



# **Biopesticides:** an assessment of environmental and regulatory sustainability

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# The research challenge

- Consumers, retailers and environmentalists would like to see less use of chemical pesticides in food production



# The potential solution

- A sustainable solution is to be found in the greater use of bio-insecticides, e.g., naturally occurring fungi that attract insects



# The problem

- Commercial use of such solutions is not extensive. Why?



# Framing the problem

- Market failure issues are one possible explanation and are considered by another project
- Our focus is on government 'failure'



# The scientific challenge

- Risk assessment challenges remain. Do bio-pesticides persist in the environment when released on a large scale?



# Our model system

- We are using controls of aphids in lettuce as a model system





# Our analytical framework

- We are analysing the regulatory system within a broader model of the regulatory state



# Key questions

- Is the regulatory system principally designed to handle chemical insecticides?
- Could changes in regulatory design facilitate wider use of bio-pesticides?



# A comparator

- Britain has a retailer led system of private governance in the food chain
- Denmark places greater reliance on a statutory framework



# Our overall objective

- Make a broadly based assessment of benefits and costs of contribution of bio-pesticides to sustainability