

Eating Biodiversity: an Investigation of the Links Between Quality Food Production and Biodiversity Protection

A Rural Economy and Land Use Programme research project that investigates the benefits of grazing farm animals on natural grasslands to farm businesses, product quality, ecological management and human health.



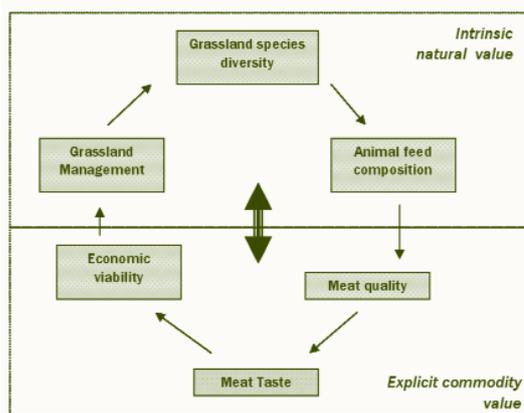
Policy and Practice Notes

The Rural Economy and Land Use Programme is a UK-wide research programme carrying out interdisciplinary research on the multiple challenges facing rural areas. It is funded by the Economic and Social Research Council, the Biotechnology and Biological Sciences Research Council and the Natural Environment Research Council, with additional funding from the Scottish Government and the Department for Environment, Food and Rural Affairs.

This project investigated the links between quality food production and biodiversity protection by asking the question: can farmers who use and maintain biodiverse, natural grasslands by grazing animals on them, translate that into extra profits from their products? The conventional view is that landscapes and environmental quality are the result of good farm management. One of the aims of the project was to invert that concept and explore the idea of the natural biodiversity of grassland as actually contributing to the quality of the farm produce. Chemical analysis of the produce, as well as tasting panels and consumer focus groups, have shown that meat products from animals grazed on biodiverse grasslands are clearly distinguished by a number of positive characteristics.

How can farmers add value?

Farmers, and particularly livestock farmers, are facing an increasing variety of pressures at the present time. One particular way of responding to those pressures is to seek additional value, and so higher profits, from farm products. The 2002 Policy Commission on the Future of Farming and Food for example, claimed that British farmers could “increase their incomes by enhancing the value of their output”. Can production systems that use and maintain biodiverse natural grasslands as grazing sites, translate that into this kind of additional product value and are consumers prepared to pay for it? There is already some evidence that this can be done.



- It is increasingly clear that consumers will pay more for products that involve positive benefits for the landscape, for the sustainability of rural communities and for human health.
- Throughout Britain a growing number of farms are using natural and species-rich grasslands, including salt marshes, heather and moorland, lowland chalk grasslands and meadows, to graze cattle, sheep and lambs, because this not only maintains those grasslands but also yields products which can then be sold for a higher unit price, thereby bringing in more money to the farm and local area.

What are the benefits of grazing animals on biodiverse pastures?

The research shows that biodiverse pastures can produce meat with particular characteristics.

- Lamb meat produced on biodiverse rich grassland (particularly heather pasture systems) displays higher levels of Vitamin E (a natural anti-oxidant affecting shelf life) than lamb produced in conventional systems.
- Fat from lamb grazed on biodiverse rich grasslands recorded generally lower skatole levels. (Skatole adversely affects meat odour, particularly during cooking.)
- Lamb meat from biodiverse rich grassland recorded higher levels of a number of nutritionally healthy fatty acids.
- Beef from Longhorn cattle grazed on unimproved pastures contained significantly higher levels and proportions of certain 'beneficial' fatty acids, than conventionally produced beef.
- Taste panels showed that certain beef breeds (e.g. Longhorn), more suited to biodiverse pastures, generally yield more tender and flavour intense meat than conventional breeds grazed on similar pastures.
- Extensive grazing on biodiverse and natural grasslands was shown to play a key role in maintaining habitats and managing grasslands. Farms using natural and biodiverse grasslands for production of meat and cheese were often helping to protect threatened and marginal ecosystems.

What do consumers think?

The messages from consumer focus groups are clear.

- People are increasingly prepared to pay for quality food products, particularly for special occasions, weekends or treats, and are more and more aware of often complex food issues. However, consumers need to be convinced that what they are paying extra for has added value.
- Short food chains, buying directly from farm shops, markets, butchers and specialist food outlets, and forms of labelling that refer specifically to local places, individual farms and natural processes of production, are all associated positively with the purchase of higher quality products.

Do these products make more money for producers?

Premium prices can and are being obtained for animal products that also benefit the natural environment.

- These premium prices can offset lower production volumes.
- Farm businesses are adding value to a range of products (lamb, beef, cheese) by making the link between environmental and food quality.
- They are “creating short, sustainable food chains which reconnect the countryside, nature and consumers” as advocated by the 2002 Policy Commission on the Future of Farming and Food.



Which farmers are taking up this option?

Two different types of farmers are tending to take up this option.

- A new generation of inventive farm business entrepreneurs who are sometimes new to farming but bring to it dynamic and innovative approaches that combine focused production chains, niche marketing and often highly organised specialist retailing.
- More longstanding farm businesses which seek to realise the latent value of their unimproved pastures in response to perceived consumer demand.

Why aren't more producers doing this?

The demand for quality and local food products is certainly growing amongst consumers, but establishing quality production systems that use and maintain natural and species-rich grasslands as a key component of product quality raises a number of specific issues.

- Although alternative retail outlets offer the possibility of greater profit margins, they do make their own demands on time, knowledge and availability. Selling is therefore often more of a challenge than producing.
- Fewer, more centralised abattoirs and processing facilities mean that producers working with smaller volumes can be disadvantaged, because they have to transport small numbers of animals over long distances.
- Because stocking densities are generally lower on natural grasslands and seasonality plays a larger role in stock availability, production volumes are often reduced when compared with more intensive systems. Individual farms pursuing these types of production system often have to 'go it alone'.

What policies could encourage these types of production?

Achieving better quality and higher value farm products while helping to maintain biodiverse natural grasslands, in some cases in areas threatened by agricultural withdrawal, seems to be a potential, and indeed necessary, win-win situation. In other European states, quality production systems have a long history and are widely associated with vibrant forms of rural regeneration. They are also strongly supported by policy initiatives.

- More innovative start-up or conversion support, such as is used for organic farming would help to promote these other forms of sustainable practice.
- Britain has been slow to develop the sort of place-based labelling that is so common in countries like France and Italy. More attention needs to be paid to how more coherent and dynamic 'product/place/process' local food-labelling schemes might be stimulated.
- Working together to process, label and market produce would be beneficial for farmers who are producing at small scale. There should be targeted support for setting up producer groups to cooperate in the innovative production and marketing of products derived from the management of natural grasslands, under the Regional Development Agencies' priorities for rural socio-economic investment.
- Where appropriate, there should be a greater degree of complementarity between the management options of the Higher Level Environmental Stewardship scheme and opportunities for developing quality production systems on biodiverse rich, natural grasslands.
- The Countryside Agency's 'Eat the View' programme was an original attempt to link sustainable farming practices, landscape quality and product marketing. Natural England should continue to explore the development of these links, alongside other initiatives such as the Grazing Animals Project and those run by a number of Wildlife Trusts as well as a growing number of local producer, food and community groups.

Further information

This research has been carried out at the University of Exeter with the Universities of Bristol and Gloucestershire and the Institute of Grassland and Environmental Research

Key contact:

Professor Henry Buller, Department of Geography,
University of Exeter
email: h.buller@exeter.ac.uk

Useful resources:

Report of the Policy Commission on the Future of Farming and Food, January 2002
<http://archive.cabinetoffice.gov.uk/farming/pdf/PC%20Report2.pdf>

Eat the View Countryside Agency Archive

<http://www.countryside.gov.uk/LAR/archive/ETV/index.asp>

Grazing animals project

www.grazinganimalsproject.org.uk/

Project website:

www.sogaer.ex.ac.uk/geography/Eating%20Biodiversity/Index.htm

