

Research Project: Environmental Protection & Justice: Biosecurity and the Regulation of Animal Health.

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Background: Although biosecurity (the prevention of the spread of animal diseases) might appear to be a technical agricultural issue, the impacts of the 2001/02 Foot and Mouth outbreak demonstrated the potential knock-on effects in terms of rural economies, tourism and the food production and consumption system. BRASS research into the issue began by responding to the initial Foot and Mouth outbreak, but later extended to consider issues related to bovine tuberculosis in cattle and badgers, and also to the appearance of Bluetongue in the UK.

Aims & objectives:

- To assess the effectiveness and implications of policy measures adopted as a response to the 2001/2002 Foot and Mouth outbreak, particularly in light of the subsequent 2007 outbreak;
- To investigate how biosecurity policy is shaped at different spatial scales, and understand different policy arrangements lead to different approaches to the use of biosecurity;
- To research how the implementation of biosecurity varies at local levels. Local authority officers are responsible for enforcing biosecurity policies and encouraging farmers to implement biosecurity measures. The research examined the extent to which different regulatory tactics are used to ensure compliance with biosecurity regulations; how tactics vary between officers, authorities and regulatory frameworks; and the reasons behind any differences;
- To understand how and why farmers accept or resist biosecurity measures in terms of farmers' own social and cultural knowledges of animal disease and biosecurity measures; examined how they learn about biosecurity; assessed the economic implications of biosecurity; and sought to uncover the best regulatory tactics for persuading farmers to voluntarily adopt biosecurity and the reasons behind any resistance.
- From the research to generate both timely and valuable policy lessons for the development of animal health policy within the UK, whilst also developing new theories of regulation and governance in a biosecurity context.

About the research: BRASS work on biosecurity has mainly focussed on two animal disease, Foot and Mouth and Bovine TB. The work that followed the Foot and Mouth epidemic of 2001 sought to contribute to the effort to understand and learn lessons from the outbreak. This began with the collection of materials to create a chronological account of the outbreak, and its aftermath, compiled from the national press. There followed various lines of research work leading to the creation of a web-based research resource. These have focussed upon the regulation of animal health and the externalisation of any risk of disease to those rearers, dealers and livestock movers in the supply chain for meat. The Animal Health Act offers generous compensation to those whose animals are slaughtered leaving few economic incentives for bio-security. Other themes have included the role of stakeholders in devising strategies to combat the disease – including the influence of producers in policies such as vaccination, and the divergence of views amongst farmers. Much of the work has centred around issues of legality/illegality in terms of the creation of bio-security risks and in terms of a cull as the chosen method of disease control. Biosecurity was also the focus for a PhD project.

Work on bovine TB had a number of facets, but the major one was the work for the Welsh Government concerning the establishment in 2006 of the biosecurity Intensive Treatment Area (ITA) across an area of approximately 100 sq. km. with high incidence of bovine TB in cattle on the Carmarthenshire/Pembrokeshire border in West Wales. The aim of the ITA was to raise awareness, understanding and ultimately, uptake of biosecurity measures on farms. The expectation was that

any improvement of on-farm biosecurity would in turn help to reduce outbreaks of bovine TB. BRASS working with ADAS was responsible for the independent monitoring and evaluation of the ITA trial. This involved work evaluating the project's Expert Opinion Workshops (in which a scoring tool to assess biosecurity performance was tailored to the ITA area and the participating vets trained in the use of it), observing the on-farm implementation of the scoring tool and delivery of action plans by local vets, and in parallel to this, the receipt and take up of the scoring tool and action plans by the participating farmers. There was also an international comparative element to this study with a piece of research comparing UK and New Zealand biosecurity risk practices.

Results and outputs: The work on Foot and Mouth concluded that in terms of both legality and effectiveness the policies adopted by the government in the 2001/2002 outbreak were flawed. The interventions, although appearing to work in the abstract, showed little sensitivity to the conditions actually prevailing in modern livestock rearing, and as a result their consequences were not merely imperfect but actually pernicious. The response meant that practices that were largely responsible for the epidemic remained prevalent, and perverse incentives for farmers not to combat the disease remained.

The work on bovine TB and the ITA produced a number of interesting findings, particularly relating to the relationship between rural vets and the farmers they work with, and these findings have wider significance in terms of the use of vets as a communication channel to reach farmers on a range of biosecurity issues. The trial did provide evidence that it had raised levels of risk awareness amongst farmers (even those sceptical about the risk itself), and also amongst vets. The increased awareness provided a greater likelihood of preventative measures being taken, although there were variations amongst types of farms and farmers.

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- Franklin, A. (2008), [Changing Attitudes, Changing Cultures: An Evaluation of the South-West Wales Biosecurity Intensive Treatment Area - Research Report for the Welsh Government](#)
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Impacts achieved/potential for impact: Three policy reports on Bovine TB and on biosecurity measures were prepared for Welsh Government and also informed Defra's Select Committee Report "*Badgers & Cattle TB*". BRASS Researchers also contributed to WG's Technical Advisory Group for the Eradication of Bovine TB & an EU Report on Socio-environmental Impacts of International Animal Sanitary Standards. This work also featured in ESRC's "*Britain in 2009: The State of the Nation*". Two reports were also produced for WG on farmers' compensation for animal diseases. BRASS Bovine TB work was extended with a survey and report for Defra, and Dr Gareth Enticott was part of a group of researchers awarded £630,000 from Defra for a four year study into the attitudes and behaviour of farmers in relation to TB vaccination. The work on Foot and Mouth received considerable media coverage and generated a large on-line repository of evidence and information that was later passed to an NGO so that it continue to be made available to researchers, policy makers and practitioners.