What should R&D deliver for the organic sector by 2015?

Preliminary summary of consensus statements from workshops for Defra project OF0350

1. Policy & Standards

i. A unified world organic standard.

ii. A robust scientific base for organic standards and their development.

iii. Identify and resolve the barriers to certification and remaining organic for small producers.

iv. Identified and enhanced public good benefits of organic farming.

v. 25% of agricultural land farmed organically by 2015.

vi. Barriers to conversion.

vii. Increased public procurement of organic food.

viii. Why do farmers choose to go or out of organic production.

2. Supply Chain & Marketing

i. Alternative distribution and retail systems for organic produce that shorten supply chains.

ii. Broader cross-section of people (including vulnerable/marginal groups) buying a wider range of organic produce.

iii. Increased public procurement of organic food.

iv. Better market information.

v. More effective marketing strategies to increase demand.

vi. What is and drives the consumer perception of organic food.

vii. Greater understanding of the consumer wants for small and local/regional organic businesses.

viii. Effective small-scale local production, distribution and consumption of organic food.

ix. Restore concept of consumer choice of preferences & seasonality.

x. Collect and spread information on sources of local organic food.

xi. Fairer payments throughout the supply chain.

3. Soil

i. Improved understanding of soil activity to enable improved soil management.

ii. Improved fertility regimes for stockless systems.

iii. Improved fertility regimes for perennial crops.

iv. Improved understanding of organic soils flora/fauna specifically mycorrhizae.

v. Improved understanding of Nitrogen fixation, its optimum use and minimal loss.

vi. Nutrient strategies for whole farm systems.

4. Cropping Systems

i. Impacts of climate change on UK organic crop production.

ii. Effective stockless production.

iii. Evidence based organic crop breeding programme.

iv. A range of quality crop varieties that will perform well within organic systems and different localities.

v. Effective organic crop seed production.

vi. Suitable organic growing media for vegetable transplants.

vii. Effective crop management through an understanding of the variability within the cropping system and the affects of the farmed and non-farmed areas.

viii. Optimised yield and quality of crops including extended season cropping.

ix. Effective crop nutrition with particular reference to perennial crops and vegetable transplant production.

x. Effective pest management strategies including wireworm and aphid.

xi. Effective disease management strategies particularly for mildew, other fungal diseases and to replace copper.

xii. Effective weed management strategies particularly mechanical approaches and for perennial weeds.

xiii. An organic landscape and amenity horticulture sector.

5. Livestock Systems

i. A range of quality forage varieties that will perform well within organic systems and different localities.

ii. Effective organic forage and fodder seed production.

iii. Effective production of alternative protein sources throughout the UK.

iv. Effective forage production throughout the UK and in particular in less favoured areas due to climate and short growing seasons.

v. Effective management of perennial weeds.

vi. Understanding the role of mycorrhizal associations in soil to feed value of forage.

vii. A range of quality animal breeds that will perform well within organic systems and different localities.

viii. Effective and sustainable management of parasites/pests including liver fluke.

ix. Effective and sustainable management of pathogens such as sub-clinical mastitis including alternative treatments.

x. Defined organic parameters and develop measuring system for animal health and welfare.

xi. Integrated production systems to improve animal health and welfare including housing.

xii. Impact of an organic diet on animal health and welfare and on the quality of the end product.

6. Processing & Storage

i. Appropriate packaging.

ii. Organic storage and processing methods that maximise the nutritional quality of the product.

iii. New innovative products to enable added value of organic food including on-farm and local processing, so as to deliver quantifiable benefits to the rural/local economy.

7. Economics & Rural Development

i. Robust economics of the whole organic food chain (including hidden costs and the impact of farming subsidies).

ii. Quantify the advantages and disadvantages of organic farming on socio-economic factors (global/local).

iii. How to best capture (financial) benefits for small producers. (farmers markets, selling).

iv. Fairer payments throughout the supply chain.

v. Improved social conditions in agriculture through alternative models such as community-supported agriculture.

vi. Effective small-scale local production, distribution and consumption of organic food.

vii. The benefits of organic farming to the local economy.

8. Environment & Resources

i. Quantified environmental costs and benefits of organic agriculture using internationally recognised environmental indicators including energy, carbon etc.

ii. Comparison of 'true' (environmental) costs of conventional agriculture compared to organic production.

iii. Improved tools to allow organic farmers to conserve natural resources.

iv. Impact of climate change on UK organic agriculture.

v. Reduced fossil energy input to farm.

vi. Understand the dynamics of field margin and in crop flora as a refuge for predators and for their companion and ecological benefits.

9. Human Health & Food Quality

i. Rigorous scientific evidence of the effects of organic food on human health, well-being and behaviour.

ii. Effects of fodder on animal products and then human health.

iii. Improve crop and animal husbandry techniques to improve product quality.

iv. Is organic food best value for school children in terms of health, behaviour & academic performance?

v. Define nutritional values/quality of organic food.

vi. Effect of informed education about organic production on future generations.

10. Research Methods

i. Wider range of stakeholders to be actively involved in research and development of organic farming.

ii. New “scientific” criteria for success.

11. Communication, Knowledge Transfer & Education

i. By 2015 everyone knows what organics is - educating public/consumers.

ii. Effectively communicate the health benefits of organic produce - e.g. Jamie Oliver.

iii. Transfer of existing/new technologies to organic farming..

iv. Improved availability of past and current research and farming knowledge.

v. Encourage people to grow some food plants to help sustain their local environment (especially primary schools and councils).

What are the most urgent information or knowledge gaps that R&D should address?

Preliminary summary of consensus statements from workshops for Defra project OF0350

1. Policy & Standards

i. The impact of the integration of Organic Farming Scheme with Good Agricultural and Environmental Condition and other agri-environment schemes.

ii. Retain Scottish producers after the conversion period – how?

iii. Effective isolation. GM v organic.

iv. Develop evidence-based systems for policy makers.

v. Small and family farms – how best to establish and support new entrants.

vi. Benefits or disbenefits on animal welfare of organic standards.

vii. Why have the policies put in place for organic farming not leading to the expected outcome?

2. Supply Chain & Marketing

i. Where the market is going?

ii. To get all Scotland's organic produce into the supply chain.

iii. Matching product supply and demand, local and national.

iv. Greater understanding of the organic market EU/UK/Ireland/NI.

v. Extended season for indigenous organic produce (whole supply chain).

vi. Effective organic marketing especially at supermarkets.

vii. Merchandising of vegetables and fruit improved reducing the supermarkets cut.

viii. Information for producers on character and criteria of local marketing to increase availability for the consumer of wider range of products and in wider range of outlets.

ix. Diversification of small farm rural livelihoods, adding value and new product development ie local processing outlets, abattoir (to allow humane slaughter), brand.

x. Solutions for small-scale local producers especially facilitating new entrants and improving local marketing.

xi. Fair distribution of profit.

What are the most urgent information or knowledge gaps that R&D should address?

3. Soil

i. Soil science – structure (quantifying), K and biology, quantify below ground N fixation processes.

ii. Improved soil fertility management including erosion prevention, the ideal livestock mix and density for each farm.

iii. Sustainability – soil fertility – will fertility become exhausted on land converted in recent past? Prices in face of recession and disposable income.

iv. Holistic approaches to whole farm management and soil health.

v. Closed nutrient recycling production systems.

vi. Reinvestigating the methods and benefits of traditional farming eg companion cropping

4. Cropping Systems

i. Define performance parameters for breeding and selection.

ii. Suitable varieties of all crops, including fruit, for local environmental (soil and climate) conditions within the confines of organic regulations.

iii. Quality organic seed and propagation material available for all major crops – right quality, price and GM free.

iv. Yield and suitability trials in organic systems for all field crops including pest control.

v. Pest, disease and weed management strategies that minimise the negative effects and retain the benefits particularly to replace copper and to control wireworm, slugs, carrot root fly, rosy apple aphid, apple blossom weevil, blight, septoria, blackspot and weeds in cereals and perennial weeds.

vi. Does companion cropping work?

vii. Extended season production.

viii. Link growing conditions to flavour - find systems to improve and disseminate.

ix. Effective isolation between GM and organic crops

x. Effective home produced alternatives to peat as a growing medium.

xi. Closed nutrient recycling production systems.

xii. Improve post harvest quality control on organic farms.

What are the most urgent information or knowledge gaps that R&D should address?

5. Livestock Systems

i. Define performance parameters for breeding and selection.

ii. Suitable breeds of all livestock for local environmental (soil and climate) conditions within the confines of organic regulations.

iii. Appropriate methods of parasite/disease control including prevention and cure for such conditions as fluke.

iv. Impact of removal of feed derogation and 100 per cent organic feed on farm businesses including mixed forage compatibility and mineral levels of both forage crops and animals and animal performance, health and welfare implications.

v. Alternative protein for organic livestock – on farm production, fish.

vi. Less stressful slaughtering options ie local/mobile abattoirs.

vii. Benefits or disbenefits on animal welfare of organic standards.

viii. Increased organic egg production that delivers improved animal welfare.

ix. Market acceptable beef in 30 months.

6. Processing & Storage

i. More local abattoirs.

ii. Improve post harvest quality control on organic farms.

iii. Long-term storage of vegetables to supply markets with UK produce fro extended season.

7. Economics & Rural Development

i. Fair distribution of profit.

ii. Ways to change consumer behaviour/lifestyle.- making people responsible - true cost & value of food.

iii. Diversification of small farm rural livelihoods, adding value and new product development ie local processing outlets, abattoir (to allow humane slaughter), brand.

iv. CAP reform – cost of production – more accurate information on the economies of organic farming.

v. Small and family farms – how best to establish and support new entrants.

vi. Solutions for small-scale local producers and family farms especially facilitating new entrants and improving local marketing.

What are the most urgent information or knowledge gaps that R&D should address?

8. Environment & Resources

i. Establish the differences between the environmental effects of organic and conventional production.

ii. Develop tools & assessing and improving the impacts of organic farming on biodiversity.

iii. Management systems that maximise bio-diversity benefits of organic farming.

iv. Are buffer strips and beetle banks on RSS LMC more effective and cost effective that whole organic farms?

v. Complementary resource use across different locations to develop closed, sustainable systems.

vi. Establish an energy balance of production system.

vii. Optimised water and energy use on organic farms.

viii. Biological solutions for water quality.

9. Human Health & Food Quality

i. Link growing conditions to flavour - find systems to improve and disseminate.

ii. Quantify the nutritive and sensory quality of organic food and implications for human health.

iii. Reduction of pathogens in the production chain.

10. Research Methods

i. Value of long-term research.

What are the most urgent information or knowledge gaps that R&D should address?

11. Communication, Knowledge Transfer & Education

i. Identification of an effective transfer of benefits of organic food and farming to the public including local and fair trade.

ii. More robust scientific evidence and effective transfer of information with regard to the potential health benefits of organic food.

iii. Information for producers on character and criteria of local marketing to increase availability for the consumer of wider range of products and in wider range of outlets.

iv. Northern Ireland Organic Food Directory.

v. Up to date web based price/market information.

vi. Effective integration of producers, processors and retailers.

vii. Access to information for and from all stakeholders.

viii. Effective knowledge transfer.

ix. Mechanisation - technology transfer to small & medium growers.

x. Develop links to local facilities (labs, universities etc. - for entomology, microbiology, climate change).

12. Miscellaneous

i. Age of introduction of home economics education in schools most beneficial?