

July 2008 plus, with supplementary figures on expenditure 2009-2010 and 2010-2011

BBSRC's position on GM research in crops and other plants

The following sets out the position of the Biotechnology and Biological Sciences Research Council (BBSRC) on Genetically Modified (GM) plant technology and crop research.

This research forms part of BBSRC's portfolio in plant science, which includes science relevant to agricultural systems.

1. BBSRC funds and supports the use of GM as a laboratory tool

A large part of this research is aimed at understanding the basic biology of plants and generating new knowledge. This knowledge may aid the improvement of crop management systems (including low input and organic) as well as conventional breeding programmes and the design of crops with new traits. GM plants have for many years been an important laboratory tool for understanding plant traits through characterisation of the natural function of individual genes and the proteins for which they code. GM plants are also useful in studies to understand specific metabolic pathways in plants, relevant, for example, to how they partition energy or utilise water. GM plants used in research are usually grown under contained conditions and represent an experimental resource, rather than being prototype commercial crops.

2. BBSRC funds and supports research that tests the feasibility of producing GM crops with specific beneficial traits*

In this research, GM crop plants are produced and grown experimentally with the aim of identifying modifications that could produce new varieties with potentially beneficial characteristics for growers and consumers, such as drought resistance, salt tolerance, pest and disease resistance, improved yield or enhanced nutritional status.

Growing experimental GM crops under realistic farming conditions will always be a necessary part of this research. However, such field experiments are not commercial trials of potential crop varieties. BBSRC strongly defends the right of scientists to conduct legal and robustly regulated experiments. This is a core principle of scientific research in the UK.

We consider it important to fund research involving GM crops because:

- They offer the potential to stabilise and increase food production more radically and more rapidly than is achievable through conventional breeding programmes alone. They also offer unique opportunities to improve the nutritional value of some foods.
- Scientific opportunities now exist to develop 'second generation' GM crops with a wider range of benefits for consumers.
- GM fits into a tool kit for breeders that also includes 'conventional' crossing, artificially induced variation, and interventions that allow genetic exchange between distantly related species.
- Results from scientific research (funded by BBSRC and others) over the past decade into the potential safety, environmental and other impacts of GM crops have not revealed any safety or other problems arising from the transgenic technology itself.

- A growing body of empirical evidence from worldwide commercial production of GM crops has also not revealed any safety problems in food production. However, for some specific applications of herbicide tolerance, there is ongoing debate about potential impacts from gene flow to weeds. GM crops already play a significant role in farming worldwide – biotech crops cover around 114.3 million hectares and are grown by around 12 million farmers.

3. BBSRC's position on commercial GM crops

Strategic research funded by BBSRC provides a range of technological options (both GM and non-GM) for the production of new and improved crop varieties. We also support strategic collaborations between researchers and potential end-users of the research outputs in a wide range of agricultural systems. BBSRC reports such collaborations openly, and the findings of the research are publicised.

We are also committed to fostering the uptake of plant science research for 'public good', for example in reducing environmental impacts.

BBSRC continues to hold the view that specific commercial applications of research should be assessed on a case by case basis. For GM crops this includes, for example, consideration of the nature of the transferred trait, the crop species and its potential for out-crossing and other environmental impacts, as well as wider social issues such as the nature of benefit(s) offered by the crop, and the benefits and costs to different sectors of society, as well as broader technical, political, economic and social factors.

4. Regulation and accountability

BBSRC supports, and has confidence in, the UK regulatory framework for research on GM crops. This research is essential if we are to provide solid and impartial scientific evidence on the performance and impact of potential GM crops, for regulators and the wider public, as well as for industry.

BBSRC is committed to public dialogue and engagement around the research it funds. We recognise the need to be as open and transparent as possible about the research we support with public money. Details of our research grants, including any industrial or other commercial co-funding, are published on our website.

BBSRC requires its grantholders to deposit a copy of any published journal article or conference proceedings, at the earliest opportunity, in an appropriate e-print repository, wherever such a repository is available.

We also use a variety of publications, media briefings, and public events to disseminate information about our research and its outputs.

5. Expenditure figures 2009-2010

BBSRC funds research involving the use or the production of a GM crop, usually to enable enhanced agricultural traits (e.g. stress-tolerance or disease resistance in wheat) with an annual spend of £5.1M in 2009/10. BBSRC also funds crop research involving the use or the

production of a GM crop to further biological understanding of the plant (e.g. genetically modifying a protein to understand its function in the plant), totalling £11.4M in 2009/10.

* BBSRC's funding committees make decisions based on the scientific excellence and strategic relevance of applications for funding. The committees include members from end-user sectors, including the agricultural and food sectors. In addition, committees consider whether any social or ethical issues would be raised by the research; and these are addressed by BBSRC's Bioscience for Society Panel. This Panel, together with other Strategy Panels, including the Sustainable Agriculture Panel, helps to inform BBSRC's overall strategy.

Expenditure figures 2010/11

Research involving the use or the production of a GM crop, usually to enable enhanced agricultural traits (e.g. stress-tolerance or disease resistance in wheat) – expenditure of £4.4M in 2010/11

Crop research involving the use or the production of a GM crop to further biological understanding of the plant (e.g. genetically modifying a protein to understand its function in the plant) – expenditure of £10.2M in 2010/11