

Duchy Originals Future Farming Programme

A practical, farmer led approach to innovation

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Author's Background

Tom MacMillan is Director of Innovation at the Soil Association, responsible for supporting continuous improvement in organic systems and helping organic and non-organic farmers share best practice. He manages the Duchy Originals Future Farming Programme, which supports agroecological innovation by UK farmers and growers, in partnership with the Organic Research Centre, Waitrose and the Prince of Wales's Charitable Foundation. Tom joined the Soil Association in November 2011, having been Executive Director of the Food Ethics Council since 2003. He has been a member of the expert advisory panel for the Cabinet Office Strategy Unit's Food Matters report, a member of the BBSRC Science and Society Strategy Panel, a trustee of Sustain and a director of the Brighton & Hove Food Partnership. He has PhD in geography.

Summary

We have adapted farmer field schools for the UK to boost innovation in organic and other low-input systems by encouraging farmers to develop and share knowledge through practical experimentation. Benefits in productivity and for the environment come from improved management practices, and improving the use of renewable resources to provide low cost and sustainable solutions.

Background

The Soil Association (SA) is inspired by the success of farmer field schools in sharing the knowledge that farmers really need. Millions of the world's most marginal farmers, across Asia, Africa and Latin America, have taken part in farmer field schools since they were pioneered in the 1980s.

Farmer field schools target the very poor, who are farming on a small scale and unable to benefit from mainstream extension services. The situation and needs in the UK and other European countries is different because farmers often have college or university qualifications, access to research through the web and other media, and more access to investment capital. But there is value in adopting parts of the approach and instead of farmer field schools we are running 'field labs'. What the two approaches share is:

- Help for farmers to work out their own solutions to a problem they face by helping them learn ways of solving problems that they will be able to use again in future,
- Finding agroecological approaches that make the best of the wildlife and resources that are freely available in their immediate environment.

Field labs increase the likelihood of farmers finding their own solutions but can also help identify the help they need from researchers. In much of the world there is a gap between farmers and researchers with a large share of agricultural research paid for by businesses wanting to develop new inputs to sell to farmers. There is less support for research that helps farmers make the best use of the renewable resources that they already have on their farms, for example to help build soil fertility and control pests and diseases.

To offer a better way of doing things the Soil Association is managing a small research fund. Projects require that farmers and researchers work together to identify the research programme and where possible to include farmers to ensure that the approach is practical and will be publicised mainly to its intended audience of farmers.

The programme is funded by the Prince of Wales's Charitable Foundation and is being delivered by the Soil Association in partnership with Duchy Originals from Waitrose and the UK Organic Research Centre (ORC).

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Main Chapter

Field labs

'Field lab' is the name we have given to a meeting of farmers to share and contribute ideas around on-farm innovation. The title is intended to reflect similarities with farmer field schools because both approaches recognise the value of farmer knowledge. Field labs offer a forum to sharpen participants' problem-solving skills and identify existing best practice. They also allow farmers to understand the help they need from researchers.

Each lab is hosted by a producer who has pinpointed a problem and is testing a way of tackling it. They are open to all, whether organic or otherwise. Although the trial may not reproduce the care and control that would be possible at a research station it is realistic because it fits with the farming enterprise. The field lab programme can help ensure that results are robust enough to inform farm management decisions for the host farm and others.

The programme supports the farmer by organising a series of meetings at which the ideas are developed and assessed. The group meets 2-4 times to track progress and compare notes. A facilitator helps organise the field lab and stewards the meetings to ensure that everyone gets the opportunity to contribute. Technical input is available from a researcher whose role is to get the most from the experiment without taking control. It is important that the experimental design or trial fits into the working of the existing farm enterprise.

The first wave of field labs is proving popular, with 450 producers attending over the first two years. Around 20 field labs have been completed or are active, including 'taking poultry through the moult' and 'foam weeding'. In a 'virtual field lab' 20 growers went sent open-pollinated (OP) vegetable seeds to trial. OP seeds can be saved year-to-year and leave growers less at the mercy of the seed market than the F1 hybrids that now dominate. We place reports and blogs with photos and results on the Soil Association website so that many more producers can benefit.

Research fund

Research needs are identified in the field labs providing valuable information around priorities for organic and agroecology and focussing on those people with the strongest stake. We believe that agricultural research should tackle the real problems farmers face and help them make the best of the resources they have to hand.

As part of this programme, a new research fund was launched where farmers and growers set the priorities. In the first funding round, dozens of innovative ideas from producers were identified and more than 70 researchers came forward to help. We insisted that the researchers and producers should collaborate throughout the process, from drawing up the proposal to communicating results. So far, four projects have been selected for funding, receiving research grants worth a total of more than 70,000 euros.

The research proposals were subjected to rigorous review by a panel of expert farmers and scientists. The call for proposals attracted a wide variety of fascinating projects, and more high-quality research proposals than we were able to fund in the first round.

The four projects selected for a research grant were:

- Using green manures instead of spraying glyphosate around fruit trees in cider orchards. The research is led by the Bulmer Foundation's ONE project in conjunction with Weston's Cider and is looking to support non-organic cider producers adopt organic sector practices for improvements in management practices that offer environmental and productivity benefits.
- Perimeter management of flea beetle and other pests on Brassica crops. Many crop pests such as the flea beetle and cabbage root fly invade crops from field edges. This project investigates whether pests can be controlled through the management of field margins (increasing plant diversity, using trap crops and biocontrol). The research is led by the Stockbridge Technology Centre, with trial sites on farms, including an award winning vegetable supplier to UK supermarkets.
- Control of common couch by using cover crops in organic rotations. Weed biologist Lynn Tatnell (at agricultural research and consultancy company ADAS) who is leading the project summarised the project by saying: "this research will provide farmers and growers with a better understanding of how

cover crops can be a beneficial part of an organic weed control strategy as they can suppress perennial weeds, such as common couch grass".

- Biochar in animal feed. Collaboration between the Biochar Research Centre, University of Edinburgh and farmer Pete Richie has resulted in research taking place into existing farm practices to investigate the potential benefits of supplementing pig feed with biochar. Measurements include animal growth rate, health and development, and could be extended to include impact on greenhouse gas emissions.

Core messages and conclusions

We have surveyed and interviewed farmers and researchers involved in the first year of the programme to establish how much progress we have made towards our aim to support farmers in driving innovation.

More than forty per cent of farmers said they had been inspired to try something new because they attended a field lab and over half wanted to get more involved with research. They described field labs as "great", "enjoyable" and "a good informal approach with a practical edge which is not always the case with academic run research".

A quarter of the researchers with whom we have engaged, including scientists from the UK's leading agricultural research centres, had been prompted to look for new opportunities to work with farmers. Most were already working with farmers but even so a third said they had been reminded of the need to work more closely. They described the research fund as "the first really open opportunity to develop farmer-driven participatory research in the UK" and attempting "to deliver on some critical research priorities that will only become more important over the next century".