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A Summer Storm That Keeps Going

The furore caused by the Food Standards Agency's recent reports and comments concerning organic food and its effect on health has been Olympian in its breadth, emotion and irrationality. It seemed as if a mischievous God unleashed the furies of protagonists, antagonists, conspiracists, expert and inexpert commentators, hired hacks and malicious stirrers to pass the time during a dull week in high summer.

The reviews themselves can be justly criticised but not as much as they have been. A considered study reveals their findings to be consistent with other published reviews. However the methodology used led to some studies, although included in the report, being excluded from the final analysis. This led to conclusions that were stark, simplistic and as the report admits may have obscured findings for some individual nutrients, lost the "more nuanced findings from individual studies" and mislaid the fact that differences were found.

Subsequently, the researchers have highlighted their objectivity and "their science" and in fairness the reports detail the studies that were excluded and tabulate their findings but their statistical treatment and conclusions are a clear demonstration that merely stating the facts is not the same thing as accuracy and truth.

The FSA's presentation of the reports was wholly misleading and prejudicial, with its failure to explain the exclusion of pesticides from the reviews, created further distance from accuracy and truth. The consequent sound and fury as everyone took up their pre-determined roles in the Olympian puppet show was therefore inevitable.

Weeks later, one wonders, yet again, whether the FSA deserves to survive; whether politicians, journalists and policy makers will ever realise that the simplistic idea that there is one objective science that can always reveal accuracy and truth is a myth; and what the organic sector will learn from this.

Some lessons are clear; whilst there are differences, the nutritional benefits of organic food are not yet as manifest as we believe; we have not developed a concept of health that is anywhere near to convincing mainstream researchers; some of our research is poor or poorly presented; we need to work better together and more coherently. But organic food is better than the FSA tells the world it is.

Lawrence Woodward

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Graham Pye (1939 - 2009);

Quiet, effective, gracious and charitable

Graham Pye a long time friend and supporter of ORC died in June after a short illness. His parents, Jack and Mary had been major funders of the Soil Association and other organic interests and Graham picked up the ORC cause following Jack's death in 1984. For all of that period his support, enthusiasm and interest in our work never faltered. We were always able to count on Graham and his wife Yvonne, not just for money but also for steadfast loyalty, good sense and fun loving friendship.

This was remarkable because of the huge number of demands Graham had on his time and support. Causes as diverse as Oxford colleges, Music at Oxford, hospices, post-natal depression, Wellbeing and affordable housing were all given his time, attention and money. His interests may have been extensive but they were also consistent. Graham firmly believed in and demonstrated long term commitment to the causes he supported.

For us the support of the Pye Charitable Trust has been immensely important because their regular donations were always without reservation or strings. It would be stretching things to say that he was interested in everything we did – I don't ever remember him getting passionate in discussions over ploughing depths for example – but he always had a grasp of the big picture and what organic farming might contribute.

He had the same overview in his professional life which was in house building. Here he could get passionate about the minutia of say bathroom taps but he also saw the wider context. He brought to his business life, as he did to everything, a great sense of civic responsibility and increasingly an awareness of the need for real and functional sustainability. Whereas at the being of his working life he was concerned about designing and building sound and affordable housing with good quality kitchens, bathrooms and toilets; in recent years he was concerned that compost facilities and Anaerobic Digestion became part of housing development and he promoted these through his Presidency of both the UK and European Housebuilders Federations.

Whether in his business or his charitable activities Graham was always effective but always quiet and gracious. He would never boast of his achievements and certainly never flaunt his wealth. He was one of this country's leading benefactors but hardly anyone knew it and whilst he was appointed a Deputy Lord Lieutenant of Oxfordshire his contribution to our society has been largely unrecognised by an establishment that seems to get bedazzled by glitz and celebrity.

ORC has been immensely fortunate to have had Graham Pye as a friend and patron and we are pleased that Yvonne is to continue in that role. Graham will be missed by many people and many causes.

Food Standards Agency: A wasted opportunity

Susanne Padel and Lawrence Woodward

The Food Standards Agency (FSA) reviews of the nutritional content and health benefits of organic compared with conventional foodstuffs was carried out by the London School of Hygiene and Tropical Medicine (LSHTM) as a 'systematic review of literature'. Both reports can be downloaded from the FSA web-site.

The reviews do not address the issues of contaminants (e.g. pesticides) or any other potential benefit of organic agriculture. Yet the FSA claims these reviews to be the most comprehensive study in this area to have been carried out to date. Recently published reviews in France and the US also contradict this claim.

Systematic reviews, as developed by The Cochrane Centre, are commonly used in evidence-based medicine. They are literature reviews which focus on a single question and identify, appraise, select and synthesise the research evidence relevant to that particular question. Various statistical techniques are used to combine the results of the different studies.

Whether this methodology and how it has been applied is appropriate in this case is open to debate and arguably reveals a degree of ignorance or prejudgement at the design stage. What is clear is that no previous review of the relevant literature has adopted such an approach to selection/exclusion of papers, nor type of statistical methodology used in these reviews.

The team of researchers reviewed all papers published about the nutrient content of organic food in the past 50 years (1/1/1958 to 29/2/2008). Papers without English abstracts or not published in peer-reviewed journals were excluded.

In total 162 relevant articles were included, of which 76 were farm surveys, 60 field trials, 23 food basket surveys and 3 combined studies. Some 74% of all the studies were published after 2000. From those papers a total of 3558 comparisons of content of nutrients and other substances in organically and conventionally produced foodstuffs were extracted for analysis.

The chemical analyses referred to 100 distinct foodstuffs and presented data on 455 nutrients and other substances. Statistical analysis by foodstuff was therefore impractical, further statistical analysis was only conducted on nutrients or nutrient groups for which data were provided in at least 10 studies. The results found statistically significant differences in relation to a number of nutrients (or groups, see Table 1, page 4).

The studies were then assessed according to the following criteria:

- Clear statements on material and nutrients analysed,
- Laboratory and statistical methods and
- A clear definition of organic agricultural practices including stating the name of the certification body.

Only one third of studies (n=55; 34%) met all of these criteria. The conclusions of the report and those highlighted in the FSA press release are based solely on this limited number of so called 'high-quality' studies.

However, 60 studies were excluded because they did not state organic certification body even when they met the other criteria. This included studies from countries that have a state certification system (e.g. Denmark) or only one licensed private certification body (e.g. Switzerland and the Netherlands). Whilst this may have been appropriate for studies prior to the establishment of a legal definition of organic production it is not for those post-regulation.

From the evidence presented in the report it is not possible to determine exactly how these erroneous exclusions influenced its conclusions. A quick glance at the table indicates that the impact is important.

However, the impact of the reviews statistical approach is clear and is critical. Chris Goodall writing on the Guardian website on 13th August calls it an "abuse of statistics". He points out that organic had measurably higher levels in 18 out of 23 nutrients. However, because of the variability in the data the degree of statistical confidence that these differences are not due to chance could not reach the 95% level which the researchers had chosen as the yardstick. The fact that there are differences is manifestly clear and it was wrong and misleading of the FSA to say otherwise. Similarly dismissing what differences there are as irrelevant to health whilst excluding any suggestion that pesticides might be problematic further discredits them.

As Goodall says, *"Science moves ahead by noticing patterns in data and trying to find plausible explanations. And not by baldly stating that because differences are not large or consistent enough, that there can't be an underlying pattern... Virtually nothing we think that we know about climate is understood with a confidence exceeding 95%. ...If the FSA was in charge... (They)…would now be claiming we did not have a sufficiently high level of certainty to want to bother to reduce global emissions."*

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Dr Chuck Benbrook

Chief scientist of The Organic Centre USA writes...

Unlike the London FSA study, The Organic Center (TOC) review focused on nutrient differences in "matched pairs" of crops grown on nearby farms, on the same type of soil, with the same irrigation systems, harvest timing and grown from the same plant variety. It also rigorously screened studies for the quality of the analytical methods used to measure nutrient levels, and eliminated from further consideration a much greater percentage of the published literature than the FSA team.

While the FSA team found 80 comparisons of phenolic compounds, the TOC team focused on the more precise measure of total phenolic acids, or total polyphenols, and found just 25 scientifically valid "matched pairs." By mixing together in their statistical analysis the results of several specific phenolic acids, the FSA team likely lost statistical precision. Instead, the TOC team focused on studies reporting values for total phenolic acids, and also applied more rigorous selection criteria to exclude poorer quality studies.

The TOC team found –

- Twenty five matched pairs of organic and conventional crops for which total phenolic acid data was reported. The levels were higher in the organic crops in 18 of these 25 cases, conventional crops were higher in 6. In five of the matched pairs, phenolic acid levels were higher in organic crops by 20% or more. On average across the 25 matched pairs, total phenolics were 10% higher in the organic samples, compared to conventional crops.
- In seven of eight matched pairs reporting total antioxidant capacity data, the levels were higher in the organically grown crop. Of 15 matched pairs for the key antioxidant quercetin, 13 reported higher values in the organic food. In the case of kaempferol, another important antioxidant, the organic samples were higher in six cases, while five were higher in the conventional crops.

In the TOC study, there were an ample number of matched pairs to compare the levels of 11 nutrients, including five of the nutrients in the FSA review. For the five nutrients covered in each review, the TOC team was in general agreement with the FSA findings for two (nitrogen and phosphorus).

The London team did not assess differences in key individual antioxidants, nor in total antioxidant activity, important nutrients that have been measured in several more recent studies.

Across all the valid matched pairs and the 11 nutrients included in the TOC study, nutrient levels in organic food averaged 25% higher than in conventional food. Given that some of the most significant differences favoring organic foods were for key antioxidant nutrients that most Americans do not get enough of on most days, the team concluded that the consumption of organic fruits and vegetables, in particular, offered significant health benefits, roughly equivalent to an additional serving of a moderately nutrient dense fruit or vegetable on an average day.

Table 1: Comparison of content of nutrients and other substances in organically and conventionally produced crops

	All 162 Studies			55 Studies considered of satisfactory quality		
Nutrient category	**Studies (n)**	**Comparisons (n)**	**Statistically higher levels in:**	**Studies (n)**	**Comparisons (n)**	**Statistically higher levels in:**
Crop products						
Nitrogen	42	145	Conventional	17	64	Conventional
Vitamin C	37	143	No difference	14	65	No difference
Phenolic compounds	34	164	Organic	13	80	No difference
Magnesium	30	75	Organic	13	35	No difference
Calcium	29	76	No difference	13	37	No difference
Phosphorus	27	75	No difference	12	35	Organic
Potassium	27	74	No difference	12	34	No difference
Zinc	25	84	Organic	11	30	No difference
Total soluble solids	22	81	No difference	11	29	No difference
Titratable acidity	21	66	No difference	10	29	Organic
Copper	21	62	No difference	11	30	No difference
Flavonoids	20	158	Organic	4	48	No difference
Iron	20	62	No difference	8	25	No difference
Sugars	19	95	Organic	7	32	No difference
Nitrates	19	91	No difference	7	23	No difference
Manganese	19	58	No difference	9	29	No difference
Ash	16	46	No difference	5	22	No difference
Dry matter	15	35	Organic	2	2	No difference
Specific proteins	13	127	No difference	7	43	No difference
Sodium	12	30	No difference	6	17	No difference
Plant non-digestible carbohydrates	11	40	No difference	3	18	No difference
-carotene	11	32	No difference	3	9	No difference
Sulphur	10	28	No difference	6	17	No difference
Livestock products						
Saturated fatty acids	13	61	No difference	3	10	No difference
Monounsaturated fatty acids (cis)	13	42	No difference	3	9	No difference
n-6 polyunsaturated fatty acids	12	42	No difference	2	3	No difference
Fats (unspecified)	12	20	No difference	6	13	No difference
n-3 polyunsaturated fatty acids	9	34	No difference	2	13	No difference
Polyunsaturated fatty acids (unspecified)	8	12	Organic	2	5	No difference
Trans fatty acids	6	48	Organic	-	-	No data
Nitrogen	6	13	No difference	3	10	Organic
Fatty acids (unspecified)	5	19	Organic	1	4	N/A[2]
Ash	5	9	No difference	4	8	No difference

1Standardised percentage difference and robust standard error are presented in Appendix 12. 2 Statistical analysis not possible as all data from the same study

Let them eat wheat

Novel feed trials in the commercial poultry system at Sheepdrove Organic Farm.

Becky Kelly

The ever increasing price and decreasing availability of oil has a major affect on the price and availability of imported and processed animal feeds across all sectors. In the current economic climate people are looking to cut costs and tighten belts; organic produce is seen as niche and expensive. If organic producers continue to use feed stuffs produced in an oil expensive fashion they will become exactly that.

Organic systems aim to operate in an ecological and economical way, importing cereals grown thousands of miles away, processed at a mill and then transported again to our farms is costly in oil and therefore money. Sheepdrove Organic Farm (SOF) has an ongoing goal of closing its system as much as possible. This has been a driver for programmes on municipal composting, population breeding and the development of its silvo-poultry system.

A research and development programme is being implemented, targeting feed self-sufficiency and 'closing the loop'. At its simplest it is built around the question; how can Sheepdrove Organic Farm (SOF) formulate diets and feeding programmes for their poultry and pig systems using home grown crops? Market variables, oil emissions and costs could be cut dramatically - and loops closed if we can find an answer.

We conducted a preliminary trial (n=120) at SOF into feeding poultry a 30% home produced whole grain wheat diet with excellent results. The feeding regime was introduced into the commercial system but suffered several problems; it had to be mixed by hand which was difficult and labour intensive; separation of pellets and cereal occurred. This meant that birds would be presented with 100% concentrate followed by 100% wheat; a diet change like this is biologically and behaviourally unfeasible for the birds to manage, so a second trial was established where wheat was presented as a choice feed.

The key objectives were

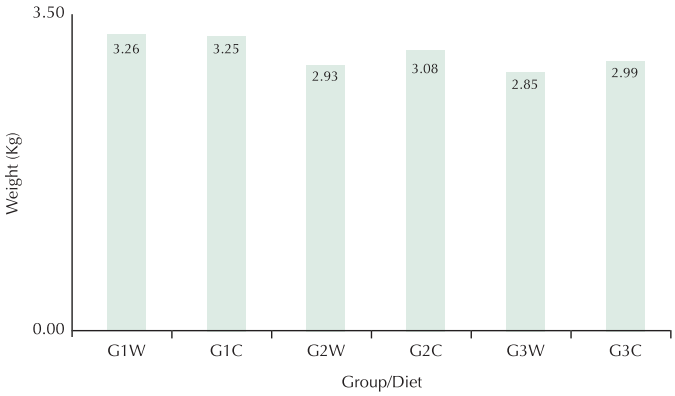
1. To establish whether birds finished to target weights in the given time period.
2. To establish the economic and ecological value of feeding home produced wheat.
3. To ensure that SOFs' high welfare standards were maintained.

6,600 birds were used in this trial; 3 weekly batches that were fed wheat for an increasing amount of time. Half were fed 30% whole grain wheat, half were left as a control.

Results

As the birds used were those in the commercial system, slaughter dates had to fall in with the processing schedule, 86 day live weights were forecast to correct for this problem.

Calculated live weight at 86 days for each group of birds



Predicted 86 day live weight for each group of birds, comparing the average for Wheat fed (W) and Control (C) within each group (G1, G2, G3).

There is no statistical difference between Wheat fed and Control birds in any group. This means that feeding 30% whole grain wheat did not affect finishing weights.

	kg CO^2 (e)	MJ
Control (10 t processed concentrate)	570	8060
Trial (7 t processed concentrate, 3 t wheat from SOF)	401	5642

Energy & Emissions

Approximately 30% less energy and CO^2 would be used when 30% SOF grown wheat is included in the ration. Over a year this would reduce SOF's carbon footprint by 8.8 tonnes.

A substantial saving is also made - in the region of £700 per batch of finished birds when the wheat was introduced during week 5 of life.

There was no social disturbance created by the introduction of the wheat, nor were there any welfare problems caused by the dilution of the pelleted concentrate.

A 30% inclusion of whole grain wheat in the commercial system at Sheepdrove Organic Farm has now been implemented and is proving extremely successful. To reduce further on labour costs it is hoped that an old mixing mill will be of use, this will make the mixing more thorough and accurate.

WIN BIG - ecoregional conservation and organic agriculture

Nigel Dudley, Equilibrium Research

Nigel works on issues of protected area management and broadscale conservation planning for bodies such as WWF, UN agencies and governments.

Several complementary trends in land management could help to foster an important synergy between people developing broadscale approaches to biodiversity conservation and those involved in organic agriculture. But building on these links requires a concerted strategy.

Broadscale conservation

Over the past decade, biodiversity conservation efforts have scaled up dramatically, from predominantly focusing on individual sites to – at least in theory – working across whole landscapes. The push for ecoregional conservation was spearheaded by non-governmental organisations such as WWF and The Nature Conservancy, but has gained widespread support from governments. Conservation plans are being developed for whole ecoregions: large areas of land or water with characteristic species, communities, ecological dynamics and environmental conditions. 810 ecoregions have been defined covering the whole terrestrial globe, along with many marine ecoregions. Whether or not conservation planners keep precisely to these spatial units, they are now increasingly likely to look beyond isolated sites and mosaic approaches of different land and water uses.

Governments have backed the spirit of broadscale conservation through a series of international agreements. The European Union for instance has the Habitat Directive and associated network of Natura 2000 sites, which mix strict protection with other forms of conservation-friendly management (the mix varies with the way that individual countries interpret the directive). The Convention on Biological Diversity (CBD) has its 2004 Programme of Work on Protected Areas (POWPA), which urges member states to develop ecologically-representative networks of protected areas that contain viable samples of all habitat types and species.

The role of protected areas and natural ecosystems

So far, although ecoregional plans are supposed to consider many ways of achieving biodiversity conservation, most are still based around bigger and better protected areas; something that I return to below. However, these protected areas vary enormously in their management and governance, ranging from sites so strictly protected that no-one is allowed inside, to living landscapes where conservation is integrated with other uses – like British national parks. They also vary from state-owned areas to those managed by local or indigenous people using traditional governance; so-called community conserved areas. The International Union for the Conservation of Nature (IUCN) defines six categories of protected areas based on management objectives and recognises four broad governance types:

Category Ia:
Protected area mainly for science or wilderness protection

Category Ib:
protected area mainly for wilderness protection

Category II:
Protected area mainly for ecosystem protection and recreation

Category III:
Protected area mainly for conservation of specific natural features

Category IV:
Protected area mainly for conservation of species or habitats

Category V:
Protected area mainly for landscape/seascape conservation or recreation

Category VI:
Protected area mainly for the sustainable use of natural resources

Governance type A:
Managed by the government

Governance type B:
Co-managed protected areas

Governance type C:
Private protected areas (for profit or not-for-profit)

Governance type D:
Managed by indigenous peoples and local communities

It is also increasingly recognised that natural ecosystems play many practical roles in society. A third of the world's hundred largest cities draw much of their drinking water from forest protected areas and forests are often the cheapest way of providing clean water. Natural ecosystems preserve critically important wild relatives of crops and plants of medicinal value. The UN International Strategy for Disaster Reduction notes that: "A healthy environment enhances the capacity of societies to reduce the impact of natural and human-induced disasters".

Many of the world's poorest people rely on natural ecosystems for food and materials. And some natural ecosystems still provide the most effective way of sequestering carbon against climate change. Arguments in favour of protected areas extend well beyond biodiversity and the CBD's Ecosystem Approach – a set of principles for broadscale conservation – has developed in part as a response.

Organic agriculture and biodiversity conservation

There has been a parallel recognition of the potential of organic agriculture in conservation policy. Twenty years ago many nature conservation organisations opposed organic agriculture, arguing that it would need extra land to produce the same amount of food and instead advocated intensive farming and land set aside for conservation. The coin has flipped, mainly due to research evidence that suggests positive conservation benefits from organic systems, with detailed comparative studies of birds, insects and other groups in countries like Denmark, the UK and the United States. Conservation organisations now almost always support organic farming and some have even bought organic farms as nature reserves, like Folly Farm owned by the Avon Wildlife Trust near Bristol.

But at a national or international level the two worlds are still a long way apart. Ecoregional conservation plans are, as noted above, still overwhelmingly focused on protected areas. Furthermore, many influential conservation NGOs tacitly ignore anything but complete protection, feeling that the less restrictive approaches contained in IUCN categories V and VI will be ineffective. However, space for huge strictly protected areas is running out and there is also a backlash amongst human rights groups about the impact of such protected areas on local human populations, many of whom are displaced to create "strict" nature reserves. The CBD is demanding that in future protected areas require Prior Informed Consent from local communities. New models are needed fast.

The drive towards landscape approaches is converging with an emerging paradigm of protected areas that puts greater emphasis on community initiatives and on trade-offs between human needs and wider ecological needs.

The role of organic agriculture in broadscale conservation approaches

Organic farming can play six broad roles in emerging ecoregional conservation strategies:

1. To support biodiversity directly in the general landscape, independent of protected areas. The role of organic agriculture in promoting biodiversity conservation within the agricultural landscape has been explored in a series of workshops run by IFOAM and in a plethora of research projects.

2. As a management system inside protected areas, mainly suitable for landscape protected areas and extractive reserves (IUCN categories V and VI – e.g. in Italy and Hungary) but also as an explicit conservation strategy in long-established cultural landscapes (e.g. IUCN category IV as in some UK nature reserves).

3. Within buffer zones around protected areas and biological corridors and stepping stones between protected areas; these are not full reserves but encourage management approaches that allow, amongst other things, occasional passage of species to prevent protected areas becoming genetically isolated. Some countries have special grants or incentives for people managing such areas. For instance organic agriculture is planned as an important buffer activity in the ambitious Meso-American Biological Corridor initiative.

4. To create specific microhabitats aimed at maintaining particular species. For example shade-grown organic coffee is helping to provide habitat for passerine bird species in Talamanca, Costa Rica; and organic farms often deliberately maintain green corridors and hedgerows because of the beneficial species they maintain.

5. To facilitate pollution reduction zones around watersheds containing freshwater protected areas, where upstream water purity is a critical factor in overall management effectiveness or where it is particularly important to reduce soil erosion.

6. As minimal impact farming on semi-natural habitats important for wild species, for example reduced sheep density on upland moor and heath areas important for breeding birds such as the curlew and golden plover in Western Europe.

It can be argued that many, perhaps most, of these approaches would work with any form of low-intensity agriculture. This is true, but organic farming offers the only approach that combines a clear set of conservation management standards with independent inspection; the widespread fraud associated with some European agri-environment schemes emphasises the need for such checks and balances.

Organic agriculture is not the answer to biodiversity conservation, any more than sustainable forest management or low impact fisheries. (This is an important point to stress because business interests like to argue that a few adjustments to policy can "solve" the biodiversity issue and avoid the need for protected areas altogether.) Organic farms do not generally support the full range of species found in a wild habitat, nor do they simulate precisely natural ecological processes. But organic farming can be an important component of conservation strategies and could be far more widely used than is generally the case today.

Those involved in organic agricultural policy have been successful in promoting the benefits of an organic approach to field research biologists but there is still a gap in perception amongst conservation planners; the people who draw the maps and drive the policy. There is now an urgent need for something in the nature of a promotional drive to promote the benefits of organic approaches within ecoregional conservation approaches. A consolidated set of guidelines for integrating organic agriculture into broadscale conservation strategies, with real-life case studies, would be a good start, perhaps carried out in collaboration with IUCN's World Commission on Protected Areas.

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Memories of spring chicken - is organic chicken a seasonal product?

Happily, consumers are starting to reconnect to the idea of fruit and vegetables being in season and the joy of looking forward to the first asparagus or strawberries of the year. But what about other produce, chicken for example? We have all heard the term 'spring chicken' but how many of us have thought about its implications for organic marketing?

Lois Philipps of Abacus Organic Associates has been busy uncovering a wealth of information on the subject in the library of the Museum of Rural Life at Reading University. Not so long ago poultry was a regional and seasonal product and today's organic poultry producers could learn some useful 'canny' marketing techniques, which may address some of those difficult issues currently facing the organic poultry sector.

Historical Background

The earliest written records of 'domestication' of poultry have been found in Chinese records dating back to 1400 B.C, which referred to cock fighting as the principal reason for keeping birds. Later there are records to suggest that poultry were reared solely for food although it was often considered as an incidental or side line often carried out by the women, not part of the real commercial business of the farm. The birds used at this time were "dual purpose" producing both eggs and meat and because of this the birds tended to be killed only rarely or when old and past their best in terms of egg laying.

This remained the pattern in Britain until the industrial revolution when whole populations left their agrarian roots and moved to towns and cities to work in mills and factories. These new urban workers did not have the land or time to feed themselves and so came to rely upon the new commercial agriculture to feed them. However, poultry remained a relatively minor part of their diet and was seldom eaten unless part of a celebration such as Christmas, although eggs became a staple foodstuff.

The First World War saw many men leaving the land to fight in the trenches of the Western Front, leaving women and the very young and old to tend the land. The war also drove the requirement to increase agricultural production in order to feed the soldiers at the front. Following the First World War many ex-soldiers used their 'de-mob' money to set up small scale poultry businesses, these tended to be 'barn door' flocks with little or no specialisation and poultry meat remained a delicacy and was only really eaten on special occasions, such as Christmas or Easter.

During the inter-war years the national poultry flock had nearly doubled in size to over sixty million head of poultry, supported mainly by imported animal feeding stuffs from the Empire. During these years some areas of the country began to be predominately associated with poultry production with farmers having few interests outside the poultry trade.

For example, Sussex and Lancashire were known for their specialism in all aspects of poultry production. This was driven by the local and increasing markets of London and Manchester and the ease of transport that the expansion of the rail network provided.

At the outbreak of the Second World War there was increasing concern in the Government that to produce one tonne of eggs required four tonnes of imported feed. Associated with this was a growing concern over the reliance on other imported human and animal food from America and the Empire and a belief developed that there had to be a radical readjustment of British agriculture.

This led to an immediate demand that more land was cultivated to produce arable crops in an attempt for the country to be more self-sufficient. In turn, grain for poultry was rationed and the numbers of poultry fell from sixty-four million to forty-five million. Also the introduction of food rationing limited individual consumption of poultry meat and eggs, however it also led to the development of manufactured products such as powdered egg which could be used in a variety of dishes and had a long shelf life. This marked the beginning of what is now a massive market in manufactured poultry products.

Post war, once poultry feed again became readily available, poultry flock sizes rapidly increased. Gradually, commercial poultry production became more and more detached from the mixed farm and then from the land altogether, as specialised farms moved their birds indoors where temperature and feed could be more tightly controlled. As flock size grew there was an increasing separation of function within poultry farmers into three distinct groups:-" breeders", "egg producers" and "meat producers". This specialisation resulted in a decline in the 'real' price of eggs and poultry meat, as economies of scale drove prices down.

Another major change occurred in the mid 1950s where purpose bred meat birds were introduced from the USA for the first time. These birds were not used for egg production but solely for meat and became known as 'broilers'. The term broiler is derived from the two ways in which historically meat birds could be cooked, the tender and younger birds could be roasted while the older and tougher birds were boiled. These purpose bred meat birds could be cooked in any way you wanted because the meat was tender.

This helped to stimulate consumption as the newly affluent families in the 1950's and 1960's turned to more convenient foodstuffs. Chicken was no longer a luxury food to only be enjoyed on high days and holidays, but became a staple part of the British diet throughout the year.

The total number of registered poultry keepers fell steeply in the 1960s and this represented a decline in the number of commercial flocks by about fifty per cent, resulting in about

130,000 registered poultry keepers by mid-decade, mostly concentrated in the East of England.

Intensive egg and meat production continued to grow throughout the 1970s. However, the consumer gradually became aware of the production methods being used and became increasingly concerned about the welfare issues that surrounded such production methods.

The development of the free-range industry stemmed from these welfare concerns and gradually became a viable alternative to "high input/high output" systems. Campaigning organisations such as Compassion in World Farming (CiWF) and the RSPCA led the demand for better welfare standards which in turn has lead to a shift away from highly stocked broiler houses and caged egg production systems.

At the present time chicken is a very popular and cheap meat, with the average UK person eating over twenty-five kilograms of poultry meat per year. This represents over 800 million chickens being slaughtered to meet UK demand alone. Similarly, turkey production is now year round rather than primarily for the Christmas market whilst duck and goose consumption has seen a significant rise due to greater availability in UK supermarkets.

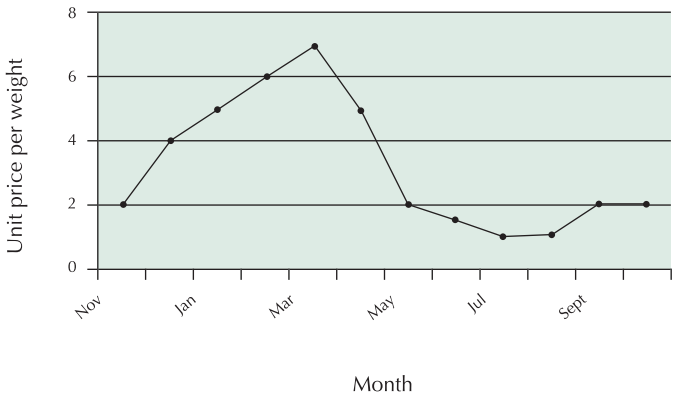
The seasonal chicken?

The conventional indoor producers have an advantage over outdoor poultry with environmentally controlled sheds, the food conversion ratio is controlled and predictable throughout the year. However, the outdoor producer experiences difficulties in feeding growing birds during the winter months.

A bird living an outdoor life is going to require more energy just to keep warm in the winter let alone put on weight. In the past poultry were raised up until Christmas when grain was abundant, firstly by gleaning the fields after harvest and then by sweepings from the threshing barn. But by the first few months of the new year, what is known in the vegetable production year as the 'hungry gap' it was not worth the poultry producers trying to rear and feed birds, therefore they became a scarce product.

A demand was created, as people started to look forward to eating chicken again in the spring. In order to meet that rising demand the new season birds were often taken very young and thus very small. In 1933 a MAFF Bulletin on the rearing of chicken produced a graph to demonstrate the changes in price chicken meat over the year based on the price obtained per unit weight, a representation of the graph is shown opposite. It clearly demonstrates that the best price was obtained in the spring. (Fig.1).

(Fig.1). Season trends in chicken price in the 1930s.



So different terms were used to describe the size of the birds being brought to market, think potatoes..... first earlies, second earlies, salad crop and main crop, well it can apply to chickens too! The table below shows the how different sizes of birds were presented to market throughout the year. Adapted from National Table Poultry Scheme 1930.

Availablity	Class	Descritpion	Weight
March/April	Pettis Poussin		8 to 16 onces (225g to 454g)
Early Summer	Asparagus or Double Poussin	Cockerels of light breeds hatched in March and April	1 to 2 pounds (454g to 1kg)
July	Chicken	Early hatched chicks mainly of the heavier breeds	2 to 3 pounds (1 kg to 1.4kg)
Mid April to Mid July	Surreys	The top quality bird, traditionally had been force feed to produce white meat	3 pounds and above (1.4kg and above)
Winter Months	Spent hens	Old egg layers beyond thier best, boiling birds	Any weight
Autumn Breed	Slow growing over the winter	Possibly for the Christmas table	

What opportunity does this offer the organic producer today?

Some of these classes of chicken would not be appropriate or acceptable for todays organic market but in principle they do offer scope for innovative marketing of different sized birds at different times of the year.

The making of Europe's organic production - EU organic farming policies and regulations analysed

In a special issue of the academic journal Food Policy (June 2009), leading researchers examine the development of organic farming policy in Europe, including the regulation defining organic farming, financial support through agri-environmental and rural development programmes, action plans for organic farming as well as different perspectives on stakeholder engagement.

The special issue features the results of several EU and nationally funded research projects on organic farming policy development and evaluation, and on the reform of the regulation defining organic food. The papers highlight the substantial increase in European governmental support for organic farming since the 1990s, but also identify areas of concern that need to be addressed.

The special issue has been guest edited by Dr Matthias Stolze of the Research Institute of Organic Agriculture in Switzerland and by the Executive Director of the Organic Research Centre – Dr Nic Lampkin.

In analysing how organic production has arrived in Europe, the guest editors also speculate on where the sector is heading next. The policies for organic farming developed in Europe since the late 1980s have been grown in the context of production surpluses, loss of biodiversity due to agricultural intensification and a heavy reliance on commodity support for mainstream agriculture.

As we approach the next European policy planning period (2014-2020), the circumstances that have influenced organic farming policy development over the last two decades are very different. Widespread policy support has reduced and in some cases eliminated the need for producers to rely on the market, while at the same time the success of the organic market has generated its own challenges with respect to organic principles and values. Commodity support has been decoupled and increasingly these resources are being diverted to agri-environmental and rural development programmes. Surpluses as a problem have been replaced by renewed concerns about food security. Climate change now tops biodiversity and pollution as the key environmental concern. At the same time, the global economic downturn is severely constraining market growth and governmental ability to fund support programmes of this type.

Meta-analyses of scenarios and future pathways for the shaping of the Common Agricultural Policy (CAP) show a two-axis construct with globalisation versus regionalisation on the one axis and economic orientation versus environmental orientation on the other. The transition pathway for organic farming development will need to recognise that international trade of organic products is already a reality, while at the same time, organic agriculture could add an important economically, culturally, ecologically and value-based plus to the trend of European agriculture's role in empowered local economies.

With the ongoing growth of the organic sector and the growing relevance of international trade with organic products, the field of organic certification has become a maze of competing labels, different private and public standards, in addition to European law. This diversity reflects the specific conditions for organic operators in countries or regions but can also lead to confusion for both producers and consumers, may create a variety of costs and could increase the risk for fraud. As the basis of the current certification model was developed decades ago with organic farming being in its early stage and the level of international trade being low innovative and efficient certification approaches need to be developed without making cuts in certification quality.

With the focus on climate change, there are now strongly competing claims as to which farming systems deliver most in terms of reducing greenhouse gas emissions. Organic farming's reduced productivity and reliance on livestock as an integral part of the system is seen by some as a weakness, but by others as a way of significantly reducing fossil energy inputs, reducing nitrous oxide emissions associated with the manufacture and use of nitrogen fertilisers and providing opportunities for soil carbon sequestration. At the same time, other environmental concerns still need to be part of the equation. More robust evidence-based assessments of these issues are needed to help identify the relative merits of different approaches and optimal future development paths.

The renewed focus on food security is also perceived as a key challenge for organic farming with its lower yields, at least in an industrialised farming context. On the one hand, increased food production is seen as essential, with GM crops and more intensive methods playing a significant role. However, there is also a need to examine how what is currently produced is actually utilised. Does it make sense to produce more cereals to feed to livestock in competition with human food needs? In many cases, grass-fed livestock can make better use of the biomass production potential of land, so integrated organic systems may exhibit similar total productivity to conventional production systems, while being less dependent on inputs from non-renewable resources.

Overall, the authors conclude that organic farming in Europe has developed significantly in recent years, supported by significant and varied policy interventions. The wide range of measures implemented reflect multiple policy goals and multiple stakeholder interest as well as some convergence of European policy goals with those of the organic movement, particularly with respect to ameliorating the impacts of intensive production on the environment and promoting high animal welfare and food quality standards.

However, the new challenges of climate change, food security and global recession present new challenges for organic farming policy development. Research such as that presented across the Food Policy Special Issue, can make a significant contribution to supporting the policy development and evaluation process and be a real help in addressing future challenges.

Food Policy (Volume 34(3)) on the Development of Organic Farming Policy

Nic Lampkin joins ORC as Executive Director

In February, the Organic Research Centre welcomed Dr Nic Lampkin as its new Executive Director, to work alongside ORC's founding Director, Lawrence Woodward in preparing the organisation for its fourth decade of activity. Nic's role is to ensure the organisation remains fit for purpose and to support the development of new research and knowledge exchange initiatives, broadening the range of ORC activities.

Nic is perhaps best known for his book 'Organic Farming' published 20 years ago, as well as the 'Organic Farm Management Handbook' (see back cover). He has also spent 24 years at Aberystwyth University researching the economics of organic farming, more recently engaging with a series of European research projects on the development and evaluation of policies to support organic farming. He contributed to the development of the European, English and Welsh action plans for organic farming, and founded Organic Centre Wales, financially supported by the Welsh Assembly Government, in 2000. His successor as Director of Organic Centre Wales is Sue Fowler, while Nic retains a policy role in Wales as Chair of the Welsh Assembly Government's Organic Strategy Group and board member of Hybu Cig Cymru.

The Organic Research Centre's new Executive Director, Dr Nic Lampkin.

New ORC conference centre completed

For more information call 01488 658298
or email us at *info@organicresearchcentre.com*.

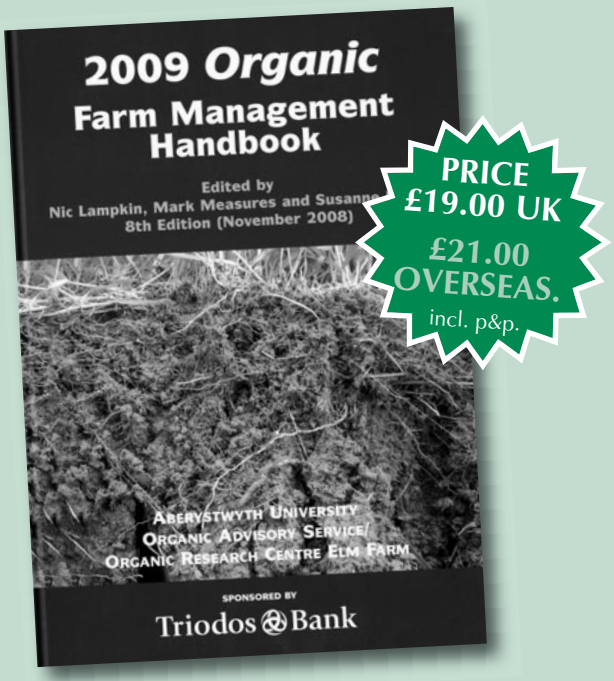
Photos: Organic Research Centre's Arable Day – June 2009

At the end of June, the transformation of the 17th Century Grade II listed barn into a new, modern Conference and Educational facility was completed. The restructuring and refurbishment was carried out using state of the art environmental technologies together with traditional construction methods and materials: from ground source heating and solar panels to sheep's wool insulation and rainwater harvesting.

The Conference Centre will provide a much needed facility for ORC conferences and events. The first event, the ORC Arable Day, took place on 30th June (see photos below) and we welcomed students from the College of the Atlantic in Maine, USA for a summer course.

It offers a welcome space for many of our partners and other groups to use and is available to the local community.
The venue can accommodate up to 100 people and includes catering facilities.

An ORC publication!



Trade and bulk orders (5 copies or more):
£12.50 plus post and packing at cost.

T: 01488658279 E: info@organicresearchcentre.org

Introducing the
new Conference Centre
at the Organic Research Centre

The Barn can accommodate 100 people and full catering options are available using certified organic food. The room is also available for hire without catering options. See article on page 11 for more details.

For further details on the conference room and delegate packages please contact Gillian Woodward on 01488 658279 or email gillian.w@organicresearchcentre.com to discuss your requirements.

The Organic Research Centre Producer Conference:

ORGANIC INFORM @ ELM FARM

The 4th annual ORC Organic Producer Conference will take place on 7th & 8th January 2010.

At Harper Adams University, Shropshire TF10 8NB.

Programme details, booking and registration forms including Early Bird discount for prompt enquiries, are now available.

If you would like to receive details, call 01488 658279 or e-mail *organicinform@organicresearchcentre.com*

The Organic Research Centre Producer Conference:

ORGANIC INFORM @ ELM FARM

CALL for PAPERS

We are developing an exciting programme for the next ORC producer conference in January 2010, with input from producers, producer groups, consultants and researchers.

As part of this, we would like to open up the programme to include offered papers or evening workshops from individuals or groups. The possibility also exists for groups to organise special events on the day before the main conference starts. If you would like to contribute a presentation or propose a workshop or mini-conference, please email: *organicinform@organicresearchcentre.com* for further information.

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