

PRESS RELEASE

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**Is free global trade too great a threat to our food supplies, natural heritage and health?**

We face a future of uncertainty, and possible new threats to our food supplies, natural heritage, and even human health, from animal and plant pathogens, according to researchers from the UK Research Councils’ Rural Economy and Land Use Programme.

In a special issue of *Philosophical Transactions of the Royal Society B*, the academics take a fresh look at infectious diseases of animals and plants, from an interdisciplinary perspective.

They conclude that increasing global trade may put us at greater risk from pathogens in the future, as more exotic diseases enter the country. This process is already happening, particularly in plant disease. Climate change is driving shifts in cropping patterns across the world and they may take pests and diseases with them. We are also seeing completely new pathogens evolve, while existing ones develop the ability to infect new hosts. During the 20th century the number of new fungal, bacterial and viral diseases in plants appearing in Europe rose from less than five per decade to over 20.

But these problems are exacerbated by human behaviour, and understanding this could be key to helping policymakers deal with risk and uncertainty.

In many cases the spread of disease is caused by increased trade, transport and travel. Trends in the international horticultural industry have been towards fewer, larger producers, supplying vast numbers of retailers. Thus, disease which begins in one location may be spread far and wide.

Changes in the livestock trade have similar effects at national level. Reduction in income per animal, and the introduction of mechanisation, means that fewer farmers manage more animals per farm, and animals are moved around more frequently. They may be born in one location but sold on and reared elsewhere. Government policy and the classification of diseases may even increase the risks. Farmers restocking to combat one disease may, unwittingly, introduce another.

Understanding the biological dimensions of animal and plant disease is important, but it is equally important to understand the role played by human beings in spreading disease. Whether the threat is from a tree disease such as Sudden Oak Death that could devastate familiar landscapes, or from zoonotic diseases such as *E coli* or Lyme disease that affect human health, it can only be addressed effectively if an understanding of human behaviour is part of the strategy, and people are given the information they need to reduce risks.

Director of the Relu Programme, Professor Philip Lowe said: “We live in a global economy: we have seen in the recent *E coli* outbreak in Germany, how the complexity of the food chain can increase risk and uncertainty.

“Ultimately we may have to take a more precautionary approach to the movement of animal and plants, and recognise that free trade could, in some cases, pose unacceptable risks.”

1. The Rural Economy and Land Use Programme is an interdisciplinary collaboration between the Economic and Social Research Council (ESRC), the Biotechnology and Biological Sciences Research Council (BBSRC) and the Natural Environment Research Council (NERC), with additional funding provided by the Scottish Government and Defra. See [www.relu.ac.uk](http://www.relu.ac.uk) for more information about the Relu programme.
2. This research is published in *Philosophical Transactions of the Royal Society B* (Please note that the views expressed above and in the journal issue itself represent the views of the authors and not the position of the Royal Society.) <http://rstb.royalsocietypublishing.org/site/2011/Infectious_disease_management.xhtml>
3. For PDF copies of the papers published in this special issue of *Philosophical Transactions of the Royal Society B* or for any further information please contact Relu Science Communications Manager Anne Liddon, email anne.liddon@ncl.ac.uk , tel 0191 222 6903.

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