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GAMESMANSHIP OR IS IT "RACKETEERING"?

I recently fell into a curious game. It is a sort of cross between word association and tennis. Any number can play but it's probably best with two - or a free- thinking one.

To begin you have to choose a subject and a credible starting word or two. Then, like tennis you hit the words back and forth until the point is won or lost - by confusion, tongue-tied-ness or sheer disbelief.

The game I played began with a high and powerful serve; Principled - *forcefully returned* - Pragmatic - *forehand cross court* - Transparent - *forehand spin*- Full Disclosure - *backhand return* - Detailed - *attempted lob* - Swamped - *winning volley smashed at the opponent* - Obscured!

On to the next point, with the same opening; Principled - Pragmatic - Flexible -Timeliness - Cautious - Delaying - Putting off!

And then the next point; Principled - Pragmatic - Hypocritical - Schizophrenic - Diplomatic - Statesmanlike - Protecting one's country - One's self interest - Narrow perspective - Short sighted - Damaging - Stupid!

At which point the game fell apart with charges all around of ungentlemanly conduct, gamesmanship and racketeering abuse.

I forgot to say what the subject of the match was - it was feed derogations. And we have heard all of the above words used in discussions on the question. Inside this issue are two papers that further demonstrate that there are no grounds for extending derogations.

Yes, there are some sectors and countries that are ill prepared but no one should be, as everyone has known this has been coming for years. Yes, there will be some dislocation of supply, but that will happen whenever the derogations are removed.

But in all honesty, can we preserve our integrity and put off doing, yet again, something our customers believe we have been doing the whole time? Even Ministers and Commissioners might be embarrassed explaining that away.

In this issue

OUT OF TOUCH AND OUT OF TIME

We have no wish to comment on the recent election - neither the campaign nor its outcome - other than to recall an old Chris Farlowe song which seems apt for all the major parties and policies "You're out of touch my baby, my poor old fashioned baby….you're out of time".

But so, regrettably, is much of the organic sector as it parades its global marketing tat and dances to another takeover tango. Likewise, the conservation bodies - who have finally picked up the conductor's baton and think the ball is going to last all night when in reality the booze is running out, the money too and the rich uncle is about to discover he's pot-less.

There is a faintly bitter irony that during an election campaign, which ignored all environmental issues, had no mention of resource limits and had not even a sniff of doubt about business as usual, some newspapers finally recognised the condition which is now called "peak oil". Although none of them acknowledges the consequences, preferring to concentrate on the business opportunities. Which is a bit like the florist gearing up posy production at the start of the plague.

It is now nearly 10 years ago since we began to publish graphs and figures, produced by David Fleming under the title "The Lean Economy", which highlighted the approach of the peak of hydrocarbon energy production and, indeed, pointed out the energy rationale for the Gulf War long before it happened. (We are reproducing some of those figures on our website www.efrc.com and www.organicresearchcentre.com)

It gives us no satisfaction that others have now recognised the issue - even a stopped clock is right twice every twenty- four hours. But it does conjure up a smattering of righteous indignation remembering the environmental "guru" who told our potential funders and supporters that we "had lost it" and the peaking of oil supplies was a non-issue. Actually, some environmental and organic "leaders" are still saying the same thing today.

No matter, then and now (in spirit now), we were egged on by our founder David Astor, a man renowned for his insight and prescience, who believed that the economic and social implications of approaching the limits of finite resources without credible technical, economic and social alternatives in place would be far more horrendous than anything civilised society has been confronted with to date.

Oil depletion is one factor; the steps needed to combat climate change are another; both enough to stop global economic growth dead in its tracks with dire social consequences. In some parts of the world water shortages or the loss of fertile soil will not only stop economic growth, but also will threaten survival and be likely to lead to conflicts that undermine widespread security and stability.

We are not saying that this full horror is imminent but that its harbingers might only be a few streets away. The trends we see emerging during the next couple of periods of government were not given the time of day in the election campaign but in case you are interested we think that some of them are:

- Climate change control measures will have a greater impact on the economy and society than has so far been recognised.
- Volatile and expensive oil supplies will have a greater impact than is currently recognised.
- Unreliable economic growth due to the above and international instability (in part due to resource and environmental pressure) will mean funding for "spending departments" both at state and EU level will be limited.
- The above factors will significantly impact on global food trade and energy costly food distribution/retail systems.
- Increasing nutritional impoverishment and food deserts amongst poorer sections of society.
- Increasing health problems due to poor nutrition.
- Increase in "social exclusion", disempowerment and social/political unrest.
- Increased demand for niche foods from richer sections of society
- Pressure on all natural resources will grow locally and globally due to current economic and trade policies and some biological limits will be passed leading to collapse in some situations.

The policies we would like to see put in place flow from this analysis. We acknowledge that government is talking about some environmental issues but it is clear that the issues are not fully understood nor are adequate resources or policies being put in place to address them; and the fundamental conflict between "sustainability" and "economic growth and competitiveness" is not recognised.

As far as policies for agriculture, food and environment are concerned we would like to see an abandonment of the pretence that sustainable production is compatible with a WTO formed competitive global market; we wish to see:

- More resources from government for relevant departments and policies.
- A more credible "vision" to assist in building morale, resources and effectiveness within the relevant departments.
- Development of a low emission, low energy input food system focused on healthy food security.
- Development of trade and supply chains in food that is "appropriate" to these conditions.
- Development and promotion of crop and animal production systems appropriate to these conditions.
- Promotion of nutrition and dietary changes appropriate to these conditions.
- Recognition that the UK is an urban/suburban society and that "rural communities" are not separate (if they exist) and plan accordingly.

As far as the organic sector is concerned, we believe that the globalised organic industry is now as much part of the problem as the solution. The principles of the organic movement are sound as is organic farming when the principles are applied. And, as Fritz Schumacher believed, could be part of the main building blocks to a genuinely sustainable future. As such, they provide the basis for policies that can address the consequences of approaching the "limits to growth" - appropriate marketing and trade being one of them.

But to develop and utilise these principles as building blocks, those organisations and companies who claim allegiance to the organic movement, but seem at times to be lost in a schizophrenic daze pursuing business growth at all costs, must remain focused on the business we should really be in - the “saving the world” business.

Lawrence Woodward

"FOOD MILES" (and carbon emissions) FOR THOUGHT

Our last *Bulletin* article on Food Miles encouraged *Hugh van Cutsem,* who farms in Norfolk, to share his thoughts. We hope to include more articles and ideas on carbon emissions, sequestration and trading in future issues.

I have felt for some time that the question of fuel pricing has much to do with the whole issue of Food Miles. By this I mean that if one could in some way considerably raise the price of fuel, although red diesel could stay at broadly speaking the same sort of levels, it would have a much desired benefit on the whole situation. The way I would do this is as follows.

If auditors were instructed by a worldwide mandate, which would not be too difficult to obtain, it would be possible for them to audit the carbon dioxide offsets acquired by the carbon based fuel producers at the time of annual audit. It would be a simple system to operate since a relatively small proportion of major companies account for the vast majority of worldwide fuel output. In this context one only has to consider Aramco and the other state oil companies as well as Exxon Mobil, Texaco Chevron, B.P., Amoco, Shell, etc. Indeed, I would go so far as to say something like 80 companies probably produce at least 95% of the total world carbon based fuel output. By forcing these companies to buy their carbon dioxide offsets it would also have the added advantage of considerably increasing the value of carbon based fuel emission offsets in the market place and also therefore fuel. It would also have the enormous advantage of increasing the cost of aviation fuel.

The principal beneficiaries of this type of scheme would be the less developed countries, precisely those countries whom one is trying to help. It would also, due to the fact that timber is essential in any carbon dioxide offset scheme, highlight the importance of forested land in the less developed countries which are effectively the heart and lungs of the world and therefore protect these areas from all but sustainable logging. It is a sad fact but slash and burn accounts for up to 20% of annual world carbon dioxide emissions. It would be a huge step in the right direction to eliminate these.

Moorlands are also natural sequesters of carbon dioxide as has been proven by experiments which I had conducted on my own moor in Yorkshire. However, what is essential to understand is that degrading heather like any form of degrading wood, starts re-emitting carbon dioxide into the atmosphere. Therefore, it is extremely important to maintain a reasonably well managed moorland and avoid having over mature heather which is emitting carbon dioxide. The additional income obtained by carbon dioxide sequestration permits would act as the stimulus to the moors being grazed properly and hopefully lead to a return of heather in areas in which it has been lost.

Finally, on the subject of Food Miles, why not impose a system of tariffs, the W.T.O permitting, which would scale up on the length of the Food Miles involved? For example, you would have a no tariff from 0 - 30 miles, a low tariff band from 30 - 100 miles, a higher band from 100 - 1000 miles and in excess of 10000 miles a pretty formidable tariff band.

I do realise that this is only a thumbnail sketch of what is potentially a much bigger idea but it is something about which I feel most passionately.

Overview of supply and demand for concentrated organic feed in the EU in 2002 and 2003

Summary of a preliminary project report in the Organic Revision Project

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Introduction

Annex IB of the EU Regulation on organic farming (2092/91) sets out that animals on organic farms should be fed with feed stuffs from organic farming systems. Only if organic feed is not available in sufficient quantity and quality, can a set percentage of those non-organic components be used that are listed in Annex II. The derogations for using conventional feed are due to expire in August 2005 and currently negotiations in Brussels are concerned with what rules will apply after August. Several organisations of the organic sector have already taken significant steps to reduce the reliance on conventional feed for ruminants. In Denmark, all organic cattle have to be fed 100% organic diets, and BIOLAND and DEMETER in Germany have also included this in their standards. Other producer organisations (for example BIO SUISSE and NATURLAND) have reduced the number of conventional components that are still permitted. In France, the percentage of permitted conventional has been reduced to 10% for all categories of animals, including pigs and poultry. However, concerns have been expressed that this might lead to a high reliance of imported feed stuff (mainly Soya) in organic rations.

As part of the discussion on which regime should apply after August 2005 it appears important to address the question of whether the organic sector in Europe produces enough feed for its stock. This was the aim of the model calculation presented in this paper, with special attention to the availability of protein sources for pigs and poultry. The model calculation was carried out using statistical data for land use and stock numbers. A second preliminary report of the project by Albert Sundrum and colleagues (2005) carried out a Meta-analysis of available literature on possibilities and limitations of protein supply in organic pig and poultry production, a summary of which is included on page 6. In support of the current discussion on 100% organic feed preliminary versions of both reports were made available to the commission and can be accessed on the web-page of the project (see Box) www.organic-revision.org inviting comments and feedback on the drafts.

Data sources and approach

It remains difficult to obtain reliable statistical data on land use and stock numbers on organic farms in the EU. As part of the EU project on organic policy development (EU-CEE-OFP) land used data were compiled for all EU member and a number of other European countries for 2002 and for the EU 15 for 2003 (Olmos and Lampkin, 2005, Praznan et al., 2004). The same sources also contain data on livestock numbers in the broad categories of bovine, sheep, pigs and chickens for most EU members for the same years, with the exception of Spain, Great Britain, Poland, Malta and Cyprus. For Spain, livestock data were provided by Garcia (2004), UK data were taken from the Organic Food and Farming Report (SA, 2003 and 2004) and DEFRA (2004) and were cross checked with industry experts. Poland, Malta

organic Revision

Organic Revision is an EU funded three year project to produce recommendations for assisting the Commission to develop the EU regulation 2092/91 on organic farming. The project covers the following areas: Principles and values of organic production, the need for harmonisation of the standards, and reducing the dependency of conventional inputs in organic feed and seed. It is also creating a database comparing national and international standards with the EU regulation. The project is co-ordinated by the Danish Research Centre for Organic Farming (DARCOF) and has partners in eight EU countries.

Further details see www.organic-revision.org.

The references to the articles above and on page 6 are on the EFRC website - www.efrc.com and www.organicresearchcentre.com.

The complete source papers are on www.organic-revision.org. Feedback and comments on the papers are requested by 30th June to the project website.

and Cyprus were not considered. Expert opinions were also used to provide estimates for a further breakdown of stock numbers and to estimate average intake of concentrated organic feed and average percentages for the inclusion of cereals, home-grown pulses (those that could be grown throughout the EU) and high quality protein components (see Table 1).

Table 1: Standard assumptions for the annual concentrated feed intake and percentages of cereals, EU pulses and other protein sources

Animal category	Total concentrate requirements per head and year	% Cereal	% Pulses (EU grown)	% high quality protein sources
Ruminants	*t/hd/a*			
Dairy	1.00	65%	35%	0%
Suckler	0.20	85%	15%	0%
Other	0.15	85%	15%	0%
Sheep	*t/hd/a*			
Ewes with lambs	0.02	85%	15%	0%
Pigs	*t/hd/a*			
Sows	1.5	71%	22%	7%
Fattening pigs	0.30	65%	15%	20%
Chicken	*t/1000 head/a*			
Layers	45.00	50%	25%	25%
Table birds	6.0	55%	25%	20%

Source: Lampkin et al., 2004 and expert survey

The calculation of the production of organic feedstuff was based on an assumed average yields across the whole EU of 3 tonnes per ha for both cereals and pulses. The proportion of cereals used for feed was set at 55%, derived from data on the organic market in 2001 (Hamm and Gronefeld, 2004). For pulses the proportion used for feed was estimated to be 90%. Feed imports into the EU and non-plant derived protein sources were not considered.

Results

Table 2 shows the total area and production of cereals and pulses and the number of animals in the broad livestock categories. The area of organic cereals increased in the EU between 2002 and 2003, whereas the land area for pulses declined, mainly caused by reduced area in Italy. The number of animals in the EU increased between 2002 and 2003 mainly in the new member states, but because these countries are currently not among the major organic livestock producing countries, this has little impact on the overall numbers. Among the EU 15 members, ruminant stock numbers increased mainly in Greece and in Portugal, whereas in Denmark there appears to be a declining trend in stock numbers. The numbers of pigs declined in most of the main production countries, whereas the number of poultry increased in most countries.

The model calculations show a demand for concentrated feed for organic livestock in the EU of approximately 1.1 million tonnes of concentrate feeds (Figure 1). 65% of this demand would have been cereals, 26 % pulses that could be grown in most regions of the EU and 9% high quality protein sources. Approximately 55 to 60% of the total demand for concentrate feed would be required to feed the ruminant stock, over 25% to feed poultry and 15 to 18 % for organic pigs.

Comparing supply and demand it becomes clear that in 2002 and 2003 more feed was produced in the EU 25 than would have been needed to feed all stock with 100% organic diets. There was higher supply than demand for cereals in both years. For pulses, the situation would have been balanced in 2002, but in 2003 slight shortages would have occurred. Undersupply is assumed to have occurred in both years for high quality protein sources.

As outlined in the preliminary report by Sundrum et al (2005), reducing the energy content of the diet of layers, higher use of forage and strict phase feeding of pigs could help to improve the intake of limiting amino acids when feeding organic diets. In further calculations the impact of such changes on the overall balance was assessed. Changing the diets for pigs and poultry would

	2002	2003	Major producing countries
Land use			
Cereals (ha)	882 000	932 000	IT, D, ES, F
Cereals (t)	2.65 million	2.8 million	
Pulses (ha)	109 000	88 000	IT, D, F, AT
Pulses (t)	328 000	265 000	
Livestock production			
Bovine (Hd)	1.4million	1.5million	AT, D, IT, DK
Sheep (Hd)	1.71 million	1.63 million	IT, GB, D, FR
Pigs (Hd)	553,000	472,000	DE, DK, F, GB.
Chicken (Hd)	16.1 million	17.3 million	F, GB, D, DK.

Sources: Own data based on Olmos and Lampkin (2005), Praznan et al. (2004), Garcia (2005) and estimates.

Table 2: Production of organic cereals, pulses and livestock numbers in the EU 25 in 2002 and 2003

reduce the demand for high protein sources by about 50% (to nearly 50,000 t), but this would lead to small increases in the demand for pulses and cereals. Also, changes in the diet of ruminants could have an impact on the overall demand and availability of organic protein sources in Europe.

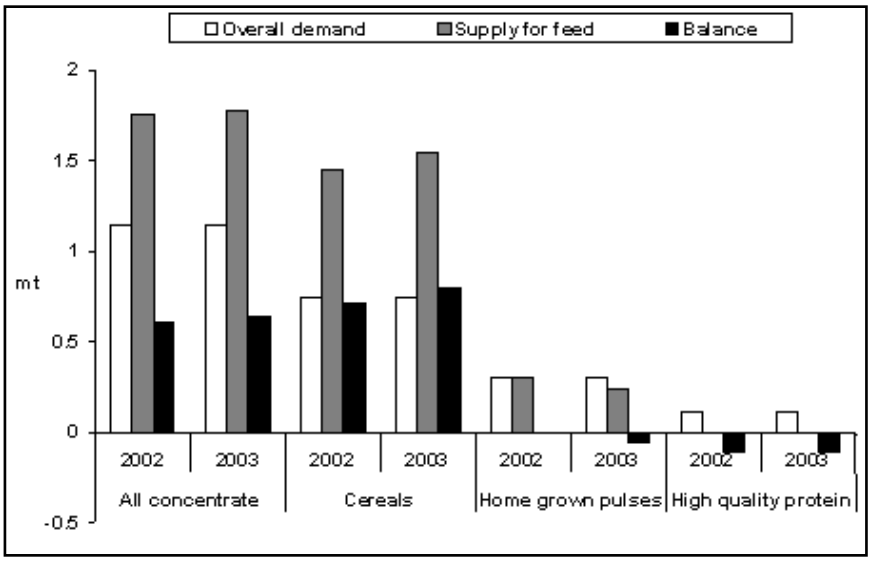


Figure 1: Calculated balance of demand and supply of organic concentrate feed in the EU 25 for 2002 and 2003 (million tonnes)

Source: Own data

Conclusions

The results show that in 2002 and 2003 the EU would have produced enough cereal crops to feed all stock with 100% organic diets. The supply of home-grown pulses also appears to have been sufficient, even so a small shortage would have occurred in 2003. It is likely that a higher demand for organic protein would lead to increases in the area of protein crops in the future. Deficits occur mainly in the area of high quality protein sources. It appears therefore necessary to place more emphasis into identifying supplies of organic high quality protein sources that can be grown and utilised in Europe, including the supply of acceptable sources of animal protein. Because of the calculated high supply of cereals, one possible solution could be in the replacement of some cereals in crop rotation with crops that provide protein feed such as higher quality pulses and oil crops. For example oil seed rape would be a suitable protein source that could be grown in Europe and used in rations particularly for mono-gastric animals, where processing capacity to extract oil can be identified.

Possibilities and limitations of protein supply in organic poultry and pig production

Prof. Dr. Albert Sundrum, Dept. of Animal Nutrition and Animal Health, University of Kassel

Summary of a preliminary project report in Organic Revision Project

Introduction

One of the main objectives of organic agriculture is to establish a largely closed nutrient cycle within the farm system. To limit the input of nutrients in quantity and quality is relevant both to plant and livestock production. If nutrient input is unavoidable to ensure an adequate supply for the farm animals, this should preferably originate from organic systems, while the input of conventional feed stuffs should be restricted to a minimum, and synthetic products are banned. Dealing with limited availability of feed and nutrient resources is therefore a main feature of organic livestock production.

The organic approach stands in contrast to the situation in conventional livestock production where the use of feeds and nutrients is restricted primarily by the purchase price. While conventional production has to face various local, regional and global problems caused by excess import and use of concentrated feeds, problems of organic livestock production are primarily related to a limit of nutrients at the farm or herd level. Due to these system-related conditions, there is concern about being able to formulate adequate rations for the nutritional-physiological needs of livestock, especially in relation to essential amino acids in the feeding of poultry and pigs. Nutritional imbalances encountered in practice might lead to deteriorating animal health and welfare.

On the other hand, there is also concern about allowing conventional feedstuffs to be fed in organic livestock production. This could result in intensification of production, causing the same problems in organic as in intensive livestock production, such as animal health problems, risk of residues and GM contamination. Thus, extending the derogation for conventional feed in the EU regulation may have a damaging effect on consumer confidence in organic animal products.

Work within an the EU funded research project "Organic Revision" (Research to support the revision of the EU Regulation on Organic Agriculture) has the aim to provide knowledge on how to achieve 100% organic feed rations for livestock and simultaneously avoid negative effects on the farm animals. The first step in the project is to obtain an overview of the many different and system related aspects of the protein supply in organic poultry and pig production. The nutritional-physiological effects of a variation in protein supply with respect to growth performance and protein accretion in broilers, turkeys, laying hens and pigs are examined by literature review. Furthermore, the potential effects of the supply with amino acids on product quality and animal health and welfare are addressed. Many different aspects are taken into account to discuss the question of whether extending the derogation concerning the use of non-organic feedstuffs should be considered with respect to the objectives and framework conditions of organic livestock production.

Organic approach

In conventional livestock production, supply of nutrients closely related to the specific requirements of animals at various stages of their development is an important tool in a performance-oriented production (D'Mello, 2003). The challenge for traditional animal nutrition is therefore to adapt the nutrient supply as accurately as possible to the requirements of the animals resulting from maintenance and performance.

Animal nutrition in organic livestock production also has to take the availability of nutrients in organic agriculture and the nutrient flow within the individual farm system into account. In practice, both aspects have a high influence on the formulation of diets. There is a clear difference between an approach based solely on the specific nutritional requirements of animals and the system oriented organic approach. This leads to a shift in the management priorities, and often is the reason for misunderstanding between organic and conventional production.

One of the main objectives of organic agriculture is to optimise the use and the efficiency of nutrients limited in their availability within the farm system, and, simultaneously, to produce animal products of high quality in a way that is compatible with the needs of both the animals and the environment (Sundrum, 2001). *Realising such a system-oriented approach usually requires a complete re-organisation of the farm, in which cropping has to be tailored to the concerns of animal husbandry and the size and type of animal husbandry adapted to home-grown feedstuffs.* The aim is to achieve animal and environment compatible production of animal products principally through precautionary and avoidance strategies.

This approach is quite different from an increase in the use of nutrients in order to maximise protein accretion as is the case in conventional animal nutrition.
With regard to the different objectives, different priorities, and different framework conditions, organic and conventional livestock production represent completely different farm systems. Therefore, the traditional approach which reduces agricultural problems to the level of single production traits is not directly comparable with the organic one, and conclusions derived from conventional production system have not the same validity in organic livestock production.

Protein accretion and protein sources

Protein accretion in the organism is the result of protein synthesis rate and decomposition rate; both are influenced to a high degree by the genotype. Under conventional conditions, farmers intend to maximise protein accretion for economical reasons by using genotypes with a high growth capacity and by increasing the supply of limited amino acids through increasing their concentration in the feed ration. Due to the restricted availability of limited amino acids in organic livestock production, the protein accretion capacity is clearly limited. The organic farmer is challenged to optimise the use of limited resources. For several reasons, the farm should try to adapt the level of amino acid supply to the protein accretion capacity of the animals as suboptimal supply reduces the performance while excess supply with amino acids cannot further increase performance.

Concerning nutritional resources, there are high aspirations to use home grown protein sources in organic systems. Conventionally produced protein sources listed in Appendix II C of the EEC-Regulation can only be used until the end of the transition period. Factors such as amino acid availability, metabolisable energy and fibre content, digestibility, and type and quantity of anti-nutritive factors will influence the maximum inclusion rate of home grown protein sources. Thus, a feed ingredient that has low protein content or a deficit of one essential amino acid may be considered valuable if it has other useful attributes. There are several types of grain legumes with distinct nutrient content. The crude protein content can vary, according to variety, between 26 and 45% (Table 1).

The challenge to meet the protein requirements under organic conditions arises in particular in replacing conventional ingredients in organically produced compound feeds. Organically produced feedstuffs that

could potentially be included are in particular various expeller cakes (oil produce where the fat has been removed through physical pressure) and milk products. The nutrient content of several protein-rich feedstuffs are presented in Table 2. In relation to the feed value the content of lysine and methionine is particularly decisive and components vary - also other essential amino acids, fat and energy contents. Every feedstuff shows specific advantages and disadvantages, which need to be taken adequately into account in formulating the feed ration.

Soya products have a very favourable amino acid pattern, which explains their importance in conventional feedstuffs, and are expected to be used increasingly also in organic agriculture. Soya products have to be toasted, due to their high ANF content. Compared with extracted Soybean meal, full fat has a very high fat content limiting its possible use. Also with regard to some other cakes special attention has to be paid to the fat content.

Possibilities of the farm management

Due to the high variation in availability, feed intake, digestibility and utilisation of amino acids between farms, and the variation in protein accretion between species and between the genotypes within species there is need to target recommendations more closely related to the farm specific situation. However, the following measures could be used by organic farmers in working towards 100% organic diets:

- use of slow growing strains, thus reducing nutritional requirements of the farm animals in the different stages of the development;
- increase of feed intake by means of optimisation of the feeding and housing conditions, thus enabling a reduction of the concentration of limited amino acids in the feed ration and of the demand for high quality protein feeds;
- increase of feed intake by reducing the energy content of the diet;
- implementation of a multiple phase feeding, thus adapting the supply more closely to the requirements in the different stages of production;
- implementation of sexually divided housing to adapt the supply more closely to the different requirements of the genders;
- use of compensatory growth effects, thus reducing the demand for feedstuffs of high quality protein;
- purchasing of organic protein sources of organic origin, like rape cake, soybean cake, or skim milk powder to compensate for the previous use of non-organic feedstuffs.

Table 1. Crude protein content of home grown grain legumes (in %) and content of essential amino acids (in g/kg DM)

	Feed peas	Faba beans	Sweet lupins White	Sweet lupins Blue	Sweet lupins Yellow
Crude protein (%)	26	28	36	34	44
Lysine (g)	18.2	17.6	16.9	16.3	22.4
Methionine/Cystine (g)	6.2	5.6	7.2	7.5	11.0
Threonine (g)	9.9	9.8	13.7	11.9	14.1
Tryptophan (g)	2.3	2.5	2.9	2.7	3.1

Sources: Degussa, 1996; Bellof et al., 1997

Examples of feed rations based on 100 % organic feedstuffs indicate that, in general, it is possible to formulate diets without the use of non-organic feedstuffs. However, the preferred use of home-grown feedstuffs and limitations in the choice of bought-in feedstuffs can be the cause of a huge variation in the composition of diets. This increases the demand for analysis of the ingredients and the farm specific calculation of the diet.

In line with the principles of organic agriculture, the various management possibilities to compensate for a limited availability of high quality feedstuffs should be given first priority. Whether the supply with limited amino acids at the farm is in accordance with the requirements is not primarily due to the EEC-Regulation, but is to a high degree related to the skills of the farmer to deal adequately with the situation within the farm system. It is likely that these compensatory measures will lead to some increase the production costs, but because of different factors involved the effect will be different under different farm situations.

Table 2. Contents of protein supplement feedstuffs in relation to conventional soybean meal

	Soybean meal	Soya full-beans	Rape cake	Sunflow. cake	Flax cake	Non-fat milk powder	Whey powder (de-sugared)
Crud. Prot. (%)	45.2	35.2	37.0	42.8	33.5	35.0	23.9
Lysine (g)	28.3	22.2	17.9	14.9	11.7	28.0	18.0
Meth+Cyst (g)	13.0	10.8	11.7	14.3	11.6	11.9	8.1
Threonine (g)	17.9	14.1	14.4	16.1	12.9	15.9	13.3
Tryptophan (g)	5.9	4.8	4.4	5.6	6.3	5.0	3.7

Source: Jeroch et al., 1993; Degussa ; 1996

Outlook

The participants of the EU project are aware that they deal with a very comprehensive and complex issue, and that important aspects and studies that are of current interest may not yet have been considered. In particularly, we realise that our choice of issues considered so far may to a certain degree depend on our personal perspective and on the problems which may be predominant in our own country. We have released a draft version of the preliminary report on the project website (see www.organic-revision.org) in order to receive feedback from different perspectives on the information gathered so far. In particular, we would like to receive feedback on aspects predominating in the different European countries and on further references and studies that we should consider.

Database for organic seed "is not working in Denmark"

This article has been taken from "The Organic Standard" an electronic publication issue 48 April 2005.
We are grateful for their permission to reprint it.

In order to help farmers and companies obtain organically produced seed EU Member States are obliged to establish an online database, where seed suppliers can register organic seed and organic seed potatoes that they wish to put on the market.

If there is no organic seed available of the species which an organic farmer wants to grow, or if there is no appropriate variety available, the farmer can ask the inspection body for a derogation to use non-organically produced seed.

The supply of organic vegetable seeds in Denmark is bigger than ever, but the number of seeds listed in the official Danish database for organic seeds is lower this year than last year, reports Okologisk Jordbrug. Some seed producers simply list their organic seeds in their catalogues, but not on the database. Legally this means that organic farmers do not have to use them and can use conventional seeds instead.

Another complication is that farmers can only be forced to use an organic seed if it is a variety that is adapted to the conditions in Denmark. David Quaife from the seed producer Jllity Farm says that less than 1% of the organic seeds that are on offer have been tested under Danish conditions.

A representative from SeedCom says that they stopped listing their seeds in the database because the 'system isn't working. The farmers get angry if we list our seeds in the database as they don't want to be forced to use them.' 'The farmers might claim that the seed is not suitable for Danish conditions to avoid being forced to use it, and the end result is that there will be an official statement that the variety is not suitable, which is very bad for us', explains another seed supplier.

The seed companies claim that the root cause of this problem is that the farmers are not committed to using organic seed. A representative of the Danish organic vegetable farmers, Frank van Beek, claims that the premium prices for some organic seeds are just too high from some of the companies.

MEANWHILE IN BRITAIN

The Soil Association is pleased with the way that **www.organicXseeds.co.uk** has developed since its establishment in 2003.

According to Anna Jonas, Technical Team Manager at Producer Services, most organic seed suppliers have now signed up and are represented on the web site, allowing organic producers to search through the wide variety of organic seeds that are currently available.

Organic producers who are licensed by Scottish Organic Producers Association and Soil Association Certification Ltd licensees can also take advantage of the on-line derogation request form if the seeds they require are not available.

Producers who do not have internet access can request a paper lists of available organic seed by calling producer services on **0117 914 2400.**

A novel method for sustainable water management.

Claire Aspray & Lois Philipps

With the impending introduction of the EU Water Framework Directive in 2012 and increasing awareness about 'sustainable' waste management Sheepdrove Organic Farm's innovative approach to waste water management could offer an interesting approach to providing technological answers.

The Sheepdrove Organic Farm (SOF) reed bed purification system treats all the wastewater from the farm; chicken processing plant, farm cottages and the Kindersley Conference Centre. A series of vertical and horizontal flow reed beds were created in 2002 by Watercourse Systems Ltd (WCS), this design relies upon natural processes and gravity to convert wastewater into potable water. Treating their waster water on site is one of the ways in which SOF is striving to fulfil one of the underpinning principles of organic farming 'to operate, as far as possible, within a closed system'.

Here we look at the construction of the reed bed system and present some of the data collected over the last two years. Figure 1 outlines the system.

Wastewater from the chicken processing plant is first treated to remove the high fat and blood content using a dissolved air floatation (DAF) treatment system.

The water is then introduced into the compact vertical flow reedbed system (CVF).

Stage 1 Settlement & Flushing Chambers
Wastewater enters the Settlement Chamber (1) where, through a process of sedimentation, any unwanted sediment collects at the bottom of the tank and is taken via a pipe to the far side of the reed bed. Meanwhile the water, which remains at the top of the tank overflows into the Flushing Chamber and is periodically released onto the Sediment Bed via six pipes (Stage 2).

Stage 2 Sediment Bed (Reedbed 1)
Once on the Sediment Bed the wastewater trickles vertically through the sand, which removes some bacteria, illustrated by the reduction in total coliforms by 90%. Meanwhile the microbes in the bed transform organic material into nitrate (NO3) via the process of nitrification. The ammonia levels have decreased from 100.62 mg/l to 27.66mg/l (reduction of 72%) by the time the water exits the Sediment Bed. Whilst the nitrate levels, increase from 0.8 mg/l to 49.1 mg/l this is due to the nitrification process.

Stage 3 Settling Pond
Water from the Sediment Bed then enters the Settling Pond via a pipe at the bottom where the sediment is anaerobic which allows the process of denitrification to take place. This converts nitrate (NO3) into nitrogen gas (N2), which is emitted to the atmosphere, and oxygen gas (O2), which is used in other biological processes. At this stage rainwater from the roofs of the farm and conference centre buildings enter the Settling Pond by pipe and dilute the wastewater.

Stage 4 Second Flushing Chamber, Flow-Forms & Stream
The water stays in the Settling Pond for an average of three weeks before leaving via a second flushing chamber from which it is periodically released into a cascade of Flow-Forms. This stage is designed to increase the oxygen content of the water through the physical process of aeration, which in turn should encourage an increase in biodiversity. This increased oxygen level reduces the biological oxygen demand by 99% demonstrating an improvement in water quality.

Stage 5 Horizontal Flow Reedbed (Reedbed 2)
The water then passes horizontally and slowly through the second horizontal reed bed. The densely packed reeds act as a filter, catching and settling any suspended solids, whilst also removing some of the surplus nutrients and any remaining pathogens from the water. This reed bed also acts as a home and feeding ground to much wildlife such as Coots, Moorhens and Reed Buntings.

Stage 6 Wildlife Pond
Aquatic invertebrates vary in their sensitivity to pollution, Biological Monitoring Working Party BMWP) scores are assigned to taxa depending on their known tolerance to organic pollution, a higher score indicates lower tolerance and therefore indicates higher water quality.

Next the water flows into the Wildlife Pond. At this stage, the effectiveness of the reedbed is evident by the complex web of biodiversity living in the pond from microscopic algae to wild birds, this is illustrated in Graph 1 by the sharp increase in BMWP score at the Wildlife Pond.

Stage 7 Lake
At this stage the water exceeds European Bathing Water Standards, 10000 total coliforms and 2000 faecal coliforms per 100 ml of water (EC Bathing Water Directive (76/160/EEC)) and is home to an abundance of aquatic flora and fauna. The lake is also stocked with Rudd, Perch and Carp.

Graph 1.
Graph to show BMWP (Biological Monitoring Working Party) Scores throughout the reed bed system, Sampling date August 2004.

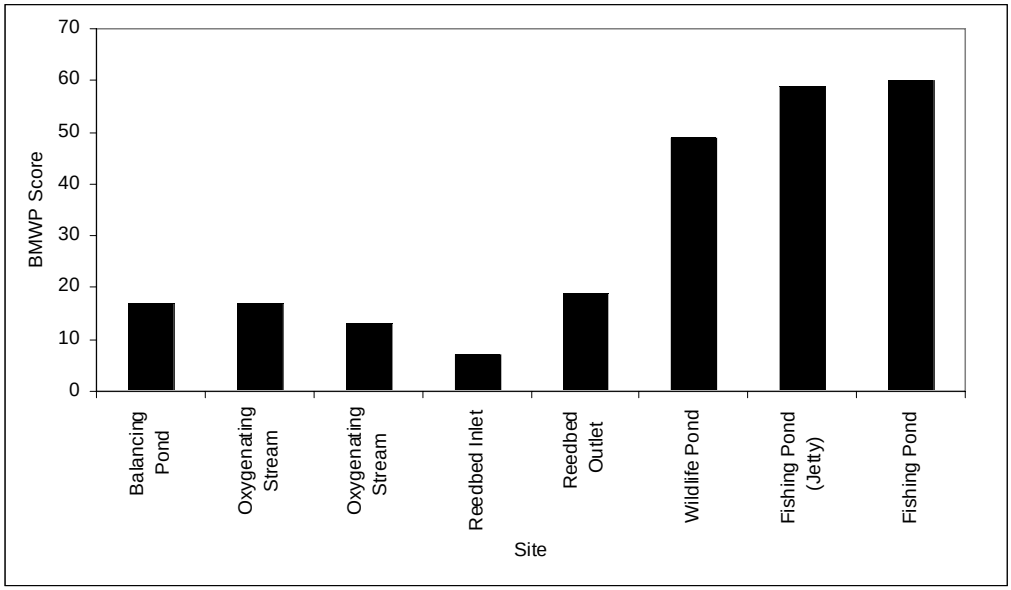
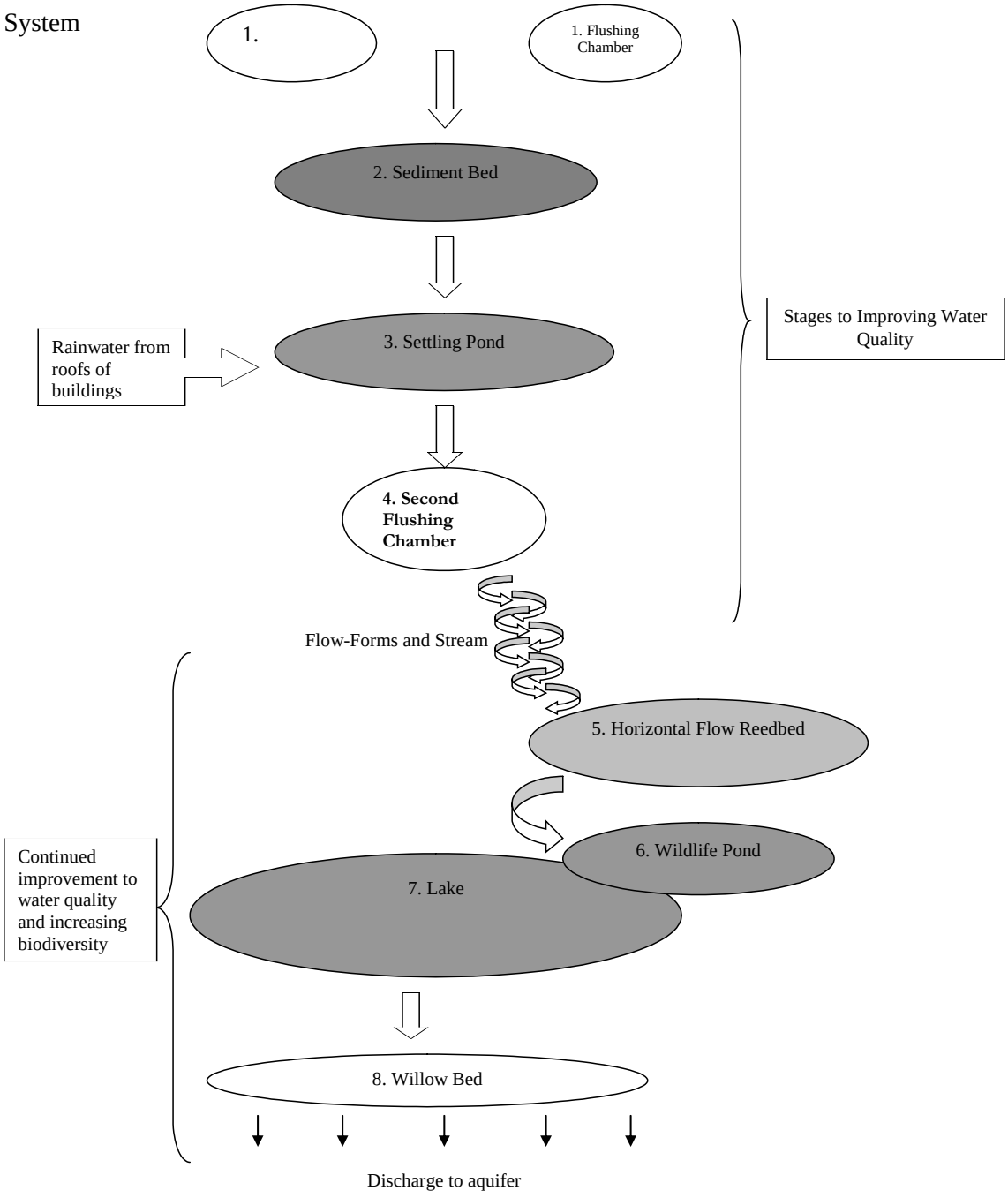


Figure 1.
SOF Reedbed System



Stage 8 Willow bed

After a journey taking 1 1/2 years since entering the first reedbed the water overflows from the lake into the a willow plantation. This is the first point at which the water meets the natural environment; all stages previous to this have a non-permeable lining so the water cannot seep into the chalk aquifer until it is at its highest quality.

The improvement in water quality, from the point of entry to the reed bed system through to its release to the willow bed and contact with the natural environment, is demonstrated by the monitoring data collected. For example both the faecal coliforms and the BOD undergo a 99% reduction within the reed bed system.

IOTA NEWS

Please note the address of the IOTA Website has changed to
www.organicadvice.org.uk

Organic Pioneer Seeks New Challenges

The International Federation of Organic Agriculture Movements (IFOAM) has regretfully announced the resignation of Bernward Geier, its long-term employee and current Director for International Relations. Bernward, after working for the federation for nearly twenty years, now plans on seeking new challenges and leaves IFOAM at the end of August. The official farewell will take place in September at the IFOAM Organic World Congress in Adelaide, Australia.

EFRC wishes him well for the future.

IGD Local food survey

A new survey has found that 70% of people in Britain want to buy local and regional food, and 49%, every second person, wants to buy more than they do now. The survey by IGD found that 61% of consumers purchase locally grown vegetables and 45% buy local fruit. Other products such as eggs, bread, milk, red meat, poultry, cakes and jams, honey and preserves are also popular. But IGD found that potential demand is highest for cooked meats, cheese, chutneys and pickles, cooking sauces and chilled desserts.

"Localise It!" is a new campaign being organised by Norwich Friends of the Earth; the Red Orange buying group Ltd.; East Anglia Food Link; West Norwich Partnership, and Bizzfizz business initiatives scheme. The campaign promotes the principle of economic localisation, and highlights the enormous economic, social and environmental benefits of prioritising local produce and local independent retailers, (both within planning policies and in individual and organisational purchasing practice).

VISIT OUR NEW WEBSITE

Our comprehensive and dynamic new website is now up and running. As well as containing all our research reports, policy analysis, news and events the site will be regularly updated to pass on our views and opinions of organic issues as they happen. We will also provide information and views from other organisations and countries and the occasional piece of quirkiness to prove that we are not just "organic anoraks".

www.efrc.com or **www.organicresearchcentre.com**

Join the EFRC Farmer Group

Benefits of membership:

- **Entitles the member to free entry to any two events from the 2005 Events Programme**
- **Family / friends / colleagues entitled to half-price events when booked on by a Farmer Group member**
- **50% discount on additional 2005 Events booked by Farmer Group members**
- **Includes annual subscription to EFRC's technical newsletter - the *Bulletin - normal annual subscription £12***

Farmer Group Membership runs January 2005 - December 2005

Prices held - Cost £117.50 (Includes VAT)

Upcoming EFRC events

The role of forage legumes in meeting the protein requirements.
24th May10.00-5.00pm

Feeding 100% Organic Rations
16th June 10.00 -5.00pm

Arable systems for the Future: 'From Plant breeding to Participatory
21st June 10.30 - 4.30pm

Arable Systems for the Future.
28th June 10.30am - 4pm

To book your place on one or more EFRC 2005 Event, for further details or a programme contact EFRC's Education/Training Department on 01488 658698

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