

# **Review of the environmental and socio-economic barriers and benefits to organic farming in Scotland**

**A summary**

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# Review of the environmental and socio-economic barriers and benefits to organic farming in Scotland – A summary

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## **Background**

Organic production accounts for only a small percentage (2.1%) of agriculture in Scotland, compared to almost 3.0 per cent in the UK as a whole. To help support future decision making, the Scottish Government requires evidence of any environmental and socio-economic benefits of organic farming compared with conventional methods, and also evidence to facilitate a better understanding of factors which determine demand and public attitudes towards organic produce.

## **Aims and objectives**

The aim of this project was to identify the socio-economic and environmental benefits and impacts of organic agriculture versus conventional farming systems in Scotland, including what factors are influencing or driving uptake of organic production and consumer demand for organic produce.

The research objectives were to:

- Undertake a Rapid Evidence Assessment (REA) of the existing evidence base on environmental and socio-economic impacts of organic production systems, focusing on evidence from, or of demonstrable relevance to, Scotland.
- Conduct a comparative SWOT analysis on Scottish organic and conventional farming systems.
- Identify and assess the relative importance of factors which i) determine public attitudes and behaviours towards organic produce, and ii) influence consumer demand, using the results to inform recommendations for ways to increase consumption of Scottish organic produce.
- Identify, and where possible, quantify, factors contributing to the year-on-year decline in the percentage of Scotland's land certified as organic and make recommendations for potential ways to reverse this decline.

In order to address these objectives, the project was carried out in three stages:

### **Stage 1:**

A desk review of the existing research evidence relating to the environmental and socio-economic benefits and impacts of organic agriculture in Scotland in order to identify trends and gaps in existing research knowledge.

### **Stage 2:**

An analysis of strengths, weaknesses, opportunities and threats (SWOT analysis) facing organic farming in Scotland. The findings of the REA were combined with previous organic farming consultations of farmers, growers and consumers to inform this process.

### **Stage 3:**

Gather stakeholder opinion on the areas for future prioritisation for the organic sector in Scotland. The areas identified in the SWOT analysis were prioritised for importance by members of the Scottish Organic Forum, and a stakeholder workshop was held to identify potential actions to address these priorities.

## Rapid Evidence Assessment (REA)

A REA provides a rigorous and policy relevant synthesis of evidence to collate literature from the existing evidence base and inform future policy decisions.

Academic and grey literature was compiled to address the following questions:

**Primary question:** What is the available evidence for the environmental and socio-economic benefits and impacts of organic agriculture versus conventional farming systems in Scotland?

**Secondary questions:** 1. What factors determine public attitudes and behaviours towards organic produce and influence consumer demand? 2. What factors have led to a decline in organic certified land in Scotland?

**323** studies were included following screening. There was a diverse range of study focus and design (see Figure 1). This ranged from studies considering consumer and farmer attitudes and other socio-economic studies, to studies into on-farm management interventions. This broad variation in topics meant that meta-analysis was not appropriate. The studies were instead categorised into three key themes (environment, economics and attitude/behavioural studies), and some common topics of study highlighted (Table 1). A searchable database of studies was created.

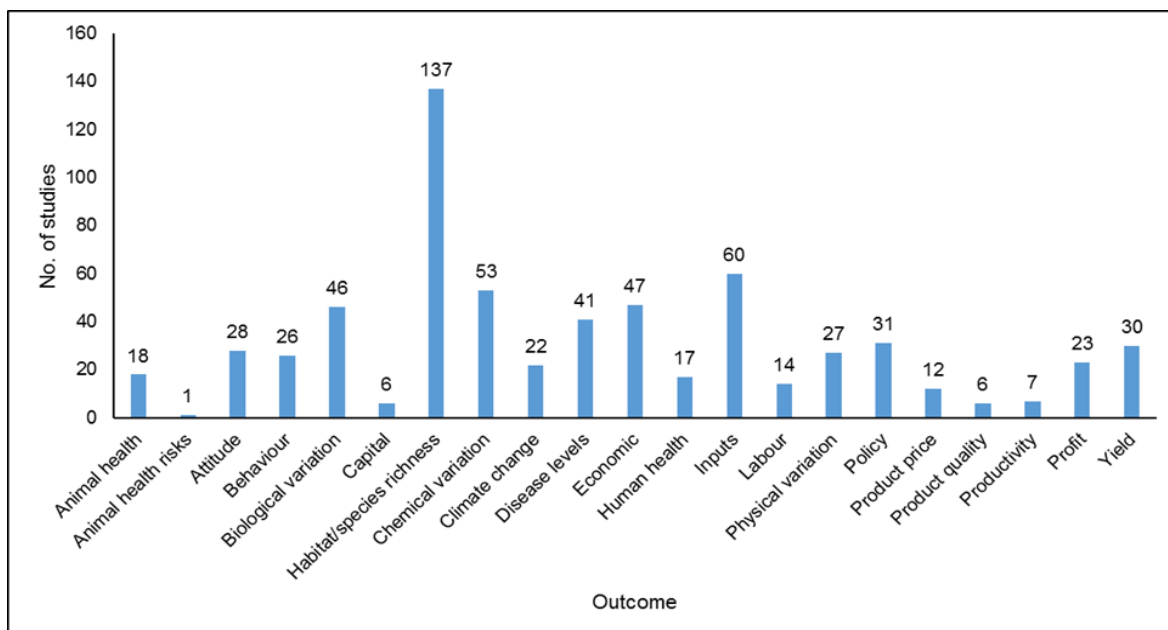


Figure 1. The number of studies related to the outcome categorisations. **N.B.** Outcome was reported on frequency of appearance within the study papers and therefore an outcome with a greater number of studies does not necessarily reflect greater importance.

Theme	Topic
Environment	-Enhancement of biodiversity and ecosystem services -The effectiveness of current agri-environment schemes
194 studies	-Importance of organic management in relation to scale and landscape complexity and climate change.
Economic	-Profitability of different organic cropping/livestock systems -Yield comparative to conventional farming
117 studies	-Organic premium farm size -Importance of direct payments to organic farm viability -Disease prevalence
Consumer/ Farmer attitudes and behaviour	-Perception of organic certification -Motivations to purchase organic produce -Importance of organic certification inspection costs -Drivers of farms converting to organic
44 studies	-Knowledge required to manage an organic farm successfully

Table 1. A summary of commonly studied topics within three key themes.

## Strengths, Weaknesses, Opportunities and Threats for organic farming in Scotland, and their prioritisation

Strengths, weaknesses, opportunities and threats identified by authors of studies included in the Rapid Evidence Assessment were compiled and combined with some key findings from the Scottish Organic Action Plan Consultation (The Scottish Government, 2016). Members of the Scottish Organic Forum, were invited to prioritise them in order of importance, state how easy each priority would be to address, and identify which group would be best to target for action. The 19 respondents identified 10 benefits and 8 barriers that were both of high importance, and relatively easy to address. These are shown in Tables 2 and 3.

Barrier	Target group
Poor awareness of the complete benefits of organic farming	Consumer
Direct payments important to financial viability of organic farms	Farmer/ Consumer
Inconsistent availability of organic produce in markets and supermarkets	Consumer
Consumer knowledge of organic certification is low and is often not distinguished from alternative environmental certification i.e. LEAF	Consumer
Excessive organic pricing limits purchases	Consumer
Low availability of labour and affordable rural housing to accommodate workers	Farmer
AES measures do not account for variable environmental performance of organic management in landscapes of different complexity	Other
Some farms keen to gain organic certification are restricted by a lack of technical understanding of organic management	Farmer

Table 2. List of environmental and socio-economic barriers to organic farming in Scotland in order of mean importance. Note that there were 4 barriers that were considered of equal or higher importance than some of those included in this list, but they were also considered difficult to address so were not included.

Benefit	Target group
Increased demand for organic produce	Consumer
Organic farming supports greater biodiversity than conventional farming	Farmer
Organic consumers are motivated to purchase by taste and health, environmental, animal welfare and social concerns	Consumer
Organic farming generally supports improvement of soil health characteristics	Farmer
Organic subsidies add value to the land by supporting greater biodiversity and ecosystem service provision	Farmer/ Other
Management of soil organic carbon to offset climate change potential on organic farms	Farmer
Potential for realisation of more committed organic consumers through the existing large occasional organic consumer base	Consumer
Potential for increased competitive ability of organic farms with introduction of carbon and/or pesticide taxes	Farmer/ Other
Organic farmers more often perceive their land as part of the natural environment	Farmer
Greater non-marketable ecosystem services provided by organic farming than conventional farming	Farmer

Table 3. List of environmental and socio-economic benefits to Scotland prioritised by members of the Scottish Organic Forum in order of importance

### Scottish Organic Forum Workshop

Seven members of the Scottish Organic Forum attended a workshop hosted by the Scottish Government and led by Harper Adams University and the James Hutton Institute to propose actions to address each of the identified priorities. Fifteen potential actions were identified, and of these four key actions were recommended by the group for further investigation:

- *Cooperation in utilising and promoting Scottish organic produce.* Encourage a model of collaboration through funding and policy implementation.
- *Invest in promotion for consumers.* Provide greater transparency in promotional materials and promotion of educational schemes at schools.
- *Link to public procurement.* Increase procurement of organic produce in the public sector and link it with the promotional effort suggested above.
- *Investigate, facilitate and broker supply/demand of organic produce in Scotland.* A broker or facilitator could help ensure a detailed understanding of the organic market prior to initiatives being established to support increased Scottish organic production to prevent under/oversupply within the supply chain.

## **Conclusions and implications**

### *Implications for policy*

The Scottish Government could provide greater funding opportunities for organic farming research, particularly in socio-economic studies.

Farmers were generally thought by members of the Scottish Organic Forum to be easier targets to address actions towards than consumers, although a lack of awareness by consumers of the benefits of organic farming could be an area of future focus.

Biodiversity and other environmental factors associated with organic farming have been highly studied and may offer an area for promotion to farmers and consumers.

The Scottish Organic Forum is a valuable resource when collating information, and knowledge of current and existing programmes that may help address priorities for action.

### *Implications for research*

Further primary research is necessary to provide more detailed insights into the complexities of the drivers of and barriers to organic farming in Scotland.

There is scope for further research into the socio-economic aspects of Scottish Organic Farming, particularly relating to studies considering the health and employment implications of organic agriculture.

It would be useful to carry out more studies into the potential implications of future regional and global change scenarios on organic decision-making.

In order to develop a more comprehensive understanding of organic farming in relation to other non-organic systems, it would be useful for future primary research to place a greater focus on the variants of organic and of non-organic, and consider more comparisons with named practices to benefit the environment i.e. integrated management, low-input and conservation tillage.

### *Implications for future synthesis*

Future evidence syntheses focused on some of the subtopics included in this work would provide greater detail and opportunities for critical appraisal, which was not viable within the scope of this review.

It would be useful to periodically add to the systematic map database as new relevant research is carried out. This would contribute to an evolving and up-to-date reference of literature relevant to organic farming in Scotland.

## **References**

The Scottish Government (2016). Organic Ambitions Scotland's Organic Action Plan 2016-2020. [Online] Available from:  
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