



The world needs to feed nine billion people nutritiously, safely and sustainably by 2050. Multidisciplinary research is needed to address the complex difficulties of securing the global food supply.

BBSRC is leading the Research Councils' food security programme, working in partnership with relevant Government departments.

For more information about the Research Councils' food security programme, see www.foodsecurity.ac.uk

Food security consultation and research roadmap

BBSRC's 2009 consultation on future research for food security received over 120 responses from academia, industry, Government, NGOs and others.

We are using the responses to inform a roadmap for future research. This will complement a wider cross-Government Food Research and Innovation Strategy.

For more information about the food security consultation and roadmap, see www.bbsrc.ac.uk/consultations



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Science for livestock production



The Biotechnology and Biological Sciences Research Council (BBSRC) spends over **£40M** a year on science relevant to livestock production and welfare.

Understanding welfare for health and wellbeing

Vaccines against emerging and endemic diseases

More nutritious, more easily digestible forage

Genetics and breeding for better meat quality, productivity and disease resistance

Reducing waste and greenhouse gas emissions

Harnessing basic information

Recently completed cattle genome sequencing and analysis will help breeders harness natural genetic diversity, increase breed improvement rates and breed animals with better resistance to infectious disease.

Scientists at the Institute of Biological, Environmental and Rural Science are developing a physical map of the perennial ryegrass genome.

This will inform the development of new, more nutritious, forage grass varieties in the context of sustainable grassland agriculture. This work is funded by BBSRC with support from Germinal Holdings, Syngenta and ViaLactia Biosciences.

For more information about harnessing basic information see www.bbsrc.ac.uk/science/impact

Working with industry

Scientists at the Institute for Animal Health have contributed to commercial on-farm diagnosis for foot-and-mouth disease and rapid lab-based tests for bluetongue virus.

A LINK sustainable livestock production project led by the Scottish Agricultural College with involvement from other academic partners including The Roslin Institute is investigating the relationship between genes controlling muscling

and meat quality in sheep with particular focus on eating quality, and animal health and welfare. This includes testing and evaluation of video imaging for objective evaluation of carcass quality.

Through a BBSRC/Biosciences KTN studentship, JSR Genetics are working with the University of Kent to identify genetic markers that will make it possible to predict how and when fat is laid down in the pig carcass.

Our schemes to facilitate collaboration and knowledge exchange with industry include:

- **Industrial CASE Studentships** enable PhD students to undertake specialist research training in areas relevant to industrial partners.

- **BBSRC continues to support LINK** which promotes academic/industrial collaboration in pre-competitive research.

- **Knowledge Transfer Networks –** The Biosciences KTN (formerly Genesis Faraday) works to improve the co-ordination of animal genetics technologies by the livestock breeding and animal health industries.

For more information about how BBSRC works with industry see www.bbsrc.ac.uk/business

www.foodsecurity.ac.uk

Science to deliver enough safe, nutritious food for all



The UK Research Councils support research and training in a wide range of disciplines that relate to food security including biology, nutrition, environmental science, economic and social science.