

| | |
|------------------------------|---|
| Project: | Biological alternatives to chemical pesticide inputs in the food chain: an assessment of sustainability |
| Project Investigator: | Wyn Grant |
| Duration: | 2004-07 |
| Impact Summary: | The research set out principles for a better regulatory system for bio-pesticides and made practical suggestions for how the Chemicals Regulation Directorate (formerly Pesticides Safety Directorate) might engage more effectively with companies wishing to register products and retailers about their requirements |

Research Aims

- To improve understanding of the environmental and regulatory sustainability of biopesticides development and utilisation
- To explore the regulatory barriers to wider adoption of biopesticides and the process of regulatory innovation taking place within the Chemicals Regulation Directorate (CRD) to facilitate the registration of biopesticides
- To examine the costs and benefits of biopesticides to different stakeholder groups and the role of the retailer in responding to consumer preferences on pesticide use

Contribution to knowledge & understanding

- The research identified the need for a range of biological alternatives as part of an integrated pest management strategy. Without new products, there is a risk to the availability of widely used vegetables
- The project identified gaps in the biopesticide policy network in terms of stakeholder interaction and a need for a more structured dialogue between retailers and the CRD
- The results indicate that habitat type is likely to influence the environmental fate and behaviour of entomopathogenic fungal strains (a fungus that can act as a parasite of insects when released as a biocontrol agent). There is a need to develop control agents for a particular habitat type using fungal strains from a genetic group adapted to the same habitat

Implications for policy & practice (e.g. recommendations)

- A better system of regulation for biopesticides could be achieved by creating an improved knowledge base, involving stakeholders fully in the debate on regulation and its implementation
- A biopesticides 'champion' is needed; a quasi governmental organisation which can act as an advocate for biopesticides
- A framework for promoting regulatory innovation in a regulatory agency was proposed. Recommendations include: that the structure of the CRD should remain unchanged while the capacity of the Advisory Committee on Pesticides should be strengthened; efficacy testing should continue to form part of the registration process but with some scope to vary some requirements and reduce costs; the CRD needs to develop its existing contacts with companies that have products they wish to register
- Project team responded to informal consultation for creating a new Defra Regulatory Science Agency (RSA); provided background material for a paper prepared by the Parliamentary Office of Science and Technology and responded to CRD document 'A Draft National Strategy for the Sustainable Use of Plant Protection Products'
- Project team presented paper and responded to questions before the Agriculture and Rural Development Committee of the European Parliament in 2008 (audience included MEPs, Commission officials and trade association officials) and was also represented on the steering group of the European Commission policy action REBECA (Regulation of Environmental Biological Control Agents)

Applications of research for public policy/services and business performance

- Project team provided training for CRD staff on the scientific and regulatory challenges of the Biopesticides Scheme to facilitate the registration of biopesticides including lectures on the underlying science related to biological control agents and the general issues faced in regulation. CRD staff attested to the value of the interaction for the work they were developing in relation to biological control agents

- The team also developed a model specifying the conditions under which regulatory innovation was likely to occur. This work is consistent with Defra's Science and Innovation Strategy objective to develop alternative plant protection technologies to reduce reliance on conventional pesticides.

Stakeholder engagement and contribution

- Strong engagement with CRD included research team presenting a programme of lectures at CRD, presenting at a CRD conference and at a workshop on the formal consultation of the future structure of CRD as well as contributing written submission to policy makers on CRD restructuring
- Commercial engagement included team presenting to the Royal Agricultural Society of England, to Syngenta Plc's research station, to biopesticides manufacturers at the International Biocontrol Manufacturers' Association meeting in 2009, to a conference at the East of England showground in 2010 and to Sainsbury's (including staff, growers, consultants and biopesticides manufacturers)
- Membership of the National Pesticides Strategy Availability Implementation Plan Group with team submitting written submission on the National Pesticides Strategy

Stakeholder comments

"Our relationship with the RELU project has been good from the start and has helped us to think of things from the other side – not only from the producers' point of view but also academia. The lectures Wyn and his colleagues gave on their visits were pitched very well. They gave us a good idea of how someone's PhD work might lead on to developing a product, and how we can help by ensuring they have an awareness of the regulatory requirements from the very beginning, potentially saving them both time and money. Informal networking with the researchers was also particularly useful – now they have a better idea of where the CRD is coming from on these issues and we would feel quite happy to ring them up and ask for advice." (Lisa Moakes, Bio pesticides champion, Approvals Secretariat Branch, CRD)

"It was useful for the researchers to understand the huge range of queries and problems we receive. Some people might know the system but others have no idea of what we require and how we need the information presented – we need data in a form we can work with. So the earlier we get to see people the better... and it was good for us to have someone independent from the academic community who understands the range of complicated issues we are dealing with, plus the political context we have to work within. The RELU projects reflect the model of the CRD and the way in which policy and technical issues are intertwined." (Sue Mattock, Efficacy Team, CRD)

"Biopesticides have presented a fantastic challenge to both regulators and those developing alternative control measures, working with the RELU team has helped people over that hurdle. They really enabled us to improve our technical skills and strengthened the scientific credibility of the CRD in this niche area. Our Biopesticides scheme is now a pathfinder in Europe – no other member state has a scheme like this. The work shadowing and visiting fellowship were of great benefit to the CRD. They provided us with an opportunity to expand people's skills at reasonable cost and also helped in developing the regulatory policy side of our work. Bouncing ideas off someone like Wyn Grant who has a different perspective is refreshing and helped staff to think about issues in a different way." (Richard Davis, Director of Approvals, Defra)

"Inevitably involvement with such a proactive programme has influenced how a company such as Marks & Spencer approaches crop and product development. For example we have had follow up meetings with researchers on biological pest controls which in turn has helped inform our pesticide strategy." (David Gregory, Technical Director, Marks and Spencer [now retired])

Soft networks (e.g. work shadowing, visiting fellowships)

- Work shadowing placement and visiting fellowship schemes enabled the development of a constructive working relationship with the CRD

Securing future impact (post-project/follow-on work)

- Team have continued to present findings to stakeholders including Sainsbury's and European Parliament Agriculture and Rural Development Committee
- Ongoing relationship with CRD; European Crop Protection Association and International Biocontrol Manufacturers Association
- Provided input into development of Sainsbury's strategy
- Post-doc researcher now employed on a RELU 3rd call project