

FOOD AND THE FUTURE



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When it comes to keeping us properly fed, we can't just think about our next meal - we need to keep in mind how we manage food supply in the long-term.

With the planet's population due to hit 9 billion by 2050, the FAO estimate that global food production will have to increase by 70%. At the same time, climate change and resulting weather extremes could mean that current food production systems will not function well by 2050. It is hard to predict what will happen at a local level but climate change has the potential to put millions of people at risk of food shortage, through flood, drought, and other extreme weather events, and through changes in invasive pests and diseases.

Andrew Jackson, Head of the FCO's Science, Innovation and Climate Department, headed up a high-level panel of four speakers looking at weather and climate impact on food supply and security: Kirsty Lewis (Climate Security Team Leader,

science and industry could work together to support the Agri-Tech sector in the context of long-term climate risks, including:

- considering potential climate impacts on food security, availability and malnutrition, in order to help policy makers

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Met Office), Shaun Hobbs (Global Director, Knowledge Bank, the Centre for Biosciences and Agriculture International (CABI)), Aaron Davis (Senior Research Leader, Plant

build resilience and reduce the threat of future hunger;

- use of weather forecasts, early warning and horizon scanning to prepare better for weather and climate shocks in



The panel members and SIN Italy team in the bee-hive shaped UK Pavilion

As part of the Grown in Britain GREAT week on Agri-Tech, the Science and Innovation Network (SIN) and the Met Office hosted a BIS-funded seminar on 10 July in the UK Pavilion at Milan Expo (part of the series of world Expos that take place every five years).

Resources, **Royal Botanic Gardens, Kew**), Tania Osejo Carrillo (Climate Change Adaptation Consultant, **The World Food Programme**).

While debating links between climate and weather, food security and malnutrition, panellists considered how

order to support agriculture and supply chains;

- use of big data to manage crop health and control plant disease and invasive species;
- building resilience of the agricultural economy to the effects of climate change.

Participating organisations brought different perspectives and case studies to the discussions. Kew described how they are using climate modelling to find ways to help Ethiopian coffee farmers avoid crop failure; the Met Office presented their 'Human Dynamics of Climate Change' model (including via an exhibition open to the general public); and CABI focused on their work to increase or maintain crop yields in the face of climate change, by using modelling and Big Data to improve management of pests and diseases.

the European Commission (JRC and EFSA), UKTI, a visiting delegation from Columbia, and the Expo Scientific Committee. Also in attendance were a BIS/UKTI funded UK-Turkey Agri-Tech delegation, visiting the Expo and aiming to forge UK-

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Turkey Agri-Tech collaborations as part of the UK-Turkey Year of Science and Innovation.

The day was rounded off with Met Office-led sessions on the 'Human Dynamics of Climate Change'. These aimed to

world using an interactive map. An exhibition was set up under the bee-hive shaped UK Pavilion and proved very popular: there was strong and sustained public engagement with hundreds of visitors watching the videos explaining the climate change in

the "seminar suite" of the Pavilion.

The UK is home to world-class agricultural research in areas such as plant and animal breeding, remote sensing, meteorological prediction and data exploitation. From genetics to grazing, the UK has pioneered developments in the livestock sector for centuries. The challenge now is to continue to provide safe, nutritious food that is affordable and accessible to all. The UK's Agri-Tech strengths should help us to ensure better crop productivity and yields, with reduced input and environmental impact. World-leading UK Agri-Tech research institutions, innovative farmers and food manufacturers came to Milan to attend the Agri-Tech GREAT Week and the "Food and the Future" seminar, helping the

UK to address the global challenge of feeding the planet.

The "Food and the Future" event was financed by BIS through its Global Partnership Fund and is part of the "Grown in Britain" SIN Programme which aims at maximising the international Science and Innovation opportunities linked to the World Expo Milan 2015.

The Science and Innovation Network (SIN) is funded by the UK Foreign and Commonwealth Office (FCO) and Department for Business, Innovation and Skills (BIS). SIN has nearly 90 officers in 28 countries around the world, working across the entire UK science and innovation landscape to deliver international collaborations in science and innovation. SIN aims to ensure UK researchers have the opportunity to work with the best in the world, to use the best facilities, to leverage research and innovation funding and to ensure science and innovation supports UK growth through international outreach. These collaborations encourage new ideas, inform policy and help drive further innovation.



The seminar debate in the UK Pavilion conference room

The panel debate provided insights into how technology and innovation could improve

illustrate some of the impacts of climate and population change in the context of a globalised

... World-leading UK Agri-Tech research institutions ...

the competitiveness of the Agri-Tech sector whilst also addressing global food security. With agriculture so dependent on weather, the panel concluded that there was more we can do to support resilience in this sector:

"Through science and industry working together to meet the challenges of growing more food in a sustainable way, we can build food security and also help our agricultural industry compete in the global race"

Leading British and Italian research centres and universities attended the event, alongside



The exhibition set up in the UK Pavilion