Science responds to globalized disease threat to farms and food systems

February 13 2016

Farmers and consumers around the world are connected and dependent on each other today in a way that is unprecedented in human history - the average chocolate bar will have ingredients from four or more continents and crop failures in Russia affect the price of bread in the US.

Transnational research collaboration between the US and UK is anticipating and protecting our food supplies from a host of new disease threats to crops, animals and humans and which show no respect for international borders.

Professor Massimo Palmarini, Director of the MRC-University of Glasgow Centre for Virus Research will discuss:

- New synthetic vaccines that can be quickly produced to tackle the growing threat from midge transmitted viruses. These genome shuffling viruses, which can cause devastating epidemics in animals, have the ability to emerge quickly and spread rapidly.

Professor Alison Power, Cornell University, will talk about Potato virus Y:

- In the US, from 2006 to 2011, the proportion of recombinant strains of Potato virus Y grew from 28% to 84% - these recombinant strains cause greater crop damage and are more difficult to control.

- New research addresses how the virus interacts with its environment at the plant, field and landscape scale to understand what factors lead to its ability to emerge and spread.

Professor Helen Sang, The Roslin Institute, University of Edinburgh, will present research on:

- The threat posed by avian influenza to food security.

The researchers are all funded through a joint programme from BBSRC (UK) and USDA-NIFA (USA).

Professor Jackie Hunter, BBSRC Chief Executive, said: "The global nature of today's agricultural systems means it's essential that the UK collaborates with countries like the US so we can better protect our food system from emerging threats"

Sonny Ramaswamy, Director of NIFA, said: "Human health depends on the safety, security, and quality of the food we produce. Emerging pathogens have no boundaries, and therefore international partnerships such as NIFA's with the BBSRC are critically important for mitigating the impacts of pathogens on the global food supply."

Provided by Biotechnology and Biological Sciences Research Council