On the 27 November 2013, leading figures from the worlds of science, farming and food came together at the Science Museum in London to debate how the Government’s £160 million investment in a new Agricultural-Technologies strategy should be used to respond to the growing challenges of world food security.

The Food for Thought event was convened jointly by the Science Museum, Defra and the Met Office.
Attendees

- Ian Blatchford – Director, Science Museum Group
- Lord De Mauley – Defra Parliamentary Under Secretary of State for natural environment and science
- Phil Evans – Met Office, Government Services Director
- Sue Davies – Which, Chief Policy Adviser
- Christine Tacon – Groceries Code Ajudicator
- Professor Joyce Tait – University of Edinburgh, Social Scientist
- Ian Munnery – SesVanderhave UK Limited, General Manager
- Ian Crute – Agricultural and Horticultural Development Board
- Dr Helen Ferrier – National Farmers Union, Chief Science Advisor
- Dr Tom MacMillian – Soil Association, Head of Innovation
- Professor Toby Mottram – Royal Agricultural University
- Dr Julian Little – Bayer Crop Science
- Ian Boyd – Defra, Chief Scientific Advisor

Overview of the debate

There was general consensus at the debate that the Agri-Tech Strategy had been well-received by both industry and the science community.

The debate began with a discussion around the use of technology and innovation, and how they could be used to help improve the competitiveness of the agri-tech sector whilst also addressing global food security. Broader issues were also discussed on skills development, knowledge exchange, communication and networking.

With the planet’s population due to hit 9 billion by 2050, it’s estimated that we will need a 70% global increase in food production by 2050. The group agree that agri-technologies have the potential to transform food production both in Britain and across the world.

Demand for food is rising rapidly and it was emphasised that time is not on our side. With agriculture so dependent on weather, it is also affected heavily by changing weather patterns and increases in extreme weather. The group agreed that the UK has a world class science and technology sector. Breakthroughs in nutrition, genetics, and precision farming mean the sector is one of the world’s fastest growing and exciting markets.

There was agreement amongst delegates of the need to ensure this innovation is converted into practical tools that deliver in the field, particularly around the use of sensors, electronics, robots, data and space technology.

The agri-food sector is also currently our largest manufacturing industry, contributing over £96 billion and employing nearly four million people. The group highlighted agri-tech as a sector which has huge potential to build on this success and secure more economic growth through overseas exports and inward investment.

The delegates also discussed the government’s £160m investment and how it could be used to develop further opportunities including new centres of agricultural innovation or catalyst projects.

Delegates discussed how the business and research community could use this investment to help meet the challenges of growing more food in a sustainable way while also helping our agricultural industry to compete in the global race.

Two issues were highlighted around this: one was the short term challenge of applying the research we have at the moment in a better way; and the second one was a long term challenge of inventing new methodologies which can be applied in the future.
The group agreed that long term investment is required to ensure that the agri-tech sector is confident and stable in the future. This will be key in attracting any future industry support.

The issue of European regulation and the challenges that it presents for the sector was also raised during the debate. The group recognised that whilst some technologies might be constrained in the UK and Europe this shouldn’t prevent early stage research that could be adopted in other countries.

Delegates also considered the importance of engaging both the public and industry on agri-technologies to help raise awareness and a better understanding of their benefits. For example, point spraying techniques which enable plants to be treated with very small amounts of chemicals were highlighted during the discussion. These types of innovation have potential knock on benefits for farmers, consumers and the environment.

As well as engaging farmers and the public, the group also agreed that the entire food supply chain needed to understand the benefits of new technologies and how they translate into food production efficiencies and affordability. This would help to secure more support for the delivery of the strategy. There was agreement that the Agri-Tech Leadership Council has a key role in taking this forward.

It was also suggested that there is a trade-off between lifestyle, sustainability and productivity that must be considered strategically at a high level and the Leadership Council is the right platform for this to happen.

**Centres for agricultural innovation**

It was emphasised that there is no set Government view on what these centres should look like but that they must be industry-led. It was also emphasised that it was important for the centres to be joined up to one another to prevent isolation.

The group suggestions for centres covered the following topics, either virtual or physical:

- Data informatics
- Indoor Agriculture
- Animal/plant disease and pests
- Soil
- Agro-ecology
- Organic farming
- Animal health and welfare
- Plant disease
- Weather and climate resilience
- Space technology
- Robotics institute
- Predictive modelling

In summary, three central themes were recommended by the group for the development of the centres:

1. Improvements in communication and engagement are needed.
2. Centres should be constructed on a hub and spoke model – with a central point linking them together.
3. Data and informatics is an important area that can be better used.

**Conclusion**

The group concluded that the UK has the capacity to once again become a world leader in agriculture. There was consensus on the need to translate research into new products, processes and technologies so the industry can remain competitive, enhance the environment and address food security.