THE ORGANIC RESEARCH CENTRE ELM FARM

Bulletin

with technical updates from The Organic Advisory Service

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THE ORGANIC RESEARCH CENTRE is an international research, advisory and educational organisation based in the UK.

The business of The Organic Research Centre is to develop and support sustainable land-use, agriculture and food systems, primarily within local economies, which build on organic principles to ensure the health and wellbeing of soil, plant, animal, man and the environment.

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Vaccination, vaccination, vaccination

How refreshing it is to read that an eminent veterinary association is calling for preventive vaccination to be used against foot and mouth disease. *"Losses in trade used as an argument against vaccination are, in our opinion, less important than the implications for animal welfare,"* say the vets. Sadly though this is not the British Veterinary Association or Royal College of Veterinary Surgeons being outspoken but the German Federal Veterinary Organisation – the BTK.

In the light of the latest outbreak of FMD in the UK, the German vets are urging their Government to question all trade restrictions following emergency vaccination against FMD. Since 1992 no preventive vaccination against FMD has been carried out within the EU. In case of an outbreak the veterinary authorities can decide, pending permission from the European Commission, to carry out emergency vaccination.

Usually this will lead to a prolonged period of trade restrictions for vaccinated animals and their products within the European Union and in third countries. The reason for trade restrictions is the assumption that vaccinated animals cannot be distinguished from infected animals. Modern marker vaccines are available that permit such differentiation.

At The Organic Research Centre – Elm Farm we wholeheartedly agree with the German vets and urge UK vets to put their heads above the parapet and lobby loudly for preventive vaccination too.

By early August - after the fiasco at Pirbright first became evident - Defra ordered 300,000 doses of the appropriate strain of FMD vaccine. If it had used them then in a preventive cordon around the perimeter of the surveillance zone and then working inwards in a damping down programme we would not now be looking at an on-going crisis.

The only barrier to vaccination deployment continues to be strident calls from nameless meat traders and ill-informed "macho" farming leaders who fear loss of international trade and loss of national pride.

As the agricultural "sick man of Europe" we no longer have any national pride to lose. And as for trade, the only current barrier is a three month longer ban on exports if vaccination is deployed. How long will the current outbreak linger on because vaccination wasn't used?

Richard Sanders

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The Organic Market Report 2007
Finger on the pulse?

So, we now have a UK organic retail market worth very nearly £2 billion a year, up 22 per cent in the last 12 months. Over the year we ate 12.4 million organic table birds, sourced 73 per cent of organic vegetables from the UK and saw box scheme trade soar to an annual figure of £146 million.

The release of the Soil Association's Organic Market Report is now an eagerly awaited annual event with great media interest. But what goes on behind the scenes to create this overview of the organic market and how much trust can we invest in its data? Organic Inform's Catherine Phillips has been taking a look.

The Organic Market Report provides readers with insight into the market by detailing the amount and type of organic produce farmed in the UK as well as analysing sales of organic produce through various channels. It is an important report – deemed by many, correctly or incorrectly, to have the pulse of the UK organic market and in this respect is cited everywhere, from research reports to newspaper articles to business proposals and policy documents.

It is the job of Sally Williamson, Soil Association Market Intelligence Officer, and her colleagues to collate and analyse all this information in time for the release of a report each year. They collect information from four main sources: producers, retailers, Defra and commentary from other stakeholders in the market.

Producers and retailers are asked to complete detailed questionnaires about the retailing channels they use and the size and value of the market in which they operate. Collecting and analysing this data is time consuming but also relies on a lot of goodwill on the part of respondents. In fact, the whole process relies upon collaboration, including other certification bodies and Soil Association Regional Offices. Certifiers either provide their member lists or directly invite their producers to participate.

For the first time this year, many producers were invited to participate by e-mail and could complete the survey online. After questionnaire distribution, the regional offices become more involved, reminding people to complete and return their surveys.

Perhaps more complex is when secondary sources are involved, due to lack of control over the data and how it is collected. Much of the data relating to land use and holding size is provided by Defra. This data originates from the nine UK certification bodies who collect information during producer inspections and then forward it to Defra. There are two main issues with this. First, the data relates to inspections across a whole year, rather than a snapshot taken at a particular time. This results in the use of relatively historical data. Second, the lack of a consistent classification system across certification bodies can result in cross-classification at both certifier and government levels.

For example, peas and beans could be classified as horticultural or forage crops but conflating different categorisation systems could result in an over-estimation of the size of the horticultural sector.

One solution is to encourage all certifiers to use the same categorisation system, for example, using Single Farm Payment (SFP) codes for classification. Some certifiers already do this, but some do not. The use of SFP codes is advocated by Dr Nic Lampkin of Organic Centre Wales, who believes that the quality of the data would be improved. It would also be administratively beneficial for farmers because they would be able to use the same codes across all their paperwork.

Recording other data sets in a consistent manner, whether by Single Farm Payment or CPH (County, Parish, Holding) number, may also prove beneficial as it would provide a check or a means to cross-reference the data. For example, using cattle movement records as a check on livestock numbers or cross-referencing data to the June Agricultural Survey.

As more people demand better quality data, including the EU under the new regulation, perhaps an opportunity is presented to gain a fuller understanding of the supply of organic produce within the UK. Objectives to reduce food miles cannot be discussed realistically without a good understanding of the basics: supply and demand. We can begin to understand demand and sales using information and figures provided by customers and retailers. But understanding supply and supply-potential seems to be the greater hurdle in a fragmented market with multiple channels.

Spreading the word. Environmentalist Jonathon Porritt visited our Wakelyns site in August to record material for a BBC Radio 4 series - "Save our Seeds". He was particularly fascinated by the Wakelyns agroforestry and is seen here discussing it with Professor Martin Wolfe.

Wholesome, authentic, unadulterated, high quality – how processed do you want your organic food?

Andrew Whitley has chaired the Soil Association's Processing Standards Committee for the past three years. His award-winning book Bread Matters - the state of modern bread and a definitive guide to baking your own (Fourth Estate 2006) revealed how processing can affect the integrity of our basic food. Here he discusses whether organic principle and processing practice can ever be reconciled.

When I tell people what their daily bread really contains, their reaction varies from a resigned acceptance that strange additives are involved, to annoyance that some things – the so-called 'processing aids' – do not have to be declared on the label. But jaws drop furthest when I point out that the organic bread made by the big bakeries almost always contains hidden enzymes. The assumption made by most consumers is that organic food doesn't contain additives, declared or otherwise. In such gaps between consumer perception and industry practice lies a threat to the whole organic project.

What is the problem?

You could argue that the organic movement has communicated its values more effectively than its standards. But it is hardly surprising that a public subjected to decades of scares and food industry scandals should embrace an alternative based on the values – to quote IFOAM's Principles of Organic Agriculture – of health, ecology, fairness and care. And when even the most limited explanation of organics, as contained in the preamble to the revised EU Regulation 834/2007, says -

Organic processed products should be produced by the use of processing methods which guarantee that the organic integrity and vital qualities of the product are maintained through all stages of the production chain (para 19)

Most consumers would assume that this meant no additives, no over-refinement and no manipulation of the kind that sees undeclared enzymes used to soften the texture and extend the shelf-life of bread.

Recent research into the health effects of synthetic food colourings has once again raised the whole question of food additives and in the fall-out of heightened public exposure, the danger is that their presence also in organic products – albeit in much smaller numbers – could lead to a reduction of public confidence in the organic market.

Hype or hypocrisy?

'Organic' moved from the realm of values and ethics to that of law with the 1992 EC Regulation. By codifying the rules of entry to the market that had grown up around organic food, the Regulation recognised the limited availability of inputs in both the production and processing sectors.

As the market grew, the list of permitted non-organic ingredients and additives slowly shrank.

But when large industrial food processors (and multiple retailers) started taking an interest they sought to 'conventionalise' the organic market and to subjugate its founding values of sustainability and naturalness to the orthodox claims of shareholder supremacy.

If processing standards do no more than define 'organic' as 'conventional but with organic ingredients', they may play to a food culture of advertising-led, manipulated overconsumption that is at odds with the organic principles of health and care.

The question boils down to 'should an organic processor be making this product?' If we don't ask this question in processing standards, we can hardly claim that they reflect our core principles and values. If we do, we enter the minefield of personal choice and may run up against the assumed freedom for food producers in a market economy to sell anything as long as it doesn't actually poison the customer.

What can be done to bring organic practice in line with principle?

The Soil Association standards have a preamble that recommends that organic foods should be 'wholesome, authentic, unadulterated and of high quality'. But these are still only principles. The challenge is to translate them into practice in a climate dominated by the very different ethics of 'de-regulation' and 'competitiveness'.

One way to encourage adoption of these principles might be to extend the 'risk-based' approach to certification that is increasingly used, for instance, to ensure traceability, adequate separation of organic and non-organic processing or transparent labelling.

Licensees could be required to evaluate every product they make in accordance with basic organic principles. They might be encouraged to do this if they knew that the mandatory standards were also, by planned stages and with the democratic participation of all parties, converging with the core values that underlie them.

The organic movement has inspiring and coherent principles. If we don't try to live by them, we can hardly expect others to take them – or us – seriously.

For information on Andrew Whitley's organic activities and baking courses, see www.breadmatters.com

In search of cereal performance

John Bradwell, Organic Seed Producers

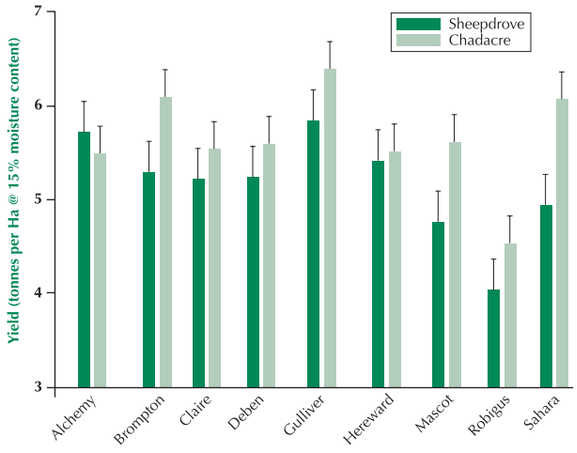
It's one of the most important jobs in the organic arable world – the search for top performing cereal varieties in organic farming systems. In England the quest is led by The Organic Seed Producers Co which once again organised independent replicated trials on Winter wheat, Winter Triticale and Winter Oats. This is the third year of the trials on three sites spread geographically and different soil types.

The objectives are to evaluate modern varieties available commercially or material that has shown promise in the HGCA year one trials and the breeder is projecting a good performance in the year 2 trials before recommendation.

It is disappointing that some varieties can perform very well organically but fail in the non-organic HGCA trials. The consequences are that these varieties will not proceed to full commercialisation and be denied to organic growers. The costs of maintaining a variety on the national list and the stock seed maintenance is very considerable and given the volumes of organic seed sold it is still not viable to market a variety just for the organic sector.

The varieties Gulliver (top yielder at Sheepdrove and Chadacre) and Sahara will probably not be available commercially because of their performance in the HGCA non-organic trials. Robigus suffered on both sites due to the high disease levels during 2007. The variety Alchemy is a relatively new variety and performed well at both sites despite a slight disease weakness. The variety Brompton has resistance to orange blossom midge, has slightly shorter straw is usually expected to perform well on heavy soils but it turned in a good performance at Sheepdrove.

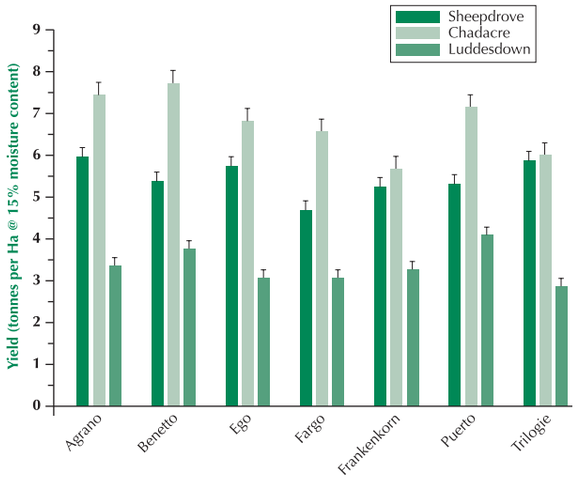
The varieties Claire and Deben are very reliable with Claire having an all-round good performance in disease resistance as well as a premium market. Hereward, which has been grown extensively by organic farmers in an attempt to get a milling premium, also had a good year. It has lost some popularity recently because of its failure to produce a milling sample but the yields are favourable in comparison to the other varieties.



Graph 1. Yield (t/ha @ 15% moisture content) of wheat varieties grown at Sheepdrove and Chadacre. Error bars are SEDs (standard error of difference) of the varieties at each site.

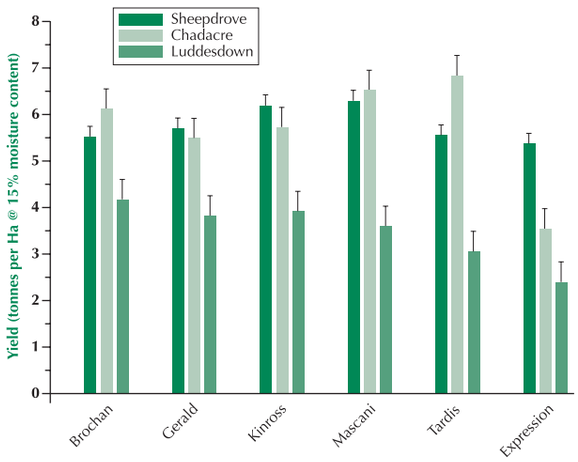
Mascot was disappointing at the Chadacre site in Suffolk, where it is grown on strong land.

The Triticales performed well delivering good yields at two locations, with several varieties achieving over 7 tonnes/ha at Chadacre, Suffolk and 6 tonnes/ha at Sheepdrove. The variety Trilogie gave the least variable yield at Sheepdrove and Chadacre, achieving around 6 tonnes/ha. The two best yielders were Agrano, a new introduction, and Benetto. The Agrano is a true alternative type from the breeder SAKA in Germany. It can be sown in the autumn or spring and will give good yields.



Graph 2. Yield (t/ha @ 15% moisture content) of triticale and spelt varieties grown at Sheepdrove, Chadacre and Luddesdown. Error bars are SEDs (standard error of difference) of the varieties at each site.

In the trial was a Spelt wheat, Frankenkorn. There is a good demand for the grain as it has unique properties, tolerated by coeliacs. This was the second year of evaluation and the yield at Sheepdrove was 5.3 tonne/ha with the glumes attached, these are removed by the miller and the grain yield will then be approximately 30% lower.



Graph 3. Yield (t/ha @ 15% moisture content) of oat varieties grown at Sheepdrove, Chadacre and Luddesdown. Error bars are SEDs (standard error of difference) of the varieties at each site.

There is considerable interest in the production of Spelt wheat in the UK.

The winter oat trial was interesting with 2 new varieties, Brochan and Tardis, included for the second year. Brochan has a very stiff short straw and gave the highest yield of 5.9 t/ha averaged over three sites. The highest individual yields were Tardis @ 6.8 t/ha and Mascani 6.5 t/ha at the Chadacre site. The naked oat variety Expression was included in the trial for comparison and, understandably, this had the lowest average yield at 3.8 t/ha.

These averages conceal some significant variations, in particular that Brochan was top yielder on the low yielding site and Expression produced 5.4 t/ha at Sheepdrove, very close to all the other varieties.

It is planned to continue with the trials at several locations for harvest 2008.

I would like to thank all the farmers and staff for their help and co-operation. Without it these trials would not be possible. Thanks too to our other co-operators.

Cereal mycotoxin study

Organic oats have lower levels of a hazardous mycotoxin than their non-organic counterparts, a recent study by Simon Edwards of Harper Adams University College has shown.

Mycotoxins are toxic substances that are produced under specific conditions as a result of the disease fusarium ear blight (panicle blight in oats) caused by the *Fusarium* species of fungi. They can be harmful to humans and animals, even at low concentrations in food or feed.

The study looked at levels of a range of mycotoxins, including deoxynivalenol (DON), nivalenol, zearalenone and HT2 and T2, in wheat, barley and oats over several seasons. Analysis was then carried out to determine what agronomic factors affected mycotoxin levels.

Looking at wheat

In wheat, of the mycotoxins tested for, only seven were detected, of these only four, (DON, nivalenol, HT2 and zearalenone) were detected at levels above 100 parts per billion (ppb). DON was the most frequently detected fusarium mycotoxin, present in 86% of samples, and was usually present at the highest concentration.

Year, region, previous crop, cultivation, variety and fungicide application all had statistically significant effects on DON concentration in wheat. Highest concentrations were found in the south and east of England; lowest concentrations occurred in Scotland. There was also a significant interaction between previous crop and cultivation, which is probably due to the importance of crop debris in the epidemiology of ear blight.

Highest predicted DON concentration occurred in wheat following maize, which is a known alternate host for *Fusarium* species, and ploughing generally reduced DON concentration. However, there was no significant difference in the predicted DON concentration between organic and conventional samples.

The incidence and concentration of most fusarium mycotoxins, including DON and zearalenone, were low in both barley and oats compared to values for wheat. This indicates that with current agronomic practices and varieties, wheat is the most susceptible host to *F. culmorum* and *F. graminearum* with barley and oats having considerably lower levels.

Concentrations of DON and zearalenone were below legislative limits for both barley and oats over the four year period 2002-2005. However, the incidence and concentration of HT2 and T2 were high in UK oats with quantifiable concentrations in 92% of samples with an average concentration (HT2+T2) of 570 ppb for all samples analysed from 2002 to 2005. In fact, over a third of all samples would have exceeded the proposed EU limit of 500 ppb.

Organic oats

Year, region, practice (organic or non-organic), previous crop, cultivation and variety all had statistically significant effects on HT2+T2 concentration in oats. It could be seen that organic samples had a significantly lower HT2+T2 content compared to non-organic samples.

One possible reason for this difference is rotation, with organic growers tending to use longer, less cereal intensive rotations. Oat samples from fields following a non-cereal and ploughing had significantly lower HT2+T2 than oat crops after wheat, barley or oats.

There was no trend from North to South, as seen for DON in wheat, which would indicate that the temperature difference across the UK does not limit HT2 and T2 production in oats. Oat samples with more than 500 ppb HT2+T2 were detected in all regions of the UK at similar frequencies. There were, however, significant differences in the HT2+T2 content of different UK varieties.

Of the five varieties with sufficient samples to include within the analysis, Gerald, the most popular oat variety in recent years, had the highest HT2+T2 content. Naked oat varieties tended to have a lower HT2+T2 content compared to conventional (husked) oat varieties. Naked oats have a loose hull which is removed during harvesting.

Further information on mycotoxins can be found on the HGCA and Food Standards Agency websites.

Boxing clever

Richard Sanders

Britain's best food delivered to your door…let your weekly shop take care of itself and the planet…affordable, ethical and delicious. So runs the marketing hype for national box scheme Abel and Cole – "the greener grocer".

Box schemes are one of the real success stories of the organic movement. They are a retail invention of go-ahead producers wishing to engage directly with their customers in an efficient, local and sustainable manner. But as box schemes – both nationally and locally – power ahead, how far have they strayed from these ethical beginnings and are they increasingly being hijacked by national retail companies at least one step removed from muddy boots organic producers?

In its latest Organic Market Report (2007) the Soil Association (SA) trumpets the growth of retail box schemes as outstripping the organic growth of even the biggest supermarkets. In 2006, organic retail sales through box and mail order sales grew by some 53% from £95 million to £146 million.

Says SA food and farming director Helen Browning – *"More and more people want to buy locally-grown, seasonal, unprocessed, organic food that also delivers a fair price to the farmer and grower…organic box schemes reflect a growing grassroots movement that links everyday food choice to environmental action".*

The biggest market growth last year though was in non-producer owned schemes which shot up by 93% from £45 million to £86 million. With this performance the proportion of organic sales made through retailer-owned box schemes has overtaken that made through producer-owned schemes for the first time. Nearly 60% of the organic box scheme market is now in the hands of non-producers. It is a figure set to get even larger as national schemes hoover up new and old box scheme customers.

Against the backdrop of these market trends, at The Organic Research Centre, we've been taking a snapshot of the health and attitude of producer/retailer box schemes. To us they represent an ideal model of local, sustainable food webs, so important for future, low energy economies.

The first finding is that small box schemes and farm shops are not experiencing anything like the growth levels recorded in the SA report. All the farmers interviewed reported a plateau in sales in the last year or so after admittedly many years of solid growth (20% year on year was typical). To some this lack of boom is a strategy – happy and managing as they are with 400/500 customers in a tidy local area. But to others it is a real concern.

We found no evidence that supermarket organic sales are poaching customers and at least one supermarket was happy to advertise local box schemes in its stores. The threat to producer box schemes (as indicated by data in the SA report) comes from national operators such as Riverford and Abel & Cole each with well in excess of 25,000 customers.

In highly mobile markets such as S E England there is a very high turnover in customers ("Churn rate") as people move house, area and jobs. As small box schemes lose customers to this natural wastage it is the big schemes with prominent advertising and slick marketing that pick up the new business.

Another worrying trend is picked up in the SA Organic Market Report 2007. It asserts that new box scheme customers expect less seasonal produce and more visual perfection. This is a difficult mix for producer/retailers to deliver and it hands a real trading advantage to retailer-owned schemes which have access to large wholesalers and international trade.

In 2006, producer owned box and mail order schemes sourced about 86% of their content from the UK. Non-producer owned schemes did less well, with 76% of content UK sourced.

The small box scheme proprietors we have spoken to are not however crying foul at the operations of their bigger, national cousins. Indeed they admire their retail savvy, wish them well and are actually attempting to copy their computerised listings and marketing techniques. We have heard stories of over enthusiastic box scheme franchisees shadowing local box deliveries to leaflet their customers and "steal" the business.

There is little hard evidence of such sharp practice. To some producer/retailers the national box schemes are seen as good news in expanding the overall organic box market (pond) for all players to fish in. Our conclusion therefore is that the current health of organic box schemes is rather mixed. For the future, further substantial growth in major national (international?) schemes is likely while the smaller producer/retailer operations plateau out or quietly fade away. A recent development has been the tentative entry of supermarkets such as Tesco and Sainsburys into box scheme territory (not just home delivery).

And in answer to the question, what's so different between the likes of Abel and Cole and the box schemes run by supermarkets?

Abel and Cole -

- works with small, independent producers
- purchases produce on the basis of taste, not looks
- sells seasonal fruit and veg
- only sell organic food – not just an add-on
- no additives and only ethical produce

Rather like with the precise definitions applied to proper Farmers' Markets, the time has perhaps come for definition of what constitutes a true organic box scheme.

– Should the person selling the box be the person who grew the produce?

– Should there be geographical limits on the trading range of the scheme?

– Is local supply and direct supply the same thing?

A typical "thank you and goodbye" email sent to one farm box scheme –

"I have paid the balance of the account today. Thank you for supplying the veg boxes. The reason we changed is that we used to get a box from Riverford and my partner thought that it was slightly better value for money and liked the fact that we could also order other things like yoghurt with the veg. I expect that because they are a larger operation they can reduce costs more easily. I personally would rather stick with a local supplier as it saves on food miles but I'm afraid I didn't win the argument."

The standards might well be modelled on Tolhurst Organic Produce near Pangbourne in the Thames Valley. Its box scheme operates within a 25 mile radius taking in Oxford and Reading with about 400 customers. Customers are organised in groups of 15 or so led by a neighbourhood rep based on streets, schools or place of work.

This helps reduce food miles whilst at the same time fostering social linkage amongst the group and also back to the farm. Packaging is re-used and then re-cycled with the result that a University of Surrey has found that the Tolhurst operations create just eight tonnes of carbon a year – about the same tonnage as an average household.

Or perhaps our model standards lie across the North Sea in Denmark. There the box scheme Aarstiderne has delivered organic products to the doorsteps of Danish households since 1999. It started out as a small vegetable garden on farm at Barritskov, in the western part of Denmark supplying fresh vegetables to about 100 local households.

Now Aarstiderne delivers organic produce to the doorsteps of 35,000 Danish households, employs 110 people, provides a sales channel for organic farmers and promotes better food and better environment in Denmark. The idea of Aarstiderne grew out of the work of farmer Thomas Harttung working closely with the local community. He even managed at start up to persuade consumers to pay up front (in advance) for three months box scheme supplies at a time.

We would love to hear your views on box schemes and the need/viability of an assurance scheme.

Have abattoir…need livestock

From Formula One driver to firearms producer to… organic farmer? Perhaps not the path that a careers advisor might suggest, but it seems to have done Jody Scheckter no harm.

Reputedly worth £80 million, Mr Scheckter is ten years into his third career as an organic farmer at Laverstoke Park in Hampshire. Not satisfied with running the farm for himself and his family, he bought out neighbouring farms and is now undergoing conversion to biodynamic certification.

The animal breeds at the farm are selected because they are slower growing – considered to be better-tasting and healthier. Having taken the care to select breeds and their diets, Scheckter was unhappy sending his animals on a long journey to abattoirs where he believed traceability was not a priority. Instead, he decided to build his own.

The multi-species abattoir has the latest equipment and was designed with assistance from Dr Temple Grandin, renowned for designing systems which reduce animal stress during handling. The abattoir's capacity can reach 100 cows, 500 pigs or 700 sheep in a day, but normally handles a variety of each. Laverstoke Park itself only provides enough animals to run the abattoir for about half a day each week, so there is a huge level of excess capacity.

Building a personal abattoir might seem a little eccentric, but Scheckter has built enough capacity to cover his business requirements ten times over. Without any market research, such a move may seem irrational, but Scheckter maintains that a facility suitable for his needs was not available, so there was demand in the market. To date, the abattoir has focused on processing Laverstoke's own produce and getting the people and systems in place to run efficiently.

Farmers can choose a package suitable for them. If the animals have to travel some distance, they can be rested before entering the process. The abattoir is keen to support small and large farms alike, taking one or two animals or hundreds. Following slaughter, the carcass can be collected or enter the hanging process. Carcasses are cooled in two stages, to 37°c, then to 15°c before being hung for up to 28 days for maturation. Boning, butchery and packing services are then offered before dispatch.

Use it or lose it

With such impressive facilities that can be customised to individual needs, why isn't new business flocking through Laverstoke's doors? The abattoir has started to take non-organic and in-conversion produce on some days in order to maintain skills and to try to make a contribution towards costs. Customers feel that this has created a vicious circle – they cannot now take their organic produce on a daily basis, reducing their flexibility.

In addition, customers have found the service to be more expensive, potentially due to higher operating costs and lower throughput levels. However, they praise the quality of the service and some even mentioned the positive experience of the specially designed handling systems. Those that have not considered using the Laverstoke facilities either felt they had a good relationship with their existing abattoir or a contract with a third party, for example, a retailer, to use alternative facilities.

The challenge of cutting energy use on organic farms

Researcher Peter How reports from a recent Soil Association conference

It's all rather circular – farms both produce and consume energy. Much recent attention has been focused on farm-sourced biofuels, but a recent Soil Association conference reminded us that farms themselves are major energy consumers. The debate was about the opportunities and challenges for the reduction of energy use on farms.

A Country Land Association (CLA) presentation drew particular attention to the financial incentives for maintaining and improving efficient use of energy noting a number of areas where practical steps will achieve this.

Oliver Harwood (CLA) pointed out, for example, that dirty fans and un-greased bearings burn money straight off the bottom line as they spin against unnecessary resistance. The CLA also take a positive view of biofuels and Oliver discussed various opportunities for energy production including these as well as wind and other renewables.

Bill Basford spoke about energy and farm equipment. He demonstrated that significant savings can be made by getting basics like tyre pressures right; understanding the relevant pressures according to the 'tool' and the task and ensuring that wheel slip is below 15% is one element; keeping servicing up to date is another.

He runs courses on farms to ensure that these basics are properly understood, but also motivates workers to understand their responsibility to deliver such elements in practice. Again the farm budget and environment are both beneficiaries of getting energy use right. When Bill pointed out that a typical ploughing means moving 3.5 – 4 t/ha soil eyebrows were raised and the group discussed the potential for accessing and using shallower ploughs. Bill also referred to the important and energy-hungry area of grain drying.

Moving on from the farm budget, energy use must be set in a wider context since it is closely associated with greenhouse gas emissions which have global implications and which the UK has binding obligations to reduce. Excellent presentations from Mark Measures and Ulrich Schmutz highlighted some of the key matters such as the effect of the last 50 years of intensification within agriculture, the overall contribution of agriculture to UK emissions, and the approaching point of peak global oil production, estimated at between 2008 and 2020. The concept of ecological foot printing was also introduced, demonstrating the massive demands on the planet that the British, European, and American way of life makes.

In discussing energy-saving opportunities for buildings, Claire Chambers from the Centre for Sustainable Energy talked about the domestic fuel bill, pointing out the short payback periods for ensuring that roof insulation is up to present recommendations, cavity walls are insulated and windows are at least double glazed. Claire has experience working with dairy farmers on farm building energy efficiency.

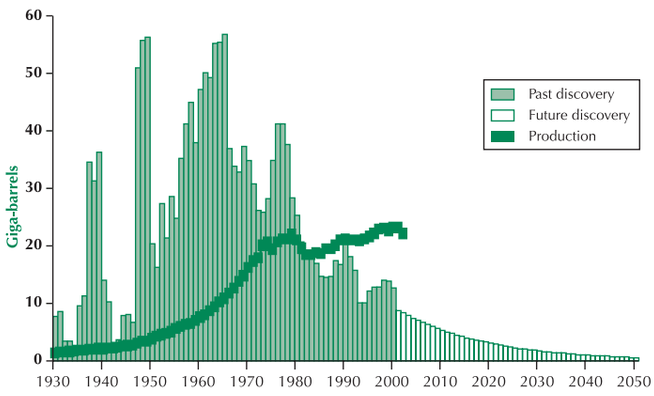
The recent Organic Research Centre Briefing Note, 'Why Beyond Organics?' is a call to take global demands on limited global resources seriously. The recognition of the valuable contribution local living and trading can make is characteristic of people and communities who understand their global context.

Iain Tolhurst demonstrated this through his presentation where he explained some of his story of building Tolhurst Organic Produce - a horticultural enterprise that sells through neighbourhood representatives.

Large amounts of hedgerow, seven year rotations, and vegetation providing winter soil cover are aspects of his agronomic system. Very low food miles and carbon footprint indicate high achievement of ecological goals and the whole system is underpinned by the community that forms the market and the importance of local trading.

An increasing amount of work is being done to develop and refine tools for auditing farm energy use as a tool in improving efficiency and it was clear through the discussion at this conference that energy's close relationship with the farm economy as well as emissions and ecology and landscape mean that these need to be considered together.

With the many opportunities for improving efficiency of energy use on farms highlighted at the conference and the significant contribution this could make to farm profits it was disappointing to see so few producers represented. No doubt there will be growing interest as farmers increasingly recognise the contribution they can make to the broader matters of a world living with challenged resources.



The big fat line represents world oil production which is forecast to peak in around 2008 after which it goes into decline. Growing demand has been at a three decade high and is not slowing. Only Saudi Arabia is thought to have increased capacity that it could make available. But the oil resource is limited and more than ever before this will be reflected in rising prices and changing consumption.

Full of Western Promise

Hannah Jones

Promising winter wheat composite cross population (CCP) results from the second year of trials on one farm in the Cotswolds support early indications of the potential for CCPs in organic production systems.

CCPs created from all possible 2-way crosses of 9 varieties with high yield potential (Y CCP), of 11 varieties with high quality potential (QCCP) and of 20 varieties with either high yield or quality potential (YQCCP) were developed in the Defra 'wheat breeding project' AR0914. Seed from the fifth generation (F5) were grown and re-sown on two farm sites in the west over two successive years.

Site A (figure 1) with Maris Widgeon as a benchmark variety alongside the YCCP and the QCCP, had consistent yield between years, averaging 4.04 tonnes/hectare in 2005-2006 and 4.00 tonnes/hectare in 2006-2007. There were significant differences in the yields among the CCPs and the variety with Maris Widgeon and the QCCP consistently lower, probably because both are based on varieties selected for milling and baking.

However, analysis of the relative performance of the variety and CCPs between years identified a significant improvement in the performance of the YCCP in 2006-07 relative to 2005-2006. This was emphasised by a fall in yield for Maris Widgeon (non-significant) from one year to the next while the QCCP had a stable performance between years.

The improvement in the performance of the YCCP and stability of QCCP are of particular interest. This is because the individual plants within a CCP crop stand are probably all unique such that under particular environmental conditions plants with relevant characteristics (phenotypes) perform better than others. Successive saving and re-sowing of seed at any particular site can result potentially in a CCP uniquely adapted to a particular farm; those plants with suitable characteristics contribute disproportionately within the seed lot saved each year.

At farm site B (figure 2) there is no clear indication of an improvement in performance of the CCPs relative to the benchmark variety Claire. Lack of replicated measurements prohibits full statistical analysis, but Claire clearly has performed as well as, or marginally better than the YCCP.

A recent successful application to the Sustainable Arable LINK programme of Defra will enable us to continue these trials for a further five years. Additional trials will be carried out across the country to test the potential adaptation of the CCPs to a wide range of farm environments and management systems.

Acknowledgment: The crops team would like to thank the two farmers who contributed so generously to these trials. Also we would like to thank all the other participatory farmers and collaborators for their interest and enthusiasm in developing the 'Wheat breeding LINK' project.

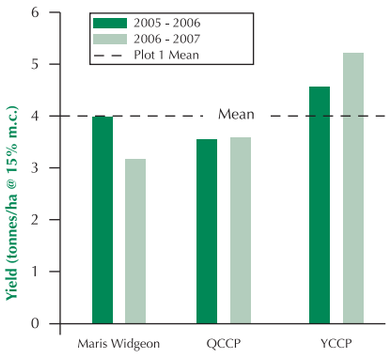


Figure 1: Yields (tonnes per hectare at 15% moisture content) for Maris Widgeon, the quality composite cross populations (QCCP) and the yield composite cross population (YCCP) for years 2005-06 and 2006-07 at farm site A. The Mean indicates the mean yield at 4.00 tonnes per hectare in 2006-07 (mean yield was 4.04 tonnes per hectare in 2005-06). (L.s.d.= 1.493 for the interaction between variety and year).

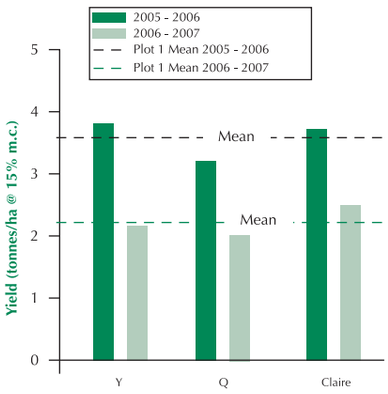


Figure 2: Yields (tonnes per hectare at 15% moisture content) for Claire, the quality composite cross populations (QCCP) and the yield composite cross population (YCCP) for years 2005-06 and 2006-07 at farm site B. The Mean indicates the mean yield at 2.22 tonnes per hectare in 2006-07 and 3.58 tonnes per hectare in 2005-06.

Cornish trials go against the grain

Over 60% of plants produced ears when the winter wheat composite cross populations were drilled in mid-March in Cornwall this year. Trials at Trescowthick farm near Newquay halved the time by which wheat populations, developed in the Defra funded project AR0914, had to reach maturity.

The spring drilling of the winter wheat population is one of a number of trials that have used directional selection to test the potential of these genetically diverse populations. The relatively high level of ear emergence in the Cornish populations demonstrates the potential of selecting a spring populations from a population originally developed from winter wheat.

Disappearing livestock

Agricultural biodiversity is under threat again. The world's livestock production has become dangerously over-reliant on just a few high-yielding breeds, causing the loss of many hardier breeds, well suited to poor countries, according to a new report by the United Nations Food and Agriculture Organisation (FAO).

This ground-breaking survey of the world's animal genetic resources, says 20 per cent of the more than 7,600 breeds of farm animals and poultry it has identified are at risk of extinction. Over the past six years almost one breed has been lost every month.

Carlos Seré, director general of the International Livestock Research Institute (ILRI), is calling for the rapid establishment of gene banks, especially in Africa, to conserve the sperm and eggs of animals at risk.

"Valuable breeds are disappearing at an alarming rate," he told an international technical conference on animal genetic resources in Interlaken, Switzerland. *"In many cases we will not even know the true value of an existing breed until it is already gone. This is why we need to act now to conserve what's left by putting them in gene banks."*

The FAO report surveyed livestock in nearly 170 countries. It found that the black-and-white Holstein-Friesian dairy cow is now found in 128 countries around the world, while 90 per cent of cattle in industrialised nations come from just six tightly defined breeds. Developing countries account for nearly 70 per cent of the world's remaining unique livestock breeds but these are being rapidly replaced by higher yielding stock imported from Europe and the US.

Mr Seré says that despite the short-term benefits this strategy poses high risks because many of these breeds cannot cope with developing country conditions. ILRI points to the example of Uganda where, during a recent drought, farmers that had kept their hardy Ankole cattle were able to walk them long distances to water sources, while those who had traded the Ankole for Holstein-Friesians or other imported breeds lost their entire herds.

We welcome a new president

Professor Dr Hartmut Vogtmann is to be the new president of The Organic Research Centre - Elm Farm.

Currently Professor Vogtmann is the president of the German Federal Agency for Nature Conservation (roughly the equivalent of Natural England). Prior to that he was Head of Regional Development in Hesse, the world's first professor of organic agriculture at the University of Kassel and the founding director of FiBL.

His role will be to feed new perspectives into the R and D programme of The Organic Research Centre and to engage with the EU and member states to ensure organic agriculture is centrally located in their political agenda. This is a crucial role in the run up to future reforms of the CAP.

"This is a crucial appointment for The Organic Research Centre and for the organic movement in Europe as a whole," says director Lawrence Woodward.

"Professor Vogtmann is the only real organic political player on the European stage."

ACOS under the microscope

The Minister for Sustainable Farming Food and Animal Welfare, Jeff Rooker, has announced the first independent review of the Advisory Committee on Organic Standards (ACOS).

ACOS, which advises Government on the development and implementation of organic standards, approval of organic certifying bodies and research and development, was created in 2003 as a successor to UKROFS.

The review is in line with Government recommendations to evaluate public bodies periodically to ensure that they are delivering high quality services.

We welcome this review, says director Lawrence Woodward, and hope it might make ACOS's teeth a little sharper.

A team of independent consultants will look at and make recommendations on -

- the committee's future development and governance;
- the quality and impact of the committee's advice; and
- the committee's working methods, its resources and how they are managed.

"In carrying out the study, the review will consider a variety of evidence on the performance of ACOS and will consult with relevant organisations and stakeholders who have experience of the committee's work," says Mr Rooker.

A report is expected by the end of the year. Recommendations will be examined and, if necessary, Defra will bring in proposals to change the way that ACOS operates.

Welsh horticulture organic snapshot

Roger Hitchings

Earlier this year Organic Centre Wales was able to secure funding for a series of organic market reviews that have now been completed and they are available on the OCW website (www.organic.aber.ac.uk).

The reviews covered the dairy, red meat, arable and horticulture sectors and essentially sought to evaluate the state of the marketplace, and the balance between supply and demand in the different sectors. The horticulture data makes interesting and - in parts - disturbing reading.

The rate of increase in organically managed land area in Wales has exceeded other parts of the UK, reaching 5% of agricultural land by end 2005. More rapid growth is projected for 2006 and possibly 2007. There is, however, little evidence that this is mirrored in the horticulture sector – if anything there has been a reduction in the horticultural production area.

The latest Defra statistics show that there was a decline in organically managed horticultural land in Wales from 722 hectares in 2003 to 649 hectares in 2005. The 2006 figures showed an increase with the horticultural land area reaching 758 hectares, an encouraging development when compared to the previous trends.

At odds with Defra stats

A grower survey was undertaken using a detailed telephone questionnaire and a 56% response was achieved from a list of 110 producers. Highlights include the fact that the 62 respondents represented some 83 hectares of horticultural output, a figure that is at odds with the Defra statistics even when allowances are made for non-respondents.

This was followed by a trade survey that included box schemes, small retail outlets and wholesalers. All the traders questioned were unanimous that demand for organic produce in general and Welsh organic produce in particular is running at unprecedented levels. Supermarkets such as Asda and Tesco are also working to put Welsh organic produce on the shelves of their Welsh stores. Traders are finding it extremely difficult to source the produce they need from Wales and are therefore importing it from countries such as France and Holland.

A significant proportion (up to 60%) of this produce could be grown in Wales. Difficulties cited included lack of support payments, low profitability, certification fees, reluctance of growers to expand, and the increasing age of the present grower base.

The market assessment concluded that the gap between potential supply and actual demand had widened and was likely to continue for the foreseeable future. SWOT analyses concluded that many of the problems facing the sector identified in earlier reviews had still not been addressed. There was an urgent need to address these problems if the sector was going to supply not only the wide range of potential retail outlets but also the increasing interest in public procurement, school meals, etc.

As a footnote to the work that produced the review, the horticultural area figures for 2006 have been subjected to further analysis. It has always been known that the figures for horticulture are not fully representative but it has become clear that many crops that appear to be horticultural tend to be placed in the horticultural 'box'.

Disappearing hectares

These include swedes and turnips grown as fodder crops and several instances of peas and beans grown as combinable crops. The latest assessment of the 2006 figures suggests that the true organic horticultural area is in the region of 334 hectares or roughly half of the published figures. Vegetables account for some 270 hectares and within this total potatoes account for 98.7 hectares and there is also a figure of 38.6 hectares of green beans! Analysis is continuing and I would expect much of the last figure to be re-allocated to field beans in due course unless anyone can tell me anything different.

No-one expects published land area figures to be 100% accurate but in a sector that produces relatively high value crops off relatively small land areas this kind of discrepancy represents a dramatic distortion of reality. The most disturbing aspect of this finding is that there is no reason to suspect that the position is any different for the figures from other areas of the UK based as they are on the same certification body returns and the same analysis by Defra Statistics. This could mean that the UK organic horticultural production is actually in the order of half of what we thought it was.

Better British Organic Poultry

A new, producer led body – BBOP, Better British Organic Poultry – has been formed. Its creation follows our poultry conference of last May where the question of the "organicness" of table birds and eggs was debated.

BBOP's mission statement is to bring together practice and principle, to exchange information and to develop and promote best practice in British organic poultry production. The website address is – b-bop.co.uk

Its first event will be held on November 13th with producer visits to the organic Stonegate egg producing unit at Lawn Farm, Pewsey and to the table bird farm of Clare's Organics at Ashbury near Swindon.

Further details are available from BBOP chairman Paul Sykes at - info@claresorganics.co.uk

Organic Fortnight at Elm Farm

A stimulating Sunday afternoon with the staff at Elm Farm was our contribution to the events, information and awareness of Organic Fortnight in September. Invitations went out to the public in West Berkshire and beyond, bringing visitors with addresses as far afield as Australia, Andorra, Wiltshire and Buckinghamshire.

Lawrence Woodward started the event with a presentation which fully engaged the audience on the qualities of organic food. He gave several examples where regulators have neglected to act on poor nutritional quality, poor standards of animal welfare and the risks from chemical residues that have recently been evident in conventional food. These were contrasted with organic food produced by the best traditional methods.

Then Sue Zundel showed visitors the collection of old cottage garden plants in her Gardiner's Labyrinth business. Visitors soon became interested in buying plants that Sue and Michelle had propagated for sale, but suspended their enthusiasm for an hour to go with Bob Winfield round the farm trail.

There were opportunities during the walk to further discuss many of the points that had interested visitors in Lawrence's presentation. It was a hot, dry day so everyone was pleased to find tea and cakes back at the farm, provided by Sue and Michelle. Their plants sold like hot cakes.

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Do you know of anyone who might also like to receive the Bulletin (perhaps someone else in your organisation)? If so, please provide us with their contact address and email so that we may send them details.

Developing Elm Farm

Phase One of the long - awaited redevelopment programme has started at Elm Farm. This involves the refurbishment of the lab block and cartsheds and the addition of one small office unit. The work is due to be finished in March 2008.

Sustainability lies at the heart of the project, maximising the recycling of existing materials. The new build will be heated by a mix of ground source heat pump and solar panels.

Phase Two – the re-development of the main barn will follow, dependent on funds flowing from the sale of two tied cottages currently sitting with agricultural restrictions.

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Our work at The Organic Research Centre is vital to the future of organic farming, but we need ongoing support that will enable us to continue our important research, training and policy work and to demonstrate solutions to seek permanence.

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Full details from Rosie Jordan on 01488 658298 or rosie.j@organicresearchcentre.com

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