9th ORC Organic Producers' Conference:

Practical research and innovation - diversity in practice

WEDNESDAY 26 November 2014

09:30–11:00 OPENING PLENARY

Brueton Suite

Organic farming and sustainable intensification?

What is sustainable intensification? A ruse for corporate techno-fix interests to regain the political high-ground or a serious attempt to address future food needs sustainably while respecting the environment? And what contribution can organic food and farming make, if any, to delivering sustainable intensification? Leading agricultural and food policy speakers will present contrasting perspectives to stimulate debate during the conference.

Nic Lampkin (ORC): Chair

Emeritus Prof Allan Buckwell (Institute for European Environmental Policy): What *is* sustainable intensification – does organic farming fit the bill?

Sustainable intensification is a sensible, globally defined, approach to agriculture necessary to help meet the challenge of continued population and economic growth. In the EU the emphasis has to be on the first of the two words. The actions to move to a path of sustainable intensification will be very different across the heterogeneous territory and farming systems of the EU. It is necessary to detoxify the word 'intensive' and to reduce the woolliness of the word 'sustainable'. A simple way of explaining the intensification required for SI is to say that it demands more knowledge per hectare. This will especially be knowledge of the impacts of farming on the biodiversity and ecosystems which make up the agricultural landscape. Practically it requires new approaches to measuring and managing the environmental impacts of farming systems. Organic farming is one of many such approaches, but its economic sustainability remains in question.

Patrick Holden (Sustainable Food Trust): Thoughts on True Cost Accounting, biological intensification, soil and ruminants

I shall start by discussing why it has been, and continues to be hard to make sustainable food production profitable. The key reason is the absence of what the Sustainable Food Trust are calling True Cost Accounting. By this we mean the way in which the range of costs and benefits arising from different farming systems, both negative and positive, are not properly valued or paid for, with the result that intensive farming is more profitable and products from those systems are more affordable than those from sustainable production.

In my talk I shall discuss the need to identify, categorise, quantify and eventually monetise the range of so called externalities arising from different farming systems. I shall then go on to review ways in which in the future, producers whose farming practices result in damaging environmental and public health outcomes could be made financially accountable for these costs, and conversely farmers who build natural capital, including soil and biodiversity, and produce healthy food with minimal pollution, could be properly rewarded for their efforts.

I shall discuss the need for a definition of 'sustainable intensification' and suggest that the only kind of intensification that is compatible with the principles of sustainable food and farming will be biological and not chemical and explain why. Finally, I will describe some recent revelations which have led to a profound shift in my understanding about the central importance of building soil fertility and of the role of ruminants in sustainable food systems.

11:00–11:30 Tea/coffee break Park Bar

11.30–13:00 WORKSHOPS 1

Brueton Suite

Making money out of growing fruit and vegetables

(Organised by ORC/OGA)

How to best calculate the real costs of production? This will be an interactive workshop looking at different scenarios; field-scale production for wholesale/packers, CSA schemes and growing for veg boxes/direct marketing.

Susanne Padel (ORC): Chair

Roger Hitchings (OGA): Profitable fruit and vegetable production

A true profitability analysis can be expressed as: gross sales – expenses = profit. This is a disarmingly simple equation that requires a huge amount of information in order to produce a valid outcome. It can be reasonably easy to work through for single crops grown on large areas but can be particularly difficult for growers running a box scheme or supporting a CSA. A group of American organic growers in a project in Wisconsin worked on the basis of net cash income which meant knowing 'how much cash they had at the end of the season to provide for themselves and their households—and perhaps take a vacation.'

Group facilitation: Roger Hitchings (OGA), Ben Raskin (Soil Association) and Tony Little (OCW)

This exercise will open with a brief presentation to cover available resources and a first attempt to identify the critical points in the production process. Two approaches to the assessment of profitability will be discussed – these are profitability in space (does the return from a given crop justify the space) and profitability in time (does the return justify the time required). There will be many questions to chew over in the interactive group discussions that will take up the majority of the time. Participants are invited to bring information and experiences to share.

Gloucester 2 — The GM threat: time to take action

(Organised by GM Education)

The session will outline the imminent threats to farmers, growers and consumers from the government and research establishment who are acting as the industry vanguard. The discussion will focus on new initiatives for action, tackle the GMO push and highlight alternatives.

Pat Thomas (Beyond GM): Chair

Bruce Pearce (ORC): Current EU position – impacts for the UK

The situation with GM within the EU has been quiet and off the public's radar for the best part of a decade but things are rapidly changing. The Government is making very positive noises on GM as a strand in "sustainable intensification" while field trials have once again been undertaken in the UK. The moves within the EU this summer to allow member states to permit, restrict or ban GM cultivation in their territories is currently passing through the EU legislative process and would potentially open the way for the UK to go it alone in commercial production of GM crops. However, there is no agreement on co-existence measures or liability, which have not been discussed publically in the UK for several years, and the devolved administrations have very different views on the commercial growing of GM crops from Defra. While all this is going on we still continue to import and feed GM animal feedstock to our animals with the resulting products (milk, meat, eggs etc.) unlabelled in our shops.

Lawrence Woodward (GM Education): How GM has adversely affected farmers on the ground

The presentation will briefly survey the impacts of GM technology on farmers – primarily in the US – and will consider what the impacts might be should commercial GM cropping be introduced into the UK. In particular it will focus on gene flow, weed resistance, breeding techniques and the impact on seed availability.

Claire Robinson (Earth Open Source): The evidence of health risks from GM

Laboratory animal feeding studies and controlled studies on farm livestock animals have found that GM foods can have unintended toxic and allergenic effects and altered nutritional value. Toxic effects found include organ damage, disturbed liver, pancreas and testes function, liver and kidney toxicity, stomach inflammation and ulcers, unexplained deaths, immune disturbances, allergic reactions, and increased proneness to botulism in the case of cattle.

Industry and regulators often dismiss findings of toxicity in animal feeding trials on GMOs by claiming they are "not biologically significant" or "not biologically relevant". However, these terms have never been properly defined in the context of animal feeding trials with GMOs and are scientifically meaningless

One scientist in the US calls the increased illness seen in livestock since the introduction of GM feed "the new norm". There is an opportunity for organic farmers to set a better and more humane norm by sticking to non-GM feed and in the case of cattle and grazing animals, grass and forage.

Packwood Suite — Breeding for organics – new populations and varieties

(Organised by ORC)

This session will explore the opportunities for exploiting heritage varieties, composite cross populations (now marketable as part of an EU-wide marketing experiment) and organically bred European varieties for use in UK organic agriculture.

Martin Wolfe(ORC): Chair

Andrew Whitley (Bread Matters): 'Scotland The Bread' – a people-centred grain economy

Scotland The Bread is a project to re-establish a Scottish grain and bread supply that is healthy, equitable, locally-controlled and sustainable. Combining participatory research and action, it links plant breeders, farmers, millers, bakers, public health nutritionists and citizens. It will develop better grain in Scotland, grow and process it for lowest environmental impact and maximum nutritional benefit and support local economies with more jobs per loaf. Scotland's bread is made almost entirely from imported wheat. Modern varieties, already less nutrient-dense and perhaps more allergenic than their ancestors, are milled, baked and traded on the basis of long distance, low price and 'convenience', with little concern for health or environmental impact. This in a country which prides itself on whisky exports while struggling with serious problems of alcohol abuse and diet-related ill health. The first task is to evaluate heritage varieties for mineral density and resilience and then develop new crosses, landraces and populations, putting molecular science and organic husbandry at the service of healthy citizens – leaving commodity speculators in the casinos where they belong. Making the resulting flour into digestible bread is as important as ensuring that it reaches those who need it most.

Andy Mitchell (Defra): Cereal populations – changes to EU rules to allow marketing of seed

ORC's wheat populations are a completely different approach compared with modern varieties. They aim to maximise genetic diversity, to buffer against environmental variation, such as weather and diseases, and to

give consistent yield. This causes difficulties for EU and UK seeds legislation, challenging the longstanding approach based on the concept of genetically uniform, identifiable and stable varieties. However, their potential has been recognised and the EU has recently agreed rules to allow limited marketing of populations of wheat and other cereals for five years, under specified controls to assure the traceability and quality of seed bought by farmers. The objectives are to get information on the benefits of populations compared with varieties, primarily in organic and low input production, and to assess the effectiveness of the controls. If the five-year marketing period confirms the benefits of populations, the EU will consider permanent changes to its seeds marketing legislation.

Dr Edwin Nuijten (The Louis Bolk Institute): Variety breeding for organics: experiences from the Netherlands

In the Netherlands, the availability of suitable varieties for the organic sector is an important issue. Because of the limited scale of the organic sector, conventional breeding companies do not have programmes fully geared towards organic agriculture. Some companies do try to accommodate priorities of the organic sector in their breeding programmes. To address the need for varieties adapted to organic farming, various initiatives are being set up from within the organic sector, such as breeding companies and breeding cooperatives. For the past 5 to 10 years, The Louis Bolk Institute has been exploring breeding approaches that seem to fit better to organic farming. One approach being stimulated is chain based breeding in spring wheat, specifically to have more varieties with good baking quality. Another approach is the so-called Composite Cross Population breeding method in wheat. For potatoes, a successful collaborative breeding programme of breeding companies and farmer-breeders has been running since 2009. Currently the potential for the use, multiplication and selection of open-pollinated vegetable varieties by farmers is being studied. In this presentation, the lessons learned will be presented.

Malvern Suite — Securing the future: making succession work

(Organised by Soil Association)

When succession works well it brings fresh ideas, energy and innovation into a farming business. When it doesn't another family farm is potentially lost. This session will look at some examples of farms and farmers that have succeeded in bringing the next generation on board and how they did it. It will also look wider afield, explore some structural changes and look at what the organic sector as a whole can learn about supporting generational renewal.

Haydn Evans (Penrhiw Farm): Chair

Michael Mack (Smiths Gore): Business transfer between generations

Michael will focus on the transfer of a business between generations, providing the tactics needed to implement a succession plan which embraces the family's objectives while also improving the short and long term business performance. Michael will focus on avoiding common mistakes, creating a clear plan of action and the role of the different generations throughout the process.

Polly Davies (Slade Farm): Boom, bust & babies

Polly returned to the family farm in 2012. The farm turned organic in 2000 and has a number of different enterprises, including beef, sheep, pigs, cereals, agri-environmental schemes and a small farm shop and butchery. Polly will talk about her experience in returning home to farm. What to do and what best to avoid!

Tony Evans (The Andersons Centre) and Gareth Taylor (Red Deer Farm) Bringing new people into a family business.

Tony specialises in contract and share farming and has worked with Red Deer Farm, an organic herb farm in Worcestershire, which he will use as a case study.

Gloucester 1 — EU organic regulation

(Organised by Soil Association)

Aims: 1) improving the evidence base that Defra can use to reject or propose amendments to the proposal and

2) managing and supporting change and transition through better regulation (drafting of the text) and better support.

Chris Atkinson (Soil Association): Chair

Christopher Stopes (IFOAM EU): New regulation - threat or opportunity? What's happening in Europe

The organic regulation proposed by the European Commission in March 2014 has potentially far reaching implications for organic food and farming in the UK and throughout Europe. The aim of the Commission was to enable the sustainable growth of the organic sector throughout Europe, in line with our principles. In fact, unless substantially changed, it threatens the existence of the organic sector.

The proposal relied on a weak and incomplete impact assessment that failed to properly consider the impact of the far-reaching changes proposed and a fundamentally flawed public consultation. The IFOAM EU Group has consistently argued for no wholesale revision, rather urging better implementation and progressive development of the existing regulation. Working at a European level with the Commission, the EU Council and Member States and with the European Parliament – all now involved in the co-decision process – it is essential that we reduce the threats, which include: increased costs, reduced supply and integrity of organic food in Europe; Increased risk of pesticide contamination of organic food by introducing a less reliable control system; Bigger impact on small organic farms, especially those in the global south; EC able to change organic rules at will, without consultation or participation from citizens or Member States; Organic farming's principles of environmental sustainability, quality and health undermined.

Many member states are critical of the Commission's proposals. The European Parliament and the European

Council are considering and commenting on the text and unless it is thrown out completely (which is unlikely), we have to hope for substantial changes to allow the organic opportunity to be realised.

Nick Turner (Defra): UK position on the new EU organic regulation – an update on negotiations

Nick will outline the background to the Commission's proposal for a new regulation on organic production and labelling of organic products including the overarching rationale behind it and what it is seeking to achieve. He will summarise some of the key proposals, and what the industry views on them are, before setting out the overall UK position. He will then go on to outline how the negotiations have progressed in Council Working Parties and in particular draw out where things look like they might move in the right direction as well as the key sticking points. He will then outline the next steps in the process and identify areas where input from attendees would be helpful as negotiations continue.

13:00–14:30 Lunch – Tempus Restaurant

14:30–16:00 WORKSHOPS 2

Brueton Suite — Keeping growing: ensuring success (Organised by OGA)

In recent years with the success of the CSA movement and the apprenticeship schemes there have been many new growers and growing enterprises started. How do we ensure their success once the funding has finished?

Alan Schofield (OGA): Chair

Simon Crichton (Triodos bank): Financing a growing opportunity - a banks perspective

No abstract available

Alice Holden (Growing Communities): Setting up an urban farm in Dagenham - the benefits and shortfalls

Dagenham Farm is part of Growing Communities (GC's) wider vision of how we create a more sustainable, resilient food system to feed our cities. In a report commissioned by GC it was calculated that around 17 percent of a citiy's food could be produced from a city's outer limits- the peri-urban zone. This type of production would decrease pollution through cutting down on transportation/ refrigeration and would enable further food resilience for cities. Alice took on Dagenham farm in 2012 as the first trial farm for GC within this zone. There are many challenges in applying the theory to practice. What is a viable scale where land is scarcer? Is it possible to feel enough security on a prime urban piece of land that you do not own? Given the intensive history of land use how can we assess contamination and protect against pollution? Can a healthy balanced and biodiverse farming system exist in the midst of a suburban context? Such issues ultimately pose the question of whether it makes sense to farm at all within the city fringe. Two years in, after many challenges, Alice will talk about the journey, trials and successes of this unusual farm.

Jon Goodman (Ragmans Lane Market Garden) : Setting up a cooperative share farming business

A big question for many new entrants to agriculture and horticulture is what to do when their apprenticeship or temporary employment comes to an end. Stable employment can be hard to find, buying land with planning permission is hugely expensive, and CSAs, while attractive, take a major initial commitment from a large group of people. Land partnerships offer an attractive way for would-be farmers and growers to start their own business on a tight budget. These arrangements vary in terms of the landlord's level of involvement, but they generally involves a tenant renting part of a farm to set up their own business, and can also involve rental or shared use of infrastructure and equipment, and even branding. I will discuss my collective's own experience of negotiating and starting a tenancy at Ragmans Lane Farm, as well as general issues to be aware of when thrashing out an agreement. I will also explore the great benefits such arrangements can have for both tenants and landlords, and the wider potential of land partnerships as a viable means for many more people to gain access to land.

Malvern Suite — Designing agroforestry systems – sponsored by the Woodland Trust

A practical workshop in which participants will gain a good understanding of how to design farm tree planting schemes and work in small groups to design agroforestry systems for a range of case study farms.

Mike Townsend (Woodland Trust): Chair

Jo Smith (ORC): Design considerations for agroforestry systems

This presentation will briefly introduce the main types of temperate agroforestry systems and give an overview of the key design considerations, including drivers and constraints, species selection, spatial and temporal arrangements and management. This will lead into the design workshop below.

Stuart Holm, Emma Mayo, Hamish Thomson (Woodland Trust) and Jo Smith (ORC) facilitators Design workshop

Participants will have the opportunity to develop tree planting schemes for one of four case study farms; dairy, beef, horticulture and arable.

Hamish Thomson (Woodland Trust): Support available for tree planting

Will cover the current availability of grants for tree-planting including likely options under NELMS

Gloucester 2 — Emerging opportunities in organic supply chains

(Organised by OCW)

The first part of this session looks at how the growth of the Catering Mark could mean significant and exciting opportunities for organic producers, and how farmers and growers can get involved. The second part examines new platforms such as 'Farm Drop' and how a growing Community Supported Agriculture movement is opening up new possibilities for innovative short supply chain systems.

Tony Little (OCW): Chair

Emma Rose (Soil Association): Food For Life Catering Mark – A growing opportunity for organic producers

I will be talking about the routes to market for organic producers through the Catering Mark, and how this scheme has already had a positive impact on the organic industry. Sales of organic through foodservice have increased by 10% over the last year; and caterers are increasingly moving up to Silver and Gold where organic spend is recognised and required. I will also outline how producers can get involved through the Catering Mark Supplier Scheme.

Ben Pugh (Farm Drop): Four reasons why the future is bright for organic producers' food

One: Online grocery sales in the UK will have doubled by 2019 driven by mobile broadband internet, enjoyed by 72% of UK citizens. Even though 80% of UK grocery sales go through the tills of only 5 companies, e-commerce has made the UK food retail market wide open.

Two: The importance of authenticity and provenance is going up. As the horse meat scandal of 2013 and 'the great boycott of Monsanto' in 2014 exemplify, internet access is helping to drive a structural consumer shift towards 'honest' produce.

Three: Nutritional understanding. Over recent decades the percentage of smokers has halved whilst obesity has doubled. Meanwhile smoking and diet related illnesses cost the NHS roughly £6bn each year and yet the government collects £12bn a year from the tobacco industry but nothing from producers of unhealthy food. As the government rectifies this obvious imbalance the popularity of healthy organic produce will increase.

Four: Disintermediation. As people become more aware of the importance of higher quality food to good health, its demand will continue to increase along with consumer efforts to access it cost effectively directly

Gareth Davies (CSA Network UK): Short supply chains - Growing the CSA movement in the UK

Community supported agriculture (CSA) is the intentional creation of community around food growing and is a business model in which the risks and the rewards of farming are shared between the grower and members of the community. The talk will outline the risks and rewards of CSA and briefly discuss some of the different models applicable in the UK which span a wide range of types, scales and sizes of production. CSA is an autonomous movement in the UK and depends crucially on networking for mutual support. A CSA network is being established which seeks to provide information and support to CSAs and which will help grow the movement in the UK. Because community is embedded at the heart of CSA it is uniquely placed to re-engage people in agriculture, local food and in the seasonal farming calendar. It is also well placed to further engage people in issues of food sovereignty, climate change and transition technologies; all at the heart of the major challenges to food production in the coming century.

Packwood Suite — Micro-dairies

(Organised by National Trust/ORC)

The session will explore issues associated with economic viability as related to herd size and the pros and cons of direct marketing and/or on farm processing (e.g. raw milk, dairy products) as well as impact on costs of production.

Mark Simmons (National Trust): Chair

Josh Healy (North Aston Dairy): Making a micro-dairy work. 20 cows and a milk round in Oxfordshire

North Aston Dairy started with nothing but a partner investment of £16000 in 2005 to buy machinery and convert a stable block into animal housing, a parlour, dairy and processing room. With great local support it now has a herd of just 17 Ayrshire cows, no bank debts, an annual turnover of £80000, has one full-time and 1 part-time employee and is generating some £30000 profit for investment and the drawings of one partner. In this session Josh will talk about how the business began with private loans from locals ('Cow Bonds') and has grown with demand and within its means. He will give a breakdown of the business' accounts, looking at costings for milk, cream and yoghurt production, packaging and the various delivery methods that the business uses to direct sell in the local area.

Tom Tolputt (South West Farm Consultants): Using a robot for a small number of cows

I will be looking at the basic cost structure of setting up a new robotically milking dairy unit, the costs involved in the day-to-day running, leasing options and the profitability of dairy production organically. These costs will be based on a farm which would be converting from beef production to dairy production.

John Newman (Abbey Home Farm): The dairy at Abbey Home Farm

Abbey Home Farm has a small dairy enterprise that is part of a large and very diverse farm with beef, sheep, pigs, poultry, cereals, vegetables as well as a farm shop and various educational activities. The dairy currently produces liquid milk, yoghurt, butter and various cheeses. The herd of dairy shorthorns was increased from 18 to 30 cows in June this year with the aim of spreading some of the production costs. John will talk about his experience with running a small dairy with processing and his reasons for increasing cow numbers to help with the logistics of the small- scale processing.

Gloucester 1 — Policy/CAP implementation (Organised by ORC)

The debating is at an end and the process of launching schemes and inviting applications is underway. We will explore what is being implemented and seek clarification of open questions.

Trevor Mansfield (Soil Association): Chair

Naomi Oakley (Natural England): Overview of CAP and RDP implementation plans in England and NELMS organic options

Countryside Stewardship is a voluntary scheme that rewards farmers, foresters and other land managers for managing their land and water in a more sustainable way that enhances the wildlife and character of the countryside. The scheme has one-off and multi-annual grants to choose from that can deliver a wide range of environmental outcomes.

Nic Lampkin (ORC): RDP and organic support in Wales

The Welsh RDP proposals cover a wide range of measures but several are of particular relevance to organic producers. Although not yet approved by the EU Commission, the Glastir Organic scheme has opened and closed for 2015 agreements, with most existing organic producers and several new converters applying to join. A requirement of the new scheme is that all participants should have a business plan completed by the end of 2015, requiring training and advisory support under a new Farming Connect framework still under development (also a focus of the IOTA business planning workshop later in the conference). Glastir Organic does not cover capital investments, but organic producers have been prioritized for the Sustainable Production Grant scheme, which promises to cover a wide range of relevant investments. Other Glastir and RDP options, including forestry, marketing and processing investments, open to organic producers will also be reviewed.

16:00–16:30 Refreshment break – Park Bar

16:30–17:30 Plenary

Brueton Suite — Agroecological solutions for future farming

Christine Watson (SRUC): Chair

Prof. Pablo Tittonell (Wageningen University

Agroecology makes use of concepts and principles of ecology for the design and management of sustainable agricultural and food systems. Agroecology provides no recipes, no technical packages, no standards and no prescriptions, and relies on the application of five basic principles: recycling, efficiency, diversity, regulation and synergies. Agroecology is also the term used to describe a movement that sees an increasing number of adept family farmers and related social organisations in the Americas. Agroecology is thus science, practice and movement. Although discrepancies between organic agriculture and agroecology have been repeatedly pointed out in the past, I postulate that (i) agroecology can offer the foundations for the design of sustainable organic farming systems by helping farmers escape the 'input substitution' trap; (ii) that organic farming already offers excellent examples of application of agroecological principles in a context of large scale commercial farming in developed regions; and (iii) that designing future organic farming systems with agroecological principles requires a dialogue of wisdoms between farmers and scientists. I will provide evidence to sustain these postulates using examples from around the world, and exhort the audience to reflect and explore ways in which agroecological principles could be used to inform management practices, the design of innovative value chains, and new certification standards (e.g. IFOAM's Organic 3.0).

17:30–18:30 Fringe workshops

Gloucester 1 — Groundspring Network

A light social session to introduce Groundspring, who we are, what we would like to offer as a network for newentrants and where we have got to.This fringe workshop will provide a space for land workers to meet each other and contribute to shaping this network.

Packwood Suite — Drop-in session for students (SRUC)

This is a "drop-in" session for people interested in finding out more about the SRUC Organic Farming PGDip/MSc

Gloucester 2 — What is going on in the UK organic market?

The session will summarise recent trends in the market place and highlight where there are still gaps in the data. A short presentation summarising the results of the UK case study carried out as part of the EU funded organic data network project will be followed by time for questions and discussion.

18:00 Poster session (Brueton Suite) /bar open

19:30 Conference dinner – Malvern Suite

THURSDAY 27 NOVEMBER 2014

09:00–10:30 WORKSHOPS 3

Packwood Suite

Postgraduate research in organic farming
(Organised by SRUC)

This session provides an opportunity for current research students (MSc and PhD) and others interested in research to come along and discuss the challenges of doing research within the context of organic systems. We will also discuss the potential for developing a UK wide network of organic research students.

Robin Walker (SRUC): Chair

Laurence Smith (ORC):
Modelling the effects of a large scale conversion to organic farming in England and Wales

As part of a PhD study exploring the environmental impacts of a 100% conversion to organic farming in England and Wales, a number of methods and approaches for scaling up organic agriculture at a national level have been considered. This presentation will provide an overview of the modelling approaches reviewed and the methods selected for the study. Challenges in terms of the modelling process and data gaps will be highlighted in addition to early outputs relating to the energy and nitrogen efficiency of organic systems.

Federico Filippi (Coventry University)
Investigating the potential of applying permaculture principles to UK arable farming

Federico's research will aim to:

1) Assess the existing permaculture arable/field scale projects currently in operation across the UK, giving agronomic, social and philosophical aspects equal importance.

2) Assess his own arable project over a minimum of four years, on the basis of its productivity, environmental and social impacts and economic/commercial viability.

3) Engage with other permaculture projects (as well as selected alternative farming projects) over the course of the research period, with a view to co-ordinating joint experiments/cropping comparisons etc...

4) Draw conclusions on the implications and wider potential of arable permaculture for UK food production and security. I will hypothesise whether the UK could be agriculturally self-sufficient and, if so, what form this agricultural system might take and what its social, economic and other implications would be.

Muhammad Shahid (Coventry University):
The social dimension of sustainability in organic food supply chains

My literature review shows that the social dimension of sustainability has been overlooked due to a number of reasons. In my research project I have developed and applied frameworks to assess social sustainability in the UK organic supply chains using organic cheese as an example. Currently, there are three main methods to assess social sustainability: Social impact assessment (SIA), social return on investment (SROI) and social life cycle assessment (S-LCA). I will study all three methods and compare them against each other to select one standard method or develop existing methods further to apply them to organic supply chains. The research methodology will be advanced gradually based on different steps. In the first step, a questionnaire will be sent to organic and non-organic cheese manufacturers to find out whether and how they are addressing social sustainability. In the second step, from the respondents of organic cheese manufacturers, three tier categories will be developed such as; small, medium and large manufacturer. In the third step, a case-study research methodology will be employed to conduct detailed interviews with the selected manufacturers. In the fourth step, a framework will be developed to assess social sustainability in organic cheese manufacturers. In the fifth step, the developed framework will be applied on all selected organic cheese manufacturers, and in the final step, results will be compiled to see the social sustainability in UK organic cheese manufacturers. Participants at the organic producer conference are invited to discuss this research approach and contribute their own experience in how to assess and improve social sustainability in organic food supply chains.

Stephen Meredith (IFOAM EU):
Leading discussion on networking

In this part of the workshop we will discuss the potential for developing a UK-wide network to mutually support students studying organic and agoecological farming systems.

Gloucester 2

Triodos Bank

Conversion planning and organic farm management
(Organised by IOTA)
Sponsored by Triodos Bank

Workshop for advisers, Control Bodies and converting farmers. We are celebrating 30 years of organic conversion planning in the UK. But still many farmers convert with no plan for their business, no timetable or financial budgets and often with limited idea of how the farm will look in 5 years time. What have been farmers' experiences? Is the conversion planning approach still useful? Do advisers find the approach successful? How can it be used to reduce risk, improve environmental delivery and profitability? What are the needs in the future? How can the producer be more closely involved and take ownership? How can we meet the needs of Control Bodies and the Glastir Organic conversion and management plans?
Mark Measures (IOTA): Chair

Panel discussion: Edward Goff (Farmer), Stephen Briggs (Adviser, Abacus), Sarah Hathaway (Soil Association), Nic Lampkin (Glastir Organic, Organic Centre Wales), Iain Tolhurst (Grower and adviser)- Experiences and needs of conversion and management planning

What conversion and management planning services should be provided in the future: cropping and stocking, animal health, manure and soil planning, conservation, conversion timetable, environmental/sustainability assessment and business and financial planning? Use of planning tools. Flexibility to suit the individual farm. Susanne Padel will contribute to the discussion about the availability and use of tools including Org Plan.

Gloucester 1 — Dairy research and innovation: breeding choice

(Organised by NEFG)

Overall aim of deconstructing the choices that are open to the farmer and explaining how genomic breeding is particularly relevant. Using input from Low input Breeds and Sustainable Organic Low-input Dairying (SOLID) projects.

Gillian Butler (NEFG): Chair

Conrad Ferris (AFBI):
Alternative breeds and crossbreeding – their role in organic and low input systems

Historical selection programmes within the Holstein breed focused mainly on milk production, while largely ignoring functional traits. The subsequent decline in these functional traits within the Holstein population, especially fertility and health, has now been well documented. The use of alternative breeds (breed substitution) and crossbreeding have been suggested as strategies by which some of these problems may be overcome.

The potential of these two approaches have been examined in a number of studies undertaken at AFBI-Hillsborough, and on commercial dairy farms in Northern Ireland, with these studies conducted under predominantly low input management scenarios. Breed substitution studies have involved comparisons of Holstein and Norwegian Red cattle, while crossbreeding studies have involved comparisons of Holstein with first cross Jersey crossbred cattle, and Holstein with three-way crossbred dairy cattle (Swedish Red x Jersey x Holstein). These studies have compared milk production and composition, fertility, health, longevity and profitability of the different breeds and genotypes.

Gillian Butler (NEFG): What has genomic breeding got to offer low-input and organic dairy cows?

It has always been challenging to select breeding stock to 'improve' traits they do not express themselves. The classic case must be our inability to select bulls based on their milk yield; we need to rely on their mother's, sisters' and daughters' performance to suggest how future offspring might shape-up. This traditional approach, relying on progeny testing means a bull istypically 5-6 years old before his daughters are milking and his ability is confirmed with any confidence. Another test, perhaps more pertinent to low-input or organic dairy production, is identifying robust breeding animals who's offspring can cope with varying inputs and disease challenges, without resorting to drug treatment. We don't want to expose our breeding animals to pathogens to see how they cope before selecting them as AI studs.

Genomic breeding could offer solutions to both these dilemmas, allowing us to assess potential breeding stock from the time they are born, as well as their likely ability to stay healthy, despite diseases they or their offspring might encounter. This presentation will explain the principles of genomic breeding in the dairy sector and outline how is has been evaluated to improve functional traits in organic dairy cows, under the recent EU LowInputBreeds project.

Gordon Tweddle (Acorn Dairy):
Cross breeding that works: what and why

A Dairy Shorthorn type is the future for Acorn Dairy

Brueton Suite — Make legumes do the leg work

(Organised by ORC)

Legumes are extremely versatile and valuable components of sustainable farming systems. Current research and best practices for fully utilising legumes on the farm will be presented and discussed by researchers and farmers.

Henry Creissen (ORC): Chair

Hannah Jones, Robert Brown, Rachel Roberts (Reading Uni):
Legumes leys: improving fertility building, forage quality and biodiversity

Some of the functions of short term leys will be discussed; how yield and quality of first wheat in the rotation can be improved; the central role these leys have in enhancing below and above ground organisms which support crop productivity; and some early work on forage yield and quality. Ley management will include mowing frequency effects, and plough incorporation depth. The infrequently used but potentially valuable lucerne has the capacity to deliver on your farm, but rhizobia soil communities in your soil will pre-determine its success, should you inoculate?

John Newman (Abbey Home Farm): Fertility building ley field labs: A farmers perspective

The use of legumes and fertility building are key parts of organic farming and at Abbey Home Farm we have been building up our experience in growing diverse legume mixes both for our own interest and through farmer participatory research. The drivers for this are increasing forage yield, improving nitrogen fixing, environmental resilience, benefitting pollinators and animal welfare. Defra also proposes to provide support for diverse legume mixtures as an organic option in the New Environmental Land Management Schemes under CAP reform. I will be discussing our experiences of growing a range of diverse legume and grass mixes on farm, from our own farm perspective and also focussing on our OSCAR trial plots, an EU funded project run in the UK by ORC, and a Duchy Originals Future Farming Field Lab.

Christine Watson (SRUC) and the Legume Futures team:
Legume Futures: Exploring the value of legumes to European agriculture

Legumes have historically played a central role in European agriculture, generating critically important inputs of nitrogen to support crop growth and providing feed for livestock in the form of forage and grain legumes. Grain legumes are now grown on only 1.8% of arable

land in Europe compared with 4.6% fifty years ago. In the forage sector legumes have largely given way to heavily fertilised grassland over the same period. This sits against a growing European demand for meat and an increasing reliance on imported soya for livestock production. The Legume Futures project set out to deliver knowledge and technology for the optimisation of the use of legumes in European agricultural systems and to promote the partnerships needed to deliver the policy outcomes sought. We used a combination of case studies, modelling and new data to improve understanding of robust rotation and system design for improved legume production, quantification of the potential ecosystem services delivered by legumes and the economics of legume production across the EU. Fundamental to the integrated outcome of the project, we also addressed the policy background and options for policy support within Europe.

Malvern Suite

Mary Langman memorial workshop on Organic food quality and health

(Organised by ORC)

Recent research has once again opened the question of whether organic food quality is better than non-organic, but what difference does this make to health (what is health?) and how do the food and other choices made by organic consumers also influence health?

Lawrence Woodward (ORC): Chair

Peter Melchett (Soil Association): Organic farming and growing impacts on food quality – the Newcastle study

The 2014 Newcastle University led meta-analysis of nutritional differences between organic and non-organic crops looked at 343 individual, peer-reviewed research studies, 45% of which were published between 2008 and 2011, after the cut-off point of the 2009 Dangour study commissioned by the UK Food Standards Agency. We know that heavy use of manufactured nitrogen fertiliser suppresses production of defence compounds in plants, and the additional data provided by so many recent studies has now allowed scientists to find statistically significant differences between organic and non-organic fruit, vegetables grains and pulses. The results of the study on nutrients, heavy metals and pesticides will be discussed. Importantly, the global impact of the study will be considered, along with further meta-analyses due from the same team, and the implications of the research findings for the organic movement.

Anja Vieweger (ORC): Health concepts in food and farming

Promoting and maintaining health, as one of the highest human goals, is a central aim of agroecological farming approaches. The key statement of the principles of organic agriculture claims "the health of soil, plant, animal and man is one and indivisible" (Lady Eve Balfour, 1940). It describes the connection of health between the different domains and ecosystems, and implies that the promotion and maintenance of human health critically depends on the health of all other agricultural domains. However, current debates about the meaning and measurement of health are largely disconnected: soil science, plant pathology, veterinary science and human medicine are following separate paths to define and measure health. For the understanding of potential mechanisms linking the health of various domains together, it is therefore necessary to study the compatibility of different health concepts across disciplinary borders.

10:30–11:00 Refreshments – Park Bar

11:00–12:30 WORKSHOPS 4

Malvern Suite

On-farm trials: Learning from the horticultural field labs

(Organised by OGA)

In this session we will reflect on the lessons learnt from the growers' field lab trials and provide growers and researchers a chance to share experiences of conducting small-scale trials. What has worked well and what hasn't?

Phil Sumption (ORC/OGA): Chair

Ben Raskin (Soil Association): Field labs - running effective DIY trials and sharing best practice

How to get and share useful results from your trials. Using real examples from the Duchy Original Future Farming programme we will look at how to run effective farmer research. Including setting up the trial and recording information as well as interpreting the results.

Iain Tolhurst (Tolhurst Organic Produce): A grower's perspective of running on-farm trials

In my farming career I have been involved with a range of horticultural research projects. These on-farm trials were invariably designed by researchers suitably qualified to analyse and document the results. For many farmers the perception is that these results rarely went beyond the research community ending up languishing in a dusty filing cabinet somewhere. The Duchy Originals Future Farming programme puts the farmer at the heart of the research, who has the opportunity to help with the design, implementation and dissemination of the trials through a series of 'field labs'. Having a researcher to hand enables the farmer to keep the trials on track, follow set protocols and ensure that the results are presented in a farmer-friendly way. The problems of finding a replacement to peat-based substrates for propagation have been around now for several decades, but little progress has been made, with most growers still reliant on peat. With a future ban on peat time is running out to find a solution. For many years we have been trialling woodchip base substrates with varying degrees of success, but needed to know how this would perform when compared with other substrates and what the real issues in terms of plant growth were. This trial provided much useful information and experience.

Anja Vieweger (ORC): A researcher's perspective of running on-farm trials

From a scientific point of view, running successful on-farm trials is usually a question of getting the balance right. Scale, size and scope of the experiment, as well as budget and labour are usually central items in this balancing act which have to be brought in line with expected results and benefits for growers and farmers. Particularly for small-scale on-farm trials, where financial and spatial restraints often play a significant role, the selection of a suitable trial design and methods is critical to maximise outcomes. Through field labs under the Duchy Originals Future Farming Programme, farmers have been able to share experiences and strengthen their knowledge on trialling their own research questions. Such small-scale on-farm trials are highly important, as they are addressing the farmer's specific needs, especially tailored for their own holding, environment and system; making them more independent and less reliant on conventional and generalised research approaches.

Gloucester 2

Triodos Bank

Organic business management - tools and approaches

(Organised by IOTA), sponsored by Triodos Bank

How can farm sustainability assessment, including carbon foot printing and nutrient budgeting be used to improve farm performance? The FAST (Public Good) Tool is the principle resource for this session. Other tools and techniques will be discussed to show how they can be used to drill down into a farms' performance on particular aspects of sustainability and help develop ways forward. There will be an emphasis on practical changes that can be made to improve the environmental, financial and social sustainability of the farm.

Mark Measures (IOTA): Chair

William Waterfield (Waterfield & White/Farm Consultancy Group): A practical approach to assessing farm sustainability

Sustainability is more than just being good to the environment or developing a robust business. It has many facets including the use of resources, animal welfare, social engagement and local support, but also quality of life for the proprietor and this demands that the business generates a cash surplus. The Public Goods (PG) tool is a simple way to understand how your business compares and it highlights areas of strengths and weaknesses. Based on a fairly straight forward questionnaire, the 9 themes of the PG tool are able to produce a snapshot of the business. In this session we will look at the results from some typical organic and low input farms and see how this analysis of the farm can help advisors provide clients with cohesive long term advice and proprietors develop a more sustainable business.

Bill Grayson: Farmer experience of using sustainability assessment to develop their farm

As a farmer, my main focus has been on producing goods for the market along with securing the government payments that support this production. In the last two decades however, increasing attention has been directed at farming's role in providing the public goods that UK Agriculture affords to wider society. This debate has been sharpened in the course of recent CAP reforms because of arguments about using subsidies to reward delivery of public goods as opposed to simply supporting production of commodities. Whilst my own livestock farming operation has environmental objectives at its heart, I was concerned at criticism being expressed in the media regarding the overall sustainability of extensive grazing systems like mine, particularly regarding their GHG emissions. These concerns eventually led me to examine ways of assessing and recording the impacts that my farming practices exert on the ecosystem services upon which they ultimately depend and which translate into wider benefits for society as a whole. The PG Tool provided a starting point and I commissioned an assessment in 2012, the results of which will form the basis of my presentation.

Practical steps to improve farm sustainability – two examples:

1. Energy and emissions.
Facilitator Laurence Smith (ORC)

What practical steps can be taken to improve the farms carbon footprint?

2. Nutrient management.
Facilitator Richard Harding (Procam)

What does a nutrient budget tell you and what can be done? How can soil analysis and tissue analysis be used? Manure and fertiliser use, cropping implications.

Packwood Suite

Improving the nutrition, health and welfare of organic pigs and poultry

(Organised by ORC)

This session will bring together researchers from a number of pig and poultry research projects to discuss findings with a view to how these can inform best practice.

Bruce Pearce (ORC): Chair

Jason Gittins (ADAS): 100% Organic Diet Mixes for Monogastrics – Impacts on UK Production

European legislation currently allows organic pig and poultry farmers to use up to 5% non-organic feed material. In July 2014, it was announced that this allowance would be extended until the end of 2017. This current Defra-funded project is providing information, data and evidence to help establish whether this allowance continues to be needed and the likely implications of a move to 100% organic feeds. The project is led by ADAS and includes inputs from pig and poultry feed specialists of Premier Nutrition and specialist veterinarians from the St. David's Poultry Team. It includes a review of

scientific and grey literature on feeding and nutrient requirements for organically-produced pigs and poultry, with emphasis on studies from the year 2000 onwards. A series of pig and poultry ration formulations has been prepared based on 95% and 100% organic materials, to enable comparison of raw materials, nutrient levels and costs. The project considers potential health and welfare issues which may arise as a result of using 100% organic feeds. The environmental impacts arising from possible dietary changes are also being studied with reference to the production of different feedstuffs, the quantity of nitrogen fed to animals and changes in livestock productivity.

Catherine Gerrard (ORC): 100% organic feed for pigs and poultry – results of an EU-wide project

The ICOPP (Improved contribution of local feed to support 100% organic feed supply to pigs and poultry) project has been carried out across a number of EU countries to investigate protein sources that could be used in a 100% organic ration for pigs and poultry. This presentation will give an overview of some of the results of the project, with regards to both pigs and poultry. These include some results on alternative sources of protein and on the benefits of roughage/feeding from the range. It will also give some additional detail on the research that was carried out in the UK by ORC and FAI. This looked at feeding broilers a feed that used European grown protein sources with algae as an alternative to soya and at feeding pigs a diet based on Lucerne silage using either soya, beans or peas to supply protein.

Gillian Butler (NEFG): Lessons from LowInput-Breeds and ProPIG projects

This presentation will cover lessons relating to feeding pigs and poultry from 2 recent EU projects. LowInput-Breeds considered breeding and management (including feeding) of free range and organic laying hens as well as pig production for both 'commodity' organic and niche markets. The challenge in ProPIG is to evaluate and improve health, welfare and the environmental impact of organic pig production in Europe .

Gloucester 1 — Diverse legumes and grass mixtures for forage production and grazing

(Organised by NEFG)

The main aim is to explore opportunities that including a wider variety of legumes and grasses can bring to dairy producers.

Tim Downes (Shropshire farmer): Chair

Rob Richmond (Manor Farm, Glos): Tall grass grazing

Rob Richmond will discuss his use of diverse swards on a grass based dairy system. He will cover the reasons for grazing taller swards, the experience of varying sward height and rest periods over the last 10yrs, concluding with current practice at Manor Farm on Cotswold brash soils. This year has seen milk production reach 6000l/cow from 1tonne of concentrate/cow, with a stocking rate of 1.9 cows/ha.Of particular interest is the impact that these grazing practices are having on soil fertility, and how this relates to the development of a sustainable production system, having resilience to weather extremes.

Konstantinos Zaralis (ORC): Review of research on legumes and grasses for forage and grazing

The characterisation of legume species conducted in the Leg-Link project has generated new knowledge on the specific responses of legumes to environmental and management conditions, and the relative merits of various species for use in a range of farming systems. Mixing different legume species in the ley such as Black medic, Birdsfoot trefoil, Crimson clover, Lucerne and Sainfoin has several advantages which include increased productivity of the pasture and forage availability and suppression of weeds. In addition, widening the range of legume species increases opportunities to build short term leys into rotations on organic and conventional farms. However, little is known about how management practices such as cutting, grazing and mulching affect the productivity of such pastures, soil health and weed control. In the Sustainable Organic and Low Input Dairying project (SOLID) ORC are investigating how mob stocking affects pasture productivity and soil organic matter on an organic commercial farm. Konstantinos will present the preliminary findings.

Angus Gaudie (Stamfrey Farm): My new experience - measuring what cows are grazing and seeing things differently

Angus will cover how:

- he joined a grazing discussion group where he is the only organic farmer and how it has improved his grazing techniques, confidence and knowledge;
- he uses the "Geomeasure" app., which measures individual paddock sizes accurately;
- he uses the "Agrinet" software package, for his grass measuring data, to calculate and record grass growth;
- the information produced and the support of the grazing adviser and farmer group has enabled him to improve grazing and feeding techniques, dealing with individual paddock and grass/clover sward issues to improve financial results.

12:30–13:30 Lunch/networking - Tempus Restaurant

13:30–15:00 CLOSING PLENARY

Brueton Suite

Farmer groups leading innovation and research
(Organised by ORC/Soil Association)

Innovation Clubs and Operational Groups allow producers to take control of improving their own businesses. This session will set out the opportunities and provide inspiration from those that have already done it.

Bruce Pearce (ORC): Chair

Victor Leforestier (BASE, France): Experiences of BASE as an operational group – lessons learned

The association BASE has been the leading network for conservation agriculture in France. BASE's goal is to facilitate the exchange of information between farmers and/or agronomists. It's self-funded and independent, run by a board of farmer member. Starting from Brittany it now has 900 members spread all over France. Originally 'no-till' oriented, it now has 4 different ' branches' – organic, agroforestry, grazing and BASE UK. Through a network of speakers, both French and international, BASE offers field days, conferences and now training to provide practical answers to its members who choose to take on these new agriculture approaches. Cover-crop mixes, companion cropping, strip-till, nettle teas, etc, are among the subjects BASE has been working on.
BASE has adapted over the years but still remains 100% run by farmers. It relies on the devotion of the board and its local members to stay active. Since last year the association has been working with a partner to take care of the practical issues of putting training courses together. The independence and openness of BASE brought a lot of interest from researchers and politicians. Some of the ideas that were born and developed by our network are now being taken up by the official institutions, like cover crop mixes and companion cropping in rape.

Marc Duponcel (DG Agri): EIP/Operational Groups. What we expect and want?

European Innovation Partnerships (EIPs) are a new approach to EU research and innovation. Marc will talk about the wider context and links with Horizon 2020, the approach of the EIP and the role of operational groups within that.

Helen Browning (Soil Association/Eastbrook Farm): Experiences of field labs as operational groups – lessons learned

The Duchy Originals Future Farming programme has been developed with three main aims:

• To support and develop farmers as innovators, given that their contribution to R and D is both under-recognised and often less valuable than it could be with design assistance and improved information sharing.

• To increase the funding into producer centred R and D, which is focussed on making the most of on farm renewable resources and management techniques.

• To help reverse the research pipeline, showing the benefits of putting producer and public interest into the driving seat of research policy and commissioning.

The programme, sponsored by the Prince of Wales' Charitable Foundation, and with ORC as key partners, is now in its third year. At its heart are 'field labs', where farmers get together to solve a current problem, with a researcher on hand to advise as required. 28 field labs have now been completed, on a huge range of topics, with excellent feedback. There is also a small, but hopefully growing, research fund, with projects on feeding silage to pigs, using green manures rather than pesticides in orchards, and improving the iodine content of organic milk, amongst others. Over 600 farmers have been involved, and the programme has been cited as an exemplar by the European Innovation Partnership.

15:00 – 15:30 Refreshments – Park Bar and Close of Conference

Tell us what you thought about the event – please complete the forms!
We are very keen to get your feedback so that we can improve the event. If you know people who decided not to come, we would be particularly interested to get some insight into reasons why.

RDPE discount for English producers and others earning a living from agriculture or agricultural products.
If you are eligible, in order to receive your £20+VAT refund per day, please remember that you need to sign the register on **ALL** days that you are attending. Please also make sure you have completed the separate RDP event feedback form. We will lose funding if we do not get forms returned by **at least 80%** of funded participants