

Technology Strategy Board

Driving Innovation



New Approaches to Crop Protection

JANUARY 2010

COMPETITION FOR COLLABORATIVE R&D FUNDING

SUSTAINABLE AGRICULTURE AND FOOD

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Summary

We are launching a collaborative R&D competition with up to £13m investment to help crop growers (arable and horticulture, forage and non-food crops) respond to the dual challenges of increasing the productivity of crops while reducing the environmental impact of crop production.

This initiative aims to help meet new and existing EU regulations on the approval and use of pesticides (some widely used insecticides, fungicides and weed control products are likely to lose approval from 2010).

This competition is particularly relevant to current and new businesses and practitioners across the agricultural supply chain, including those in the following sectors:

- arable crops including wheat, barley, oilseed rape, potatoes and pulse crops
- horticulture
- grasses and forage crops
- crops for biofuels, and other non-food uses
- in the field or protected cultivation.

Background

The UK food sector contributes £129bn to the economy (7% of GDP) and supports 3.7m jobs. In 2008/09, the UK produced more than 24m tonnes of cereals representing an average value of £2.6bn. During the same year the UK exported 5.4m tonnes of cereal and oilseed rape, contributing over £813m to UK GDP. The agricultural sector is underpinned by a Gross Value Added supply chain worth £1.2bn (including pesticides, fertilisers, agricultural machinery and animal feed).

As farms stop using certain pesticides to comply with the new regulation, the Pesticides Safety Directorate estimates that production of certain crops could fall by as much as 50% on some farms, at a time when an increasing global population is putting more demands on agricultural output. Climate change will also have an impact on agriculture. Alongside increases in average temperature and the number of extreme weather events, there will be a need for control of diseases and pests which were not previously troublesome in the UK. Development of new, effective crop protection strategies which command public confidence are needed to cope with these future pressures.

This investment of up to £13m by the Technology Strategy Board (£7m), the Department for Environment, Food and Rural Affairs (Defra, £3.5m) and the Biotechnology and Biological Sciences Research Council (BBSRC, £2.5m) will help develop crop protection technologies, products and services that enable sustainable agricultural production and comply with the forthcoming EU regulation.

Scope

This competition is looking for proposals for projects lasting up to five years that will develop novel technologies, products and/or services that can be deployed across the crop-growing supply chain. Proposals should seek to enhance crop productivity, meet new and existing EU regulations and significantly reduce the environmental impact of the agricultural industries. Project proposals could include, but are not limited to, innovative solutions (either individually or in combination) in the following areas:

- novel approaches to address pests, diseases, disease vectors and weeds
- development of new crop protection chemicals (herbicides, insecticides, fungicides, and bactericides) that function individually or in mixtures and formulations

- development of durable pest- and disease-resistant crop varieties
- development of integrated pest management strategies
- interaction of crop husbandry practices with new crop protection technologies. This may include enhancing the natural populations of pest species' predators and other integrated pest management strategies
- early diagnosis of crop pests and diseases, through biological, chemical or optical sensing and monitoring technologies, including forecasting and thresholds
- novel and improved technologies for rapid responses to pest and disease outbreaks, and control of sporadic pests and diseases (existing or anticipated due to climate change)
- more efficient application methods of biological or chemical crop protection agents including precision farming and controlled release
- control of pests and diseases in post-harvest, pre-processing storage of raw materials
- consideration of environmental and social consequences in handling evolving regulation, product stewardship and developing coping strategies
- exploration of new business models or value systems for the management and protection of crops including service-based companies and decision support.

Projects that address post farm gate waste reduction, refrigeration, packaging and food processing are out of scope.

Projects must create an economical and environmental added value proposition for the UK without adverse impact on food safety, quality or nutritional value.

Funding Allocation and Project Details

Up to £13m has been allocated to this initiative which is open to all UK-based companies and research organisations either through business-to-business or science-to-business collaborations. The principal applicant for these project proposals needs to be a business. All applicants will need to demonstrate:

- what is innovative about the proposed solution
- the potential market applications
- the global market potential and impact of the specific solution proposed
- the capacity to capture the value in the proposed solution
- the benefit to the UK economy and global environment
- that there is a requirement for R&D in the area and what benefit the Technology Strategy Board investment will bring
- where appropriate, an understanding of the prevailing standards and legislative landscape, the capacity to meet any regulatory requirements and how the solution fits within them.

Projects should seek to develop and produce 'proof of principle' devices or materials, changes to farming methods or systems, prototypes or demonstrators and should evaluate them in field situations. All proposals should explain how the project team intends to exploit the deliverables. Consortia must be able to demonstrate a credible route to market for their technology or process.

Projects can range from focused basic research, aimed at establishing technical feasibility, through to applied research, and to experimental development projects. We anticipate that most of the funding will be allocated to proposals in the applied R&D (attracting up to 50% public funding) or experimental development (up to 25% public funding) categories. Projects involving industry-orientated basic research (up to 75% public funding) will also be considered but applicants must make a robust case to support the requested level of funding. Definitions of the above categories of research can be found in the Guidance for Applicants – see www.innovateuk.org

We require all projects to provide a non-commercially confidential summary, at the start and the conclusion of the project, for dissemination.

If you have any queries about the technical scope of the competition or the application process, please contact the Competition helpline on 01355 272155 or email competitions@tsb.gov.uk

Application process

The application process for this competition is in line with Technology Strategy Board policy which gives applicants the opportunity to make an initial optional Expression of Interest (EOI) prior to their compulsory application. The optional EOI will be looked at by officials and a response given to applicants within three working days. Applicants may take advantage of this up to one week prior to the compulsory EOI deadline.

The competition is run in two stages:

1. the compulsory EOI stage
2. full stage application (by invitation only subject to recommendations made by the independent panel).

The Guidance for Applicants explains the competition process in detail and should be referred to in order to apply to this competition.

Further details and the Guidance for Applicants are available at www.innovateuk.org under Competitions.

For help and advice contact: Competitions helpline: 01355 272155 competitions@tsb.gov.uk

Key dates

Competition opens	18th January 2010
Optional Briefing Day	27th January 2010
Optional Expression of Interest deadline	18th February 2010
Compulsory Expressions of Interest deadline	25th February 2010
Feedback provided by	19th March 2010
Feedback discussion in week beginning	22nd March 2010
Applicants briefing (compulsory)	31st March 2010
Registration of intent to submit (compulsory)	22nd April 2010
Deadline for receipt of full applications	29th April 2010
Decision and feedback to applicants	4th June 2010
New projects workshop	7th July 2010



Further information

For more information about this and other competitions, and details of how to register and apply, please see Competitions at www.innovateuk.org

Competition helpline:
01355 272155

Email:
competitions@tsb.gov.uk

Publicity

The Technology Strategy Board frequently publicises the results of competitions and this includes engagement with the media. All applicants will be given a chance during the competition process to opt out of any publicity. Willing applicants will be asked to provide an agreed form of words for use in publicity material. E-mail pressoffice@tsb.gov.uk with any queries.

The Technology Strategy Board is a business-led executive non-departmental public body, established by the Government. Its role is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business, in order to increase economic growth and improve quality of life.

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