must have at least one industry collaborator. Industry collaborators are expected to have production, manufacturing or research sites in the UK. Industry partners are not eligible to receive funding and must cover their own costs for participation in the projects.

10% of the total project costs (100% FEC) should be provided by the industry partners, 5% should be cash which will be paid directly to the research institutions in the project. BBSRC will fund the remaining costs for successful awards at 80%.

SPECIAL CONDITIONS

This initiative aims to support pre-competitive research that benefits the entire industry sector. In order to facilitate the dissemination of research project outcomes, grant holders will be required to:

- Produce annual progress reports. A form will be available on the website for grant holders to complete and the grant holder will be notified in advance when the final report is due.
- Attend and present the results and progress of funded research projects at 9-monthly dissemination events. Grant holders will be notified of the dates and the format required for their presentation.

INTELLECTUAL PROPERTY

The primary aim of this initiative is to gain underpinning knowledge which can then be applied to agri-food production, rather than the development of new products/technology itself. Therefore, in line with standard Research Council Terms and Conditions, the institution awarded the grant will own any intellectual property rights arising from the research grant in the first instance. **As all projects must have at least one industry collaborator, the lead applicant's technology transfer office (or equivalent) should discuss the terms of the collaboration with all members of the consortium (academic and industrial) prior to application. A letter summarising the proposed terms of the collaboration will be a requirement at the full application stage. Should the application be funded, a signed collaboration agreement will be required before work starts on the grant.**

Industrial partners on grants who wish to contribute background IP or offer in-kind services, must do so on the understanding that the terms and conditions of grant, including the dissemination of results, will remain the same unless agreed otherwise by the funders.

CONTACT

Initiative Manager

Dan Godfrey

Business and Innovation Unit, Polaris House, North Star Avenue, Swindon, SN2 1UH

Tel: 01793 414688

Email: Dan.Godfrey@bbsrc.ac.uk

ATTENDEE PROFILES

Dr Christopher Atkinson **East Malling Research**
chris.atkinson@emr.ac.uk

Perenniality Pre- and post-harvest factors influencing production and quality Alternative horticultural crops and climate change Horticultural crops as biofactories for high value molecules

Mr Anthony Bambridge **Potato Council**
tony@bcfarming.co.uk

Interested in potato research and how this initiative will link between strategic research and translation research and demonstration for growers and those in industry

Dr Andy Barker **Barworth Agriculture Ltd**
andydpbarker@yahoo.co.uk

The use of an alternative technology to control soil borne pests and diseases of potatoes and other crops The further development of plant volatiles to control pests.

Prof Nick Battey **University of Reading**
n.h.battey@rdg.ac.uk

Research to underpin the development of agronomic and breeding strategies related to the following: Regulation of perenniality and the perennial cycle, in particular the timing of flowering and fruit development. Optimizing crop production strategies for the current and future climate, both natural and artificially generated within tunnels. Exploiting the potential of novel crops for the UK.

Dr Charlie Baxter **Syngenta**
charles.baxter@syngenta.com

Resource use efficiency targetted towards efficiency of cropping systems and the efficiency of yield production by the plant. Quality and maintenance of quality in the value chain through the understanding of aspects of development and ripening. Changing pressures on UK horticulture through climate change and the expectation for changing needs for UK growers.

Dr Vivian Blok **The James Hutton Institute**
Vivian.Blok@hutton.ac.uk

I am interesting the relationship between host (potato) resistance and parasite (potato cyst nematode) virulence with particular interest concerning whether more durable and effective

host resistance can be obtained by combining different host genotypes. Also interested in how increased soil temperatures associated with climate change will affect the population dynamics of nematode parasites and rates of selection for different biotypes (ie virulent or faster reproducing)?

Dr Aurélie Bovi

Biosciences Knowledge Transfer Network (BKTN)

aurelie.bovi@biosciencektn.com

The Biosciences Knowledge Transfer Network (BKTN) is the Technology Strategy Board (TSB) funded KTN working across four sectors relevant to the Biosciences, including Plants and Crops. We operate at the interface between the UK science-base, industry, funders and investors to facilitate new collaborations between the private- and public sectors to drive bioscience inspired innovation towards commercial outputs. By integrating academic, industrial and business communities within and across sectors that may not have previously interacted closely, we combine the knowledge and expertise of all stakeholders, offering you new opportunities to enhance your business or research. We provide access to and advice on funding and collaboration opportunities available through UK Government and Research Councils and European funding calls. We also mentor funding applications, supporting you through the application process.

Mr Neil Bragg

HDC

neilbragg@btinternet.com

Soils and maintenance of fertility with the best use of resource inputs. Effects of CC on the soils and their OM status, Adaption of plants to changing conditions and their drought tolerance Pathogens and the signals they receive from hosts that trigger infections

Dr Kirsten Brandt

Newcastle University, School of Agriculture, Food and Rural Development

kirsten.brandt@ncl.ac.uk

Relevant expertise of two food related research groups at Newcastle University, School of Agriculture, Food and Rural Development. Food Quality and Health: Measurement of final product quality, including nutritional quality (e.g. bioactive compounds) and sensory testing. Food and Society: Investigations of consumer perception and behaviour (e.g. focus groups). In relation to the present call we would prefer to contribute to a multidisciplinary consortium led by the relevant crop production specialists. Specifically: 1. Effects of post-harvest treatments on post-sale quality, including consumer quality assessment testing and 'shelf life' in domestic setting. Relevant for: Crop Maturity and Spoilage (storage and display conditions), Resource Use Efficiency (energy use post-harvest) 2. Effects of pre-harvest treatments on post-sale quality (composition (nutritional quality), sensory, 'shelf life'). May include health claims if relevant. Relevant for: Resource Use Efficiency and Soil (effects of changes in micronutrient provision on product quality), Changing Seasons (effects of production temperature or of altered genotypes on product quality), Pests and Pathogens (effects of changed methods on product quality) 3. Effects of changed genotypes, production methods or post-harvest methods on consumer perception of product and industry (views on sustainability, use of modern technologies etc.). Relevant for all research areas, may require co-funding from ESRC due to social science focus.

Dr Rex Brennan

James Hutton Institute

rex.brennan@hutton.ac.uk

Effects of changing climate on factors which affect development, cropping and quality of perennial fruit crops, relevant to future breeding of resilient cultivars

Ms Cheryl Brewster

AHDB - Horticulture

cheryl.brewster@hdc.ahdb.org.uk

Dr Simon Bright

Biosciences KTN

bright@jbright.demon.co.uk

Mr Philip Britton

Manor Fresh Ltd

philip.britton@manorfresh.co.uk

Manor Fresh are interested in more efficient resource use and reducing crop wastage, and improving crop use efficiency throughout the potato and vegetable supply chain.

Mr James Brown

Pollybell Organic

james.brown@pollybellorganicfarm.co.uk

I am particular interested in discussing research that will be applicable for organic production of horticultural crops.

Dr Glenn Bryan

James Hutton Institute

glenn.bryan@hutton.ac.uk

Potato post-harvest storage and tuber dormancy Potato pest and disease resistance Potato water & nutrient use efficiency

Miss Milika Buurman

Limagrain UK Ltd

Milika.Buurman@limagrain.co.uk

Improving genetics in vining peas through: - better understanding of pests and pathogens - development of genetic markers - improve quality in end produce - improved methods to accelerate breeding

Dr Duncan Cameron

University of Sheffield

d.cameron@sheffield.ac.uk

My work focuses on the role beneficial soil microbes play in provisioning crops with nutrients and other non-nutritional benefits such as defence and water use efficiency.

Dr John Carr

University of Cambridge, Department of Plant Sciences

jpc1005@hermes.cam.ac.uk

Potential areas include - Virus-plant interactions - Aphid-plant interactions, including but not limited to vectoring of viruses - Plant defensive signal transduction including the effects of salicylic acid - Effects of inositol phosphates as signaling components and storage compounds/nutritional components

Dr Jonathan Clarke

John Innes Centre

jonathan.clarke@jic.ac.uk

We are currently engaged with TSB and Potato Council.

Dr John Clarkson

University of Warwick

john.clarkson@warwick.ac.uk

Disease resistance in onion, carrot, brassica, lettuce; Control of seed borne diseases of onion, carrot and parsnip; New strategies for control of soilborne diseases including composting and biofumigation; Biological control of plant diseases in vegetable crops; Fusarium identification and control in onion and other crops; Pathogen diversity and aggressiveness.

Mr Paul Coleman

Greenvale AP

paul.coleman@greenvale.co.uk

Control of PCN Understanding how varietal scab resistance works Low GI potatoes using different starches without reducing dry matters. Potatoes with antioxidant levels to compete with red berries such as Blueberries. Varieties that yield with reduced water inputs. Potatoes with umami flavour Managing soils Gene marker selection for the modern blight resistance sources being bred into varieties. Bio control options

Dr Richard Colgan

Natural Resources Institute

r.j.colgan@gre.ac.uk

We are interested in identifying pre-and post- harvest factors that influence the development of storage disorders of apples, senescent sweetening in potato and improved shelf-life of broccoli. We hope to develop molecular and biochemical markers to improve the prediction of storage/shelf life, allowing for better scheduling and reduction of wastage in the fresh produce supply chain.

Dr Rosemary Collier

University of Warwick

rosemary.collier@warwick.ac.uk

I am interested in pursuing areas of research relevant to climate change, pest biology and control and the efficient use of resources.

Dr Andrew Colquhoun

National Horticultural Forum

colquhounaj@aol.com

Encouraging partnership between the horticultural industry, research providers and BBSRC to align funding to priorities relevant to the growth and profitability of production horticulture

Dr David Cooper

Defra

david.cooper@defra.gsi.gov.uk

Complementarity with Defra applied strategic R&D on crop improvement and innovation-driven work in partnership with industry

Dr Pat Croft

Stockbridge Technology Centre

patcroft@stc-nyorks.co.uk

Biodiversity and IPM

Mr Adrian Cunnington

Potato Council

Adrian.cunnington@potato.ahdb.org.uk

post harvest quality, wastage and storage

Dr Andy Cureton

BBSRC

andy.cureton@bbsrc.ac.uk

Dr Rosane Curtis

Rothamsted-Research/ Bionemax UK Ltd

rosane.curtis@rothamsted.ac.uk

The use of natural products with nematicidal activity against Globodera sp aiming to maximise potato production.

Prof Bill Davies

Lancaster University

w.davies@lancaster.ac.uk

Water and nutrient use efficiency in horticulture. Novel ways of enhancing crop yield
Impacts of environmental stress Enhancing crop quality

Mr. Jack de Wit

Rijk Zwaan Zaadteelt en Zaadhandel B.V.

secretariaat.innovation.specialists@rijkszwaan.nl

Dr Jim Dimmock

Horticultural Development Company

jim.dimmock@hdc.ahdb.org.uk

Supporting a range of collaborative projects across the industry

Dr Stephen Dorling**University of East Anglia**

s.dorling@uea.ac.uk

I am active in applied collaborative research which connects agro-meteorology and agro-climatology to challenges and opportunities facing the industry. Variability in current climate and potential changes in future climate have a significant bearing on most of the research areas which this initiative is focusing upon. I would like to participate in projects which help the industry to become more resilient to current and future climate variability, both in terms of the direct effect of changing seasons and through indirect climate effects on pathogens and on key underpinning resources such as soil, water and energy. I wish to also continue working on helping reduce wastage by supporting the breeding of climate-resilient varieties which give greater control over the harvesting season.

Mrs Harriet Duncalfe**H & H Duncalfe. HDC**

hduncalfe@btinternet.com

All the research areas mentioned are very relevant to horticulture. However, as a grower representative, pest and pathogens are high on the list of importance, in particular the understanding of plant signalling and what activates plant defences would inform integrated management strategies and would be a major step forward. Soil borne diseases and soil pests will be very challenging to growers going forward with losses of current control products inevitably impacting heavily on yields. Further knowledge and understanding of the inter relationship of soil microbes and their potential positive impact on disease and nutrient and water uptake is essential to the future sustainability across all sectors of horticulture.

Mr Phillip Effingham**Greentech Consultancy Ltd**

greentechconsult@btconnect.com

The stabilisation of volatility in flowering brassica crops through a range of approaches. Through genetic isolation and breeding solutions Through longer term storage solutions Through use of enhancing/inhibiting agents applied to crop at key flowering stages. There is an enormous case for a sustainable route to profitability in this crop in terms of maximising use of resources and eliminating significant crop waste particularly by being able to control production commensurate with demand

Dr David Elphinstone**Myerscough College**

delphinstone@myerscough.ac.uk

Myerscough College has been working with Lancaster University looking at the field application of much of their pioneering work with deficit irrigation and rhizobacteria. This work obviously has implications for Water Use Efficiency, but also Nutrient Use Efficiency. We have recently signed an agreement with Lancaster to continue this work and expand into other areas with the potential to reduce diffuse pollution, nutrient wastage and water use efficiency actually in the field.

Mrs Susan Feuerhelm**Bakkavor Foods Ltd**

sue.feuerhelm@bakkavor.co.uk

Opportunities for ensuring horticultural products and potatoes are fit for purpose in food manufacturing processes. for example - harvesting and post harvest handling for optimal shelf life.

Prof William Finch-Savage Warwick University

bill.finch-savage@warwick.ac.uk

I have a history of research in seed quality, seed performance and crop establishment in horticultural crops. My approach has been to bring together an understanding of the seedbed environment with current knowledge of the physiological and molecular regulation of germination and dormancy. I am interested in the development of "robust" seed that are resistant to abiotic stress during both seed development and subsequent germination and seedling growth to emergence from the soil.

Dr Jean Fitzgerald East Malling research

jean.fitzgerald@emr.ac.uk

Understanding the interactions among plants, arthropod pests and their biocontrol agents, and plant pathogens to improve crop protection strategies. This would include soil borne pests and pathogens. Understanding how these interactions may change with different climate change scenarios.

Mr Barrie J Florendine Agrii

bflorendine@uap.co.uk

Alternaria alternata, alternaria solani, DSS modelling of alternaria and late blight, impact of ozone on potato crop disease. PCN distribution.

Dr Paul Fraser Royal Holloway University of London

p.fraser@rhul.ac.uk

1. Fruit quality associated with ripening 2. Tolerance to abiotic stresses 3. Reducing resource input

Mr Kevin Frediani Paignton Zoo Environmental Park

kevin.frediani@paigntonzoo.org.uk

Urban agriculture Controlled environmental horticultural production hydroponics aquaponics energy from waste

Dr Murray Gardner Natural Environment Research Council

murd@nerc.ac.uk

Dr Frances Gawthrop Tozer Seeds

frances.gawthrop@tozerseeds.com

vegetable plant breeding

Dr Beverley Glover**University of Cambridge**

bjg26@cam.ac.uk

I am interested in the interactions of plants with insects. I have project ideas involving optimising pollination, and for exploring the links between pollinator attraction and herbivore deterrence in bean and tomato.

Prof Murray Grant**University of Exeter**

M.R.Grant@exeter.ac.uk

We are interested in, and actively researching, the impact of beneficials (particularly the saprophytic fungus, *Trichoderma*) on model and horticultural crops. The specific attributes are soil suppressive effects, growth promotion and crop protection. With respect to sustainable agriculture, this is a virtually unexploited area in the UK. We are happy to illustrate the major benefits of our *Trichoderma* research programme to Academic and Industrial attendees.

Mr Simon Groves**ADAS**

simon.groves@adas.co.uk

Crop rooting and drought tolerance Improved crop water use efficiency Applied soil and crop nutrient management

Prof Paul Hadley**University of Reading**

p.hadley@reading.ac.uk

Research on the effects of environment on the growth and development of field grown and protected horticultural crops. Development of quantitative models to predict maturity and yield of horticultural crops in relation to climate. The effects of light quality on the growth and development of horticultural crops grown under novel cladding materials.

Prof Nigel Halford**Rothamsted Research**

nigel.halford@rothamsted.ac.uk

Defence priming against potato blight Improving quality: reducing acrylamide risk, understanding flavour

Dr Robert Hancock**James Hutton Institute**

rob.hancock@hutton.ac.uk

Plant perception, signalling and mechanisms of resistance to insect pests, particularly aphids. Plant perception, signalling and mechanisms of resistance to abiotic stress.

Ms Debbie Harding**BBSRC**

debbie.harding@bbsrc.ac.uk

Dr Richard Harrington**Rothamsted Research**

richard.harrington@bbsrc.ac.uk

Monitoring and forecasting aphids and virus incidence in the face of climate change. Linking crop growth and aphid population models. Plant development of resistance to aphids and viruses.

Dr Richard Harrison**East Malling Research**

richard.harrison@emr.ac.uk

Use of NGS-aided marker assisted breeding and genomic selection approaches to create better pre-adapted cultivars for a changing climate. Understanding the perennial cycle wrt a changing climate. Adaptation of pests and pathogens to a changing climate. Using population genetics approaches to understand patterns of gene flow and local adaptation in pest/pathogen species. Utilising this information to facilitate breeding in host species, selection of novel germplasm etc. Systems and comparative genomics approaches to plant breeding and pest-pathogen interactions- especially of unculturable pathogens.

Prof Sue Hartley**University of York**

sue.hartley@york.ac.uk

My main research interest is sustainable pest control methods in crops. Crops face simultaneous attacks by multiple natural enemies and losses to pests and pathogens are a major issue for food security, particularly as climate change may increase the likelihood of pest outbreaks. Many current pesticides, especially for soil pests and pathogens, are considered environmentally damaging and are expensive and energy-demanding to produce. Making crop protection less carbon, energy and nutrient intensive by harnessing the defensive mechanisms plants already have and improving their effectiveness is my current goal and one I wish to develop further as part of this initiative. As examples, I have open research projects on: exploiting root volatiles to improve the efficiency of control of vine weevils by entomopathogenic nematodes in soft-fruit crops; identifying the molecular and biochemical mechanisms by which potato cyst nematode infestation impacts on vulnerability of potato plants to aphid attack; investigating the mechanisms by which soil-borne pests and diseases may be reduced by naturally produced methyl halides from the roots of inter-cropped Brassicaceae.

Dr Pat Haydock**Harper Adams University College**

phaydock@harper-adams.ac.uk

Management of nematode pests of potatoes and horticultural crops. The effects of climate change on nematodes and effects of nematodes on resource use efficiency in crops.

Dr Ingo Hein**JHI**

Ingo.Hein@hutton.ac.uk

I have a strong interest in the area of plant disease resistance and focus my current work on the interaction between potato and the late blight pathogen *Phytophthora infestans*. Identifying potato resistance genes that provide durable resistance and/or mediate non-host resistance towards non-adapted pathogens is an area I would like to pursue further as part of this initiative.

managing and delivering applied research projects for MAFF, LINK, HDC, WRAP and many private companies. RJC Ltd has won the 'Science into Practice' category at the Grower of the Year Awards for research on the implementation of IPM in tomato crops.

Dr Jacobson is a member of the British Tomato Growers' Association Technical Committee and Secretary of the Cucumber Growers' Association. He is a Fellow of the Royal Entomological Society, a Scientific Adviser to the HDC Protected Edible Crops Panel, Convener of the Association of Applied Biologist's Biocontrol Group and an active participant in both the International Biocontrol Manufacturers' Association and the International Organisation for Biological Control.

Mr Robert James

Thanet Earth Marketing Ltd

robert.james@thanetearth.com

As indicated above. There are some potential quick wins to be had by understanding and reducing spoilage. There are some big challenges around resource efficiency especially around crop nutrition and water efficiency.

Dr Tom Jenkins

Biosciences KTN

tom.jenkins@biosciencektn.com

Interested in developing new crop defence mechanisms (plant breeding/biotechnology or crop protection chemicals) to enhance crop production potential against biotic and abiotic stress.

Prof Jonathan Jones

Sainsbury Lab, Norwich

jonathan.jones@tsl.ac.uk

I am on the steering group and needed to register I work on potato blight resistance

Mrs Sue Kennedy

Elsoms Seeds Ltd

sue.kennedy@elsoms.com

Mr Steve Keyworth

Environment Systems

steve.keyworth@envsys.co.uk

An SME involved in agricultural remote sensing, currently running a 2 year research programme Project URSULA (www.projectursula.com) using UAV technology combined with advanced analysis techniques. Interested specifically in the identification of crop yield and stress together with mapping and visual monitoring for improving efficiencies and delivering information to aid intervention for improved productivity and quality.

Dr Daan Kiezebrink

Scottish Agricultural College (SAC)

daan.kiezebrink@sac.ac.uk

Main area of interest: Crop protection including biological control agents and ICM. Plant pathology with a focus on potato pathogens. Nematology. Post-harvest quality and storage.

Molecular diagnostics.

Mr John King

Engentia

john@engentia.com

I research collaboration-building processes in knowledge transfer, and work to improve social connectivity between academics and industry. Part of this is working to optimise social collaborative processes by improving workshops and Dan Godfrey suggested that I should attend as an observer.

Dr Nicholas Kruger

University of Oxford

nick.kruger@plants.ox.ac.uk

My research focuses on the regulation of carbohydrate metabolism, and the organisation of the central network of intermediary metabolism. These processes underpin growth and development, and determine plant productivity by defining biomass yield and composition in changing environments. A pivotal aspect of this work is the ability to resolve the intracellular metabolic fluxes that determine the efficiency of end-product formation. These techniques have proved useful in defining the carbon conversion efficiency, energy use efficiency and provision of reducing power in a range of oilseed crops, and there is obvious potential in applying similar approaches to potato tubers to characterise the metabolic consequences of genotypic and environmental variation. Understanding of the metabolic processes that contribute to carbohydrate accumulation and retention during tuber development, post-harvest storage and processing is of direct significance to several of the research areas in this initiative: changing seasons, crop maturity and spoilage, seed quality and vigour, and resource use efficiency.

Mr Prakash Kumar

pk@aht.gb.com

Cost effective integration of horticulture greenhouse protected crops installed with co generators (CHP), intense aquaculture and dense microalgae culture for maximum exploitation of synergistic and eco benefits by optimum utilization of heat, CO₂ from CHP and the available water for irrigation which would significantly reduce the process costs to produce high quality vegetables, fruits, microalgae co-products, aquaculture co-products and electricity to feed and light up a nearby town throughout the year in any part of the world with minimal carbon, water and land footprint.

Prof. Keith Lindsey

Durham University

keith.lindsey@durham.ac.uk

We have interests in seed development and plant-nematode interactions

Mr David Loughlin

Sentomol Ltd

david@sentomol.com

Commercialising IPM solutions in fruit, soft fruit and vegetables (also wheat, maize, pomefruit, grapevines and protected veg), semiochemicals, pest monitoring, novel approaches to IPM, companion planting.

Professor Cathie Martin

John Innes Centre

cathie.martin@jic.ac.uk

Nutritional enhancement of horticultural crops Extending shelf life post harvest

Dr Amanda McMurray

The Genome Analysis Centre

amanda.mcmurray@tgac.ac.uk

The Genome Analysis Centre is a research institute specialising in genomics and bioinformatics of plant animal and microbial genomics. We are keen to contribute to this initiative in our capacity as an expert in high throughput sequence data generation and interpretation.

Dr Martin McPherson

STC Ltd

martinmcperson@stc-nyorks.co.uk

Investigating the options towards sustainable intensification in horticulture, with specific reference to the future for protected crop cultivation. Rising energy & labour, transport & other costs are putting pressure on the glasshouse industry and yet there is innovation in novel cool lighting technology using LED's. These provide an exciting tool to get a much better understanding of crop responses to light and potentially hold the key to successful multi-tier cropping systems and full growth control in urban-farming scenarios for better crop management and scheduling. However, we need greater basic, strategic and applied science to determine the full economic and environmental benefits of this technology. Improved diagnostics and bio-control options for P&D control both in the laboratory & field to target economically damaging indigenous problems during crop production and in storage post-harvest. Challenging our understanding of the crops root environment using closed system hydroponics both with respect to the host, pathogens & various environment interactions and with respect to other novel applications. Tackling the problem of persistent herbicide residues

Doctor Philip Morley

British Tomato Growers Association

plantscience@aol.com

I currently represent the interests of the diverse research requirements of UK protected Tomato Growers, an industry in the UK worth (retail sales) around £500M per year. Interests include plant nutrition, pathology, entomology, energy, labour as well as many other aspects of this highly important production process.

Dr Neil Morrison

Oxitec Ltd

neil.morrison@oxitec.com

Our work involves the use of transgenic technology to widen the application of sterile insect technique-type pest control methods. We are currently developing this method in disease vectors and agricultural pests (important pest species of fruit flies, moths and - more recently - beetles). We are interested in opportunities to work with other parties to develop products, from early-stage research towards genetic control of insects, to later-stage demonstration experiments of existing strains.

Dr Nira Muttucumaru**Rothamsted Research**

nira.muttucumaru@rothamsted.ac.uk

Food quality and safety Pathogen defence priming mechanisms particularly against blight
Acrylamide forming potential of processed products Relationship between acrylamide
precursor levels and flavour/aroma in processed products

Mr Bruce Napier**NIAB**

bruce.napier@niab.com

Have expertise in all areas but particularly keen to pursue pre-breeding/genetics and pest
and diseases. Already working on adaptations relating to climate change, soil improvement
and pathology related topics.

Mr Ross Newham**Centre for Ecology & Hydrology**

rowham@ceh.ac.uk

Interested in application of NERC's environmental sciences to address food security issues
(GHG, soils, energy, etc). Previously worked for Horticultural Development Council (HDC),
part of AHDB, and prior to that at Horticulture Research International, then part of BBSRC.

Mr David Norman**Precision Agronomy Ltd**

dnormanfpc@btopenworld.com

Just exploring options for this initiative at present. We are involved in several research
topics. These include season extension in leeks, soil pests in leeks, soil pest detection in
onions. As well this we are involved in research projects in both crop protection and
nutrition in salads, vegetables and potatoes.

Dr Colin Norton**Scottish Agricultural College**

colin.norton@sac.ac.uk

Most salad crops, small fruits and many other food crops are produced in greenhouses or
polythene tunnels in the UK. These structures have a high carbon footprint compared with
other forms of cropping. We would like to contribute using renewable energies or renewable
heat systems, energy storage and novel forms of lighting as well as improving the thermal
efficiency of structures. We intend to develop systems nearer to passive systems used by
architects in other buildings. We are particularly interested in winter / shoulder season
cropping systems and the productivity of these systems. Significant production cost
reductions are also expected.

Dr Bill Parker**HDC (AHDB)**

bill.parker@hdc.ahdb.org.uk

HDC collects a levy from the UK horticultural industry and uses this to deliver applied
research and knowledge transfer

Dr Jane Parker**University of Reading**

j.k.parker@reading.ac.uk

Interested in flavour quality developments in fruit and vegetables for end consumers (optimising aroma and taste). Also interested in acrylamide mitigation strategies for potato and rye products.

Dr Kate Parsley

NIAB Innovation Farm

kate.parsley@niab.com

NIAB Innovation Farm aims to showcase the latest genetic innovations in crop science to a wide audience. To this end we are interested in any new genetic developments that provide a benefit - from the grower to the processor to the consumer.

Dr Aurora Pinas-Fernandez Biosciences KTN

aurora.pinas-fernandez@biosciencektn.com

I am knowledge transfer at Plant Sector in Biosciences Knowledge Transfer Network (KTN). The Biosciences KTN is the Technology Strategy Board funded KTN working in the Plant, Animal, Food and Industrial Biotechnology sectors. The Biosciences KTN operate at the interface between the UK science-base, industry, funders and investors to facilitate new collaborations between the private- and public sectors for mutual benefit. The Biosciences KTN drive bioscience-inspired innovation towards commercial outputs, helping UK industry profit and grow from new technology for the benefit of business, the economy, the environment and society.

Prof David Pink

Harper Adams University College

dpink@harper-adams.ac.uk

Improvement of vegetable crops through breeding and genetics. Particular interest in salad crops- post harvest quality and pest and disease resistance.

Professor Guy Poppy

University of Southampton

gmp@soton.ac.uk

I am interested in not considering single stresses. For example, climate change brings its own abiotic stresses as well as a range of biotic stresses and I wish to consider the whole picture. Also the provisioning service of food from the sector also has an impact on wider ecosystem services and I wish to take an ecosystem service approach to increasing yield.

Miss Sophie Potter

BBSRC

sophie.potter@bbsrc.ac.uk

I will be running the peer review side of this initiative for BBSRC.

Mr Tim Pratt

Farm Energy

tim@fecservices.co.uk

Energy efficiency - we have a specific interest in greenhouses, crop storage, all controlled environments and irrigation. But can apply our knowledge and experience to almost any energy using process. Energy production - not just renewable energy but, equally

ari.sadanandom@durham.ac.uk

The areas of research which i am interested in are aligned to the interest of Durham University's crop improvement center (DCCIT). Durham have established a multidisciplinary platform to generate new technology aimed at improving crop yield. Specific expertise include: Crop protection, new small molecule compounds for the control of germination and seedling vigour involving post-translational modification. Toxic fusion proteins for control of mollusc and insect pests of crops. Manipulating root growth to improve yield. Calcium regulation of plant productivity. The role of stress gene activation in crop protection. Multiple herbicide resistance in grass weeds. New chemical means for weed control.

Mr. David Sadler-Bridge **ECOspray Ltd.**

sadler-bridge@ecospray.com
soil borne pathogens

Mr John Sedgwick **HDC**

john.sedgwick@stewartsoftayside.co.uk

With the drive to UK need to continually develop means of sustainable food production it is vital that there is the drive to develop understanding to the biology behind the pests and diseases that can infect the UK cropping. This understanding can then be developed into integrated management techniques. For field vegetables the soils of the UK are the growing medium. the soils not only supply nutrients and water for the crops but can also harbour pests pathogens and antagonists that can restrict growth.

Dr Wendy Seel **Organic Growers Alliance**

wendy@vitalveg.co.uk

I am representing the Organic Growers Alliance - a group of about 200 small-medium sized commercial vegetable growers. Broad research areas of particular interest include: 1. Links between the biotic component of soils and the nutrition and yields of both mycorrhizal and non-mycorrhizal vegetable crops. 2. Impact of mechanical cultivations on soil health and physical properties, and the consequences for current and follow-on crops. 3. Control of pests and pathogens in protected and field crops. 4. Control of transplant shock in field crops. 5. Variety selection for low-input systems, and for extending the season of high value crops (particularly in northern areas). 6. Crop maturation in a changing climate with unpredictable and unseasonable seasons. This is not an exhaustive list, and we would be interested in collaborating on projects in other areas so long as they are likely to lead to an improvement of yield in low-input systems.

Professor Graham Seymour **University of Nottingham**

graham.seymour@nottingham.ac.uk

Reducing postharvest waste, enhancing shelf-life of fruits and vegetables. Root architecture and influence on quality in tomato and other crops. Epigenetic variation and control of crop quality

Mr Darryl Shailes **H.L. Hutchinsons Ltd**

Darryl.Shailes@hlhLtd.co.uk

Dr Russ Sharp**Moulton College**

russ.sharp@moulton.ac.uk

* Plant physiological manipulation * Lighting for glasshouse production * Water use / irrigation * Pollution tolerance * Novel crops / ethnic food production I currently have a number of industry funded research projects that try to apply the latest advances in pure plant science to improve the production of a range of horticultural crops. I work with large glasshouse and nursery growers and oversee a research team undertaking applied research that addresses a range of industry problems.

Dr David Shaw**Sarvari Research Trust**

shaw@sarvari-trust.org

Assessment and selection of late-blight resistance. Assessment of GHG emissions associated with growing of blight resistant varieties including Sarpo varieties.

Dr David Simpson**East Malling Research**

david.simpson@emr.ac.uk

I am interested in genetic improvement of key traits that are relevant to the main research areas, including resistance to pests and pathogens, adaptation to climate change, reducing waste in the supply chain, improving efficiency of water and nutrient use. My area of expertise is genetics of fruit crops.

Prof Ian Sinclair**University of Southampton**

is1@soton.ac.uk

Bio-physics simulation of plant and soil systems, informed by state-of-the-art computed tomographic imaging (primarily X-ray, possibly neutron also).

Mr Matt Smallwood**SAC**

matthew.smallwood@sac.co.uk

Plant physiology, dormancy and post harvest quality. ICM, biological control and potato agronomy.

Dr Paul Sopp**Fargro Ltd.**

paul.sopp@fargro.co.uk

We are interested in exploring collaborative research and development possibilities in pest and disease management in horticultural crops.

Dr Andrew Staphnill**BBSRC**

Andrew.Staphnill@bbsrc.ac.uk

Prof William Symondson **Cardiff School of Biosciences, Cardiff University**

symondson@cardiff.ac.uk

I am interested in all areas of horticulture and agriculture involving the regulation of pests by natural enemies. I have a particular interest in slugs, the threat from the continental European 'plague slugs' and mitigation of predicted problems from slugs as the climate changes.

Dr Mark Taylor **The James Hutton Institute**

mark.taylor@hutton.ac.uk

The impact of climate change and resource use efficiency on the potato tuber life-cycle

Mrs Sian Thomas **Fresh Produce Consortium**

sian@freshproduce.org.uk

Dr Andrew Thompson **Cranfield University**

a.j.thompson@cranfield.ac.uk

Post-harvest quality and interaction with soil moisture (potato and onion). Rootstock breeding. Water use efficiency.

Mr Andrew Tinsley **HDC**

andrew.tinsley@hdc.ahdb.org.uk

The two HDC fruit panels fund research and KT into the major factors influencing the profitability of the UK fruit sector. Over half of the R&D investment is in crop protection, with an increasing emphasis on sustainable methods of control. Investment is also made in breeding, growing systems, efficient labour and resource use and post harvest management and storage.

Mr Steve Tones **HDC**

steve.tones@hdc.ahdb.org.uk

Horticulture

Dr Mahmut Tor **University of Worcester**

m.tor@worc.ac.uk

I have been carrying out research on molecular plant-microbe interactions for a while. I have also collaborative research with industry in this field, especially in the development of molecular markers for resistance breeding. Thus it is very relevant to my research area.

Mr Jonathan Webber**Callen - Lenz Associates Limited**

jonathan.webber@callenlenz.com

An SME involved in agricultural remote sensing, currently running a 2 year research programme Project URSULA (www.projectursula.com) using UAV technology combined with advanced analysis techniques. Interested specifically in the identification of crop yield and stress together with mapping and visual monitoring for improving efficiencies and delivering information to aid intervention for improved productivity and quality.

Mr Simon White**Sarvari Research Trust**

simon@sarvari-trust.org

Assessing late blight resistance in new breeding material. Quantifying the low-input status of our Sarpo cultivars

Professor Philip White**The James Hutton Institute**

philip.white@hutton.ac.uk

I am currently engaged on projects related to plant mineral nutrition: optimising fertiliser applications, biofortifying crops with essential mineral elements and preventing toxic elements from entering the food chain. I work on both the agronomy and genetics of horticultural crops, including brassicas and potatoes. I am interesting in pursuing research on optimising resource use efficiency, especially fertilisers and water, through this initiative.

Dr Roger Williams**RHS**

rogerwilliams@rhs.org.uk

Applied horticultural R&D that can be translated into practical advice for amateur horticulturists or that is of relevance to domestic gardening. Impacts of climate change, management of pests and diseases, and resource use efficiency all have the potential to fit these criteria.

Dr Debbie Wilson**AHDB**

debbie.wilson@hdc.ahdb.org.uk

Use of molecular markers to harness field resistance traits against fusarium rots in alliums and narcissus.

Prof Xiangming Xu**East Malling Research**

xiangming.xu@emr.ac.uk

There are three areas of particular interests: (1) under the nature of soil biota in relation to risks of soil-borne diseases (2) modelling and deployment of biocontrol agents of plant diseases (3) increased plant tolerance to biotic and abiotic stress

CONTACT INFORMATION

Dan Godfrey – **MAIN CONTACT**
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Simon Bright – **Coordinator**
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