

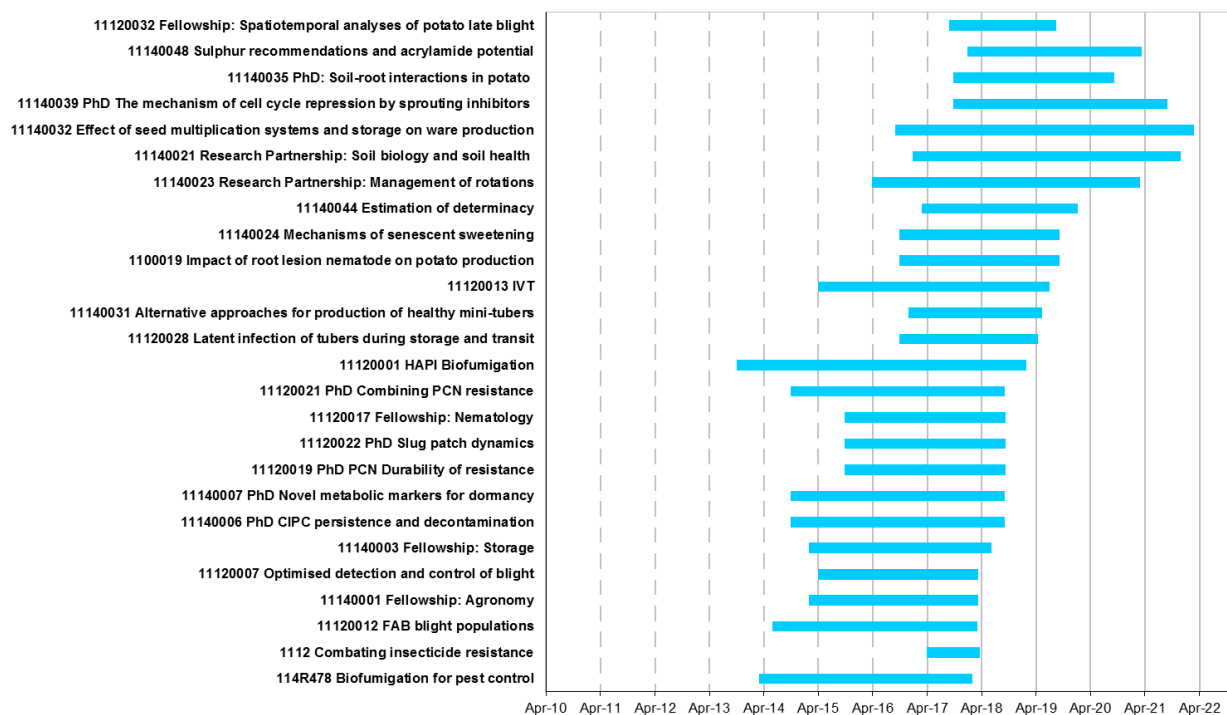
# Current R&D Projects – Potatoes Sector

February 2018



- Priorities set by potato industry through Research & Knowledge Exchange Committee
- Focus is on research that, during a 3-5 year time-scale, will deliver practical benefits in terms of competitiveness and costs.
- Where relevant, we access additional resources through national and international collaborations with other levy bodies, government and international agencies.
- Currently there are 26 R&D projects in progress, including two Innovate UK co-sponsored projects, and five projects receiving co-funding from the BBSRC. In addition, there are two AHDB Research Partnership programmes which comprise multiple projects.
- The R&D projects address 5 main areas:
  - Field Disease
  - Pest Management
  - Field Agronomy
  - Storage
  - The Consumer

Recently Completed and Current R&D Project Timelines (February 2018)



## List of Current Projects

Project Ref	Project Name	Contractor	Start Date & Duration	Aims
<b>Field Disease</b>				
11120032	Fellowship: Spatiotemporal analyses of potato late blight	JHI	01/09/17-31/08/19	To gain further understanding of the epidemiology of late blight in GB, and to develop new visual aids to improve decision-making.
11140031	Alternative approached for the production of healthy mini-tubers	SASA	01/10/16-30/04/19	To improve the understanding of growing media for PBTC production including management practices to further reduce pathogen risk.
11120007	Optimised detection of blight	Crop Performance Rothamsted, JHI	01/04/15-30/03/18	To detect late and early blight to enable site specific fungicide spray treatments.
11120013	IVT Programme 2015-19	SASA, SRUC, JHI, BioSS	01/04/15-30/03/19	Providing independent pest and disease information. Continuation of R447
11120012	FAB blight populations	JHI, FERA	01/06/14-31/03/18	To genotype blight populations submitted as part of the fight against blight campaign.
<b>Pest Management</b>				
1100019	PhD Impact of root lesion nematode on potato	Harper Adams	01/10/16-30/09/19	To investigate the incidence of root-lesion nematode populations and pathogenicity of species, and to develop diagnostics.
11120017	Fellowship: Nematology	SASA	01/10/15-30/09/18	To critically review current management practices and develop a future management strategy for nematode potato pests across GB
11120022	PhD Slug patch dynamics	Harper Adams	01/10/15-30/09/18	To understand slug patch distribution and to thereby optimise targeting of control.
11120019	PhD Durability of PCN resistance	JHI	01/10/15-30/09/18	To analyse diversity in effector sequences from the potato cyst nematode <i>Globodera pallida</i> in order to identify candidate avirulence genes.
11120021	PhD Combining PCN resistances	JHI	01/10/14-30/09/18	This project aims to introgress H2 resistance from the resistant clone P55/7 into cultivars with high levels of partial resistance to <i>G. pallida</i> from <i>S. tuberosum</i> spp. <i>andigena</i> and <i>S. vernei</i> .
114R478	Biofumigation for PCN management	Harper Adams	01/03/14-31/10/17	To optimise biofumigation for PCN management through determining potential species/cultivars, inputs for maximum actives release, and biomass incorporation.
11120001	HAPI Biofumigation	Leeds	01/10/13-28/02/19	To provide a fundamental understanding of the biochemistry of metabolic processes of brassica accessions underpinning effective biofumigation strategies.

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11120006	Combating insecticide resistance	Rothamsted	01/04/17-30/03/18	To monitor the response of <i>Myzus persicae</i> to a range of novel aphicides, and for established forms of resistance.
<b>Field Agronomy</b>				
11140048	Sulphur recommendations and acrylamide potential	NIAB CUF	01/01/18-31/03/21	To specify conditions under which applications of S to the potato crop can be economically justified, and to determine the effect of S applications on the accumulation of acrylamide.
11140035	PhD: Soil-root interactions in potato	Lancaster	01/10/17-30/09/20	To determine the impact of soil management techniques on root-to-shoot signalling and therefore potato carbon gain and yield.
11140044	Improving nitrogen recommendations for through estimation of determinacy of varieties	NIAB CUF, Greenvale, McCain, Cygnet PB, NRM, Omex, CUPGRA	01/03/17-31/01/20	To generate protocols and data to define the N determinacy groups of potato varieties.
11140023	Research Partnership: Management of rotations (4 projects)	NIAB CUF, JHI, Rothamsted, Lancaster	01/04/16-31/03/21	An integrated research programme of soils and water research to optimise the productivity and sustainability of rotations.
11140021	Research Partnership: Soil biology and soil health (9 projects)	Newcastle, ADAS, FERA	01/01/17-31/12/21	An integrated research programme to understand the relationship between soil biology and soil health, and to develop biological indicators of soil health.
11140001	Fellowship: Agronomy	NIAB-CUF	01/02/15-31/03/18	To better understand the key physiological and agronomic factors affecting tuber quality attributes including greening
<b>Storage</b>				
11140039	PhD The mechanism of cell cycle repression in tubers	Sheffield	01/10/17-30/09/21	To provide fundamental knowledge on the mechanism of how CIPC influences the cell cycle and as a result identify new targets for controlling tuber sprouting.
11140032	Integrating agronomy and storage	NIAB-CUF, SBCSR	01/09/16-30/03/22	To quantify the effects of seed multiplication systems and storage practices on ware production.
11120028	Latent infection of tubers during storage and transit	SASA, SBCSR	01/10/16-30/04/19	To determine the importance of latent infection in seed lots for export, and the effect of storage and transit on the quality of seed tubers.
11140024	PhD Mechanisms of senescent sweetening	JHI	01/10/16-30/09/19	To investigate the biochemical and molecular mechanisms of senescent sweetening.
11140003	Fellowship: Storage	NRI	01/02/15-31/01/18	To study the effects of mineral nutrition and tuber respiration/diffusion characteristics on the storage potential of tubers.

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11140006	PhD CIPC persistence and decontamination	SUERC (Glasgow)	01/10/14-30/09/18	To determine the persistence CIPC contamination found in stores in a range of and strategies for decontamination.
11140007	PhD Novel Metabolic Markers for Potato Dormancy	Sheffield	01/10/14-30/09/18	To investigate the potential mechanism of dormancy release and generate metabolic markers for its different stages.
<b>The Consumer</b>				
No projects at present				

#### Recently completed projects

Project Ref	Project Name	Contractor	Start Date & Duration	Aims
11120002	HAPI blight integrated strategies	Rothamsted	01/03/14-28/02/17	To maximise the durability of effective control of plant pathogens by integrated deployment of host resistance and fungicides.
11140022	Soil platforms	JHI, NIAB-CUF	01/10/12-31/03/17	To test platforms and demonstrate sustainable soil management by integrating major UK field experiments.
11120027	Survey of bacteria causing diseases in seed potato crops	FERA	01/07/16-31/03/17	To provide information on the populations of pectolytic bacteria associated with GB seed crops.
11140034	Potato quality review	JHI	01/11/16-31/03/17	To conduct a literature review of the nutritional qualities and health benefits of potatoes.
11120018	PhD Blight models	JHI	01/05/14-30/04/17	To develop an accurate and predictive method of assessing blight risk across GB
11140014	PhD Senescent markers	NRI	01/10/13-30/09/17	To understand the mechanism(s) underpinning senescent sweetening and to develop predictive tools.
11140011	PhD Micronutrient fortification	Nottingham Trent	01/10/13-30/09/17	To formulate and produce aqueous soluble novel functionalised iron and zinc micronutrients.
11140028	HAPI dormancy	JHI	01/10/13-30/09/17	To improve our understanding of dormancy in potato and to use a comparative approach to accelerate our understanding of dormancy in onion.
11120023	PhD Timing of blight fungicides	SRUC	01/10/14-30/09/17	To inform optimal timings of late blight curative applications

Once projects are completed, results will be published in the form of final reports which are available on the website.