

## TO PUT US IN CONTEXT.

Intensive agriculture is costly; the loss of farmland biodiversity has been described as Europe's most pressing conservation problem, and agricultural water usage and agrochemical run-off have substantial economic and environmental costs. In response to a need for greater sustainability, significant amounts of UK farmland are being converted from 'conventional' farming to alternative land uses, such as organic or other extensive farming systems.



The effects of changes in farming practice on both the rural environment and rural economy will crucially depend both upon the scale of uptake of particular methods and the scale at which they are assessed. The study is investigating the neighbourhood effects between organic and conventional farming and landscape scale effects of organic farming.



## WHO WE ARE



<http://www.sussex.ac.uk/spru/1-4-7-7.html>

# An Integrated Analysis of Scale Effects in Alternative Agricultural Systems (SCALE)

Our aim is to study the scale effects of alternative methods of agricultural cultivation, and of the factors that drive their adoption.

<http://www.sussex.ac.uk/spru/1-4-7-7.html>

## BACKGROUND

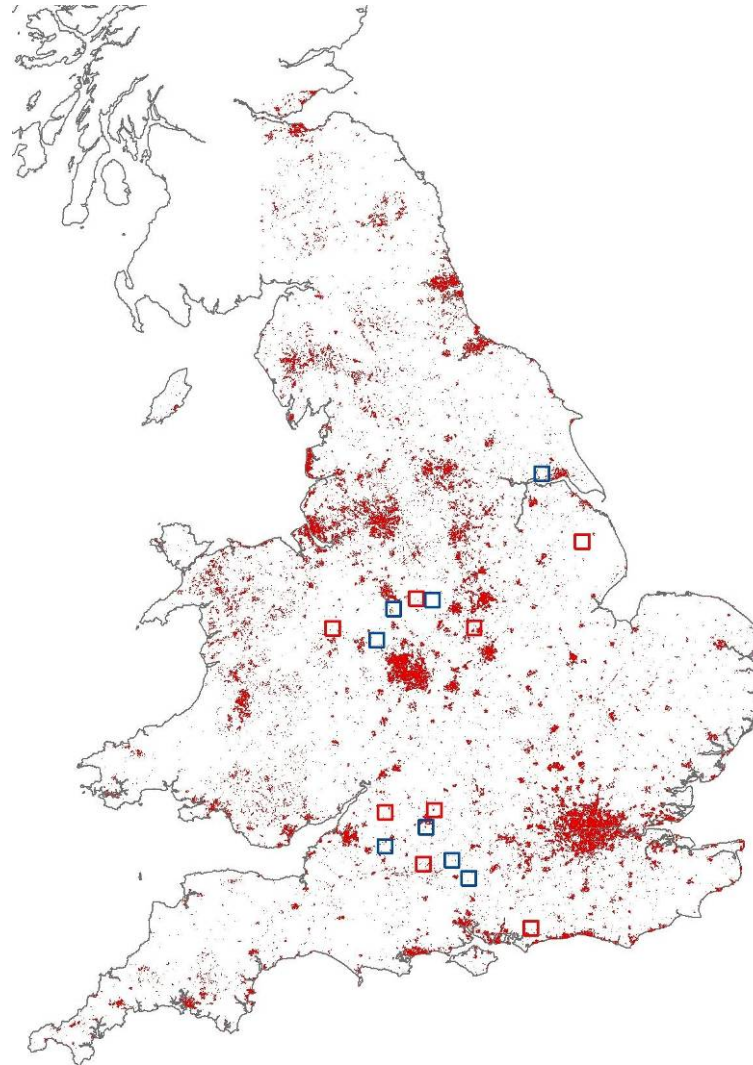
The impacts associated with alternative methods of agricultural cultivation, and the factors that drive their adoption, are critically dependent on the scale at which they are applied. Using organic farming as a case study, our work involves an integrated assessment of scale effects by studying matched sets of farms situated in landscapes with high (“hot”) and low concentrations (“cold”) of organic farming.



The project addresses two key questions:

- 1) What influences the spatial concentration of organic farms at a variety of scales?
- 2) What are the corresponding scale-dependent effects of different farm concentrations on the ecological, hydrological, socio-economic and cultural impacts of those farms?

We have now completed our selection of farms and after a pilot study in 2006 are now ready to begin to start our work in earnest.



The map above shows the Southern and Central English regions we are working in and the hot (■) and cold (■) paired farms.

Within each landscape, organic and conventional farms (on similar soils and landforms and growing similar crops) are being studied. We will study a wide range of factors describing the environment; such as soil and biodiversity (birds, insects, earthworms and plants) as well as socio-economic and cultural aspects of the farm; such as farm economics, on-farm resource use, marketing and supply chain; cross-farm social interactions; and farm family cultural attitudes.



We will also investigate whether a critical mass is required to set up supply networks that stimulate conversion to organic farming. This will identify the drivers influencing the spatial density of particular land management practices and whether they will lead to landscapes dominated by conventional or organic farming.