

THE WINSTON CHURCHILL MEMORIAL TRUST**CHURCHILL FELLOWSHIP 2004****TO INVESTIGATE FEED ALTERNATIVES, DISEASE
MANAGEMENT AND THE MARKETING OF ORGANIC EGG
PRODUCTION**

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1. Precis and Acknowledgements

This report details the findings from a 2005 Churchill Fellowship visit to USA, Canada, England, Switzerland, Germany and Denmark investigating feed alternatives, disease management and the marketing of organic egg production.

I would like to take this opportunity to thank the Winston Churchill Memorial Fellowship Trust for providing me with this wonderful opportunity to pursue this study.

Opportunities to find this kind of information are extremely limited in Australia and being exposed to so many different and new ideas has opened up the horizon for me and the possibilities in organic egg production.

I would like to thank all of the kind people that have helped me on this journey of discovery, given generously of their time and in passing on of their wealth of knowledge and experience. Particularly those whom we stayed with and shared the pleasure of their hospitality - Willy Baumann and Dieter Webber in Switzerland, and Dr Friedel Deerburg in Germany.

Thanks also to my staff who continued to keep the farm running during our long absence.

Thanks to Nanna for looking after our children.

And a huge thankyou to my wife and business partner Jan for her support, who accompanied me on the trip with skilful navigation and shared in the new experiences and new ideas.

SPECIAL THANKS:

USA – John Brunquel Egg Innovations

Canada – Gerald Poechman, Ontarbio

England – John Widdowson BFRPA, and Mike Tyers and Jean Paul - Deans Eggs

Switzerland – Willy Bauman Organic Egg Consultant, Dieter Weber Farmer, Esther Zeltner FiBL

Germany – Dr Friedel Deerburg Organic Egg Consultant, Marcus Wolter - Bioland

Denmark – Lars H Thomsen - Danaeg, Jan Sorensen - Hartmann AS, Niels Finn Johansen Consultant Landscentret, Bent Jensen, Alain Larsen, Niels and Gretel Riis

2. Executive Summary

My objective in conducting this study was to gain snapshots of Organic Egg production systems in a number of countries and to collect any current research data relating to feed rations, flock management, alternative health treatment, biosecurity and also to look at how the eggs are being marketed.

Each Organic farm is as unique as humans are individual

Following are two definitions of Organic Farming –

“An ecological production management system that promotes and enhances biodiversity, biological cycles and soil activity. It is based on minimal use of off farm inputs and on management practices that restore, maintain and enhance ecological harmony.”

USDA National Organic Standards Board

“Organic farming is a well-balanced, self-sufficient and sustainable agro-eco system. As far as possible, the system operates on the basis of local and renewable resources. It builds on a holistic view that includes the ecological, economical and social aspects of agricultural production in both the local and the global perspectives. In organic farming nature is considered as a whole, with its own inherent values; and people have a moral duty to conduct agriculture in a way that ensures that the cultural landscape becomes a positive aspect of nature.” (Danish Ministry of Food, Agriculture and Fisheries)

The different approach reflects the variety of interpretations that countries, certifiers and farmers alike have on what constitutes Organics.

Standards vary considerably from country to country and between individual certifying bodies with countries.

Considerable variations occur in flock sizes, housing layout, allowable feed inputs.

The basis for Standards in Europe is the European Commission, however, each country is moving from its own historical position towards a common standard. To make a smoother transition, some countries have derogations in place for different regulations and are at different stages. Hence there are some considerable discrepancies.

At the same time, the organic standards do try to take into account variations in climate and cultural differences.

For e.g. fish meal in feed rations is prohibited in Germany, Switz, UK – and soya beans, corn gluten, and potato meal are used as alternatives. Whereas Scandinavian countries Denmark, Norway and Sweden use fishmeal as a protein source because they have classified it as part of their 20% non organic portion of the feed ration. It is a traditional feed source.

In Australia organic agriculture amounts to less than 1% of agriculture. (With Organic eggs being much less of a fraction of 1 %.) However it has been growing consistently at 20-25% each year for the last 5 years. So we can learn from the experiences of North America and Europe where there has been an established culture of Organics for much longer.

In England 40% eggs at retail are from non caged production. 27% FR 10% Barn 3% Organic (not including eggs for processing into manufactured food products)

3. Programme

COUNTRIES VISITED:

USA – California, Chicago Illinois
 Canada – Walkerton, Ontario
 UK – Devon, Hertfordshire, Northampton
 Switzerland – Offenbach , Frick
 Germany – Crailsheim, Bonn, Teistungen
 Denmark – Arhaus, Christiansfeld, Kgs Lyngby,

HIGHLIGHTS:

USA

San Francisco – Ferry Plaza Farmers Markets
 Chicago – All things Organic Conference; meeting a broad cross section of marketers and representatives from Organic food processors and manufacturers, mainly from the USA and Canada. Also inc organic fabrics and body care products.
 Running into fellow Churchill journeyman Kim Elliot in the middle of Down Town Chicago.

Canada

Visit to Organic Meadow marketing co operative in Guelph Canada, discussing issues of marketing through farmer owned co operative in a controlled egg supply chain in Canada, where quotas are still used to regulate egg production.
 Visit to Gerald Poechman organic farm.

UK

John Widdowson tour of Woodlands Free Range Eggs where 2,000 poplar trees planted to entice hens out into yards successfully and the concept used to create a new niche marketing genre of Woodlands Eggs
 Visiting a range of mobile poultry housing and rearing for both Organic Egg Layers and Organic Meat Birds. Seeing Llamas kept as security sentinels against foxes.
 Visit to UK's largest marketer of eggs Deans Foods packing house and Organic Egg production and rearing facilities at Hertfordshire.
 Sheepdrove Organic Farm, Berkshire UK - personal tour with Elm Farm Researchers... self medicating alley ways planted for meat birds in Liberty Mobile sheds for a total of 22,000 birds in production integrated with organic cattle, sheep, pigs, turkeys and cereal crops – farm centre conference centre and children's education combined with farm produce sales and restaurant.

Switzerland

Visit to Swiss Organic rearing and laying facilities with Willy Bauman
 Visit to Goeteaum, Rudolph Steiner HQ in Dornach the and gaining some insight into Bio Dynamic farming philosophy.
 FiBL organic research institute at Frick in Switzerland with Esther Zeltner and overview of current research on organic poultry management issues.

Germany

Visit to Homeopathic practice of Dr Stefan Wesselmann and gaining a better understanding of Homeopathics from Alain Foulmann

Five days with German consultant Dr Friedel Deerburg and family; being hosted to numerous farms and rearing sheds both small and very large.

Visits to a number of farms with Marcus Wolter from Bioland

Denmark

Danaeg - visit to see Denmark's largest marketer of eggs (farmer owned co-operative), new innovations in supply chain management, waste and energy management,

Hartmann packaging – latest international award winning cartons and packaging design and discussions on consumer perceptions and expectations of Organic Egg marketing.

Visit to numerous organic farms and rearing facilities with some new innovations in flock management and housing design.

Visits with Niels Finn Johansen to Organic Egg Farms and Danish Lands Centre peak body for Organics in Denmark – new research on feed rations discussions on feed rations, fermented feed trials, organic standards, experiences with different layer breeds in organic systems.

4. Introduction

Poultry are probably one of the most difficult species of animals to manage organically on a large scale.

Commercial layer strains have been derived from selective breeding aimed at optimizing egg production in an artificial and mostly caged environment.

Modern layer breeds have underdeveloped immune systems as they are separated from their mother hens prior to hatching, thus making them more susceptible to challenges.

Common commercial practices to date have been to vaccinate young pullets for a wide range of disease and illnesses and to routinely administer antibiotics to maintain the health of the birds in an artificial environment, either in cages or in barns.

Diets are formulated using least cost feed rations, with any lacking nutrients or amino acids (AA) being supplemented with synthetic vitamins and AA.

The problems facing Organic Egg farmers are compounded by the fact that these high performance commercial layers require a high performance feed ration to keep up their amazing output.

Many organic feed nutritionists are facing the dilemma of how to supply the complete dietary needs of the birds, without the aid of synthetic inputs.

Some of the bad behavioural traits of feather pecking and cannibalism have been traced to dietary deficiencies in both conventional and organic regimes.

Other patterns of behaviour, such as perching, finding the nests at early point of lay and roaming outside, can be developed in the birds through good management practices.

Organic egg farming requires a lot of synergies to create a wholesome environment for the hens. It requires much more than replacing conventional inputs with “natural” or non synthetic equivalents.

5. Findings

In the USA, Canada and, UK if flocks require antibiotic treatment, then eggs are withheld for the prescribed period and the whole treated flock is down graded to conventional eggs for the remainder of their production.

USA has no tolerance for repeat antibiotic use, once down graded, it stays permanent.

The Europeans however have a more lenient approach. A farm can only treat birds with antibiotics once in a six month period. So given that a hen's normal commercial productive life is 12 months, they can only receive a max 2 treatments. If the birds require a 3rd treatment then they must permanently lose organic status.

If an antibiotic treatment is required to be used, then the withdrawal time is double the prescribed time, with some countries requiring triple the prescribed withdrawal period.

Flock sizes vary considerably.

New EU Standards call for flock sizes no larger than 3,000 birds, but no restriction on the number of flocks under the same housing. However there must be solid partitioning dividing the flocks and there are calculations for nutrient loading permissible on the surrounding land. In Switzerland, which arguably has the tightest controls on flock sizes, the max numbers in a flock are 500, with groups of no more than 2000 under one building roof.

UK the main certifying bodies for organic eggs

Organic Farmers and Growers Ltd www.organicfarmers.org.uk

Organic Food Federation www.orgfoodfed.com

Soil Association www.soilassociation.org

Germany the main certifying organizations for organic eggs

Bioland www.bioland.de

Naturland www.naturland.de

Biopark www.biopark.de

Gaa www.gaea.de

FLOCK MANAGEMENT:

My first initial surprise was to see roosters placed with layer hens at a ratio of about 1:100 I have not seen this in commercial layers in Australia. Roosters become the focal point of a social group; the hens preen the rooster; he leads them outside and in, provides a sense of security and sounds the alarm if there is a threat e.g. bird of prey etc All countries visited had some farmers active while some preferred not.

It is generally agreed that the hens can only recognize about 50 other hens and that this would be the ideal flock size. But it is also thought that if you increase the flock size to 100 or 1000 or 3000 it doesn't really matter as the range of recognition is still the same among the flock.

So flock size as determined by the different Organic Groups has been influenced by other things as well for e.g. the nutrient load on the land and carrying capability, flock dispersement.

Spelling of land – Denmark requires 12 months spelling between flocks; UK Soil Assoc requires 9 months of rest between each flock; whereas EU Regulations require only 2 months rest between flocks.



Above - Winter Garden in Swiss Organic Shed 4 x flocks of 500 birds including roosters, with diatomaceous earth in dust boxes for external parasite control and automated grain scatterers for scratch feed.

Roaming – in Denmark many farmers have found the Silver Lohman to be the best temperament to roaming and for rearing

Malting not allowed but some research being under taken to look at developing humane methods to bring flocks into a forced molt uniformly, so that feather pecking does not develop during loss of plumage and onset of new growth feathers.

Swiss water – no nipples. Aim to replicate water in nature with small drinking cups or bell drinkers. Danes do not allow substances to be added to water as their regulations state hens must have access to fresh water at all times. Yet it would be possible to add a separate line to include a herbal or homeopathic treatment, but I saw no evidence of this being done. It is allowed to place same alternative treatments into the feed.

Denmark and Germany it is OK to have multiple flocks under the one housing complex, so long as there is a physical and visual barrier between the flocks. So for example, under the new standards 4 groups of flocks sized 3,000 each (Total 12,000) would be allowed so long as the pasture requirements can also be met.

Note: although there are stocking ratios and pasture management criteria set in each of the standards, with a few notable exceptions, not a great deal of attention has been given to pasture management.

Typical hen numbers on farms in Denmark –	Organic Farmers	3,000 - 9,000
	Caged	30,000

So while the statistics show higher return on Organic Egg production, it must be kept in perspective the scale of Organic v Caged.

Grit – many farmers have hazard about type and size to make available for crop and digestion. Following is a table from Freedom Food Standards (UK) by the RSPCA

Age of bird	Grit size	Quantity
Chicks (from 3 weeks)	0.2mm	1 g per bird once a week in feed
Pullets (6-11 wks)	3.2 – 4.75mm	2 g per bird, once a week
Pullets(11 weeks – point of lay)	4.75 -6.35	4-5g per bird once a week with food
Laying hens	6.35mm – 8mm	28g per bird per month

Green cut feed (grass, alfalfa) guidelines – Cut grass feed can result in reduction of dry feed ration intake leading to insufficient total nutrient intake. This can be especially true in Organic feed rations that do not have synthetic amino acids added.

Note this is from cut grass and not gathered by ranging of the hen NFJ recommends no more than 25g per hens until they reach sexual maturity (24 – 28 weeks) Then up to 40g and when older add lib.

Interestingly though, NFJ commented that the increased intake of freshly cut green stuffs, resulted in better general health despite the reduction in dry feed rations.

Note – the add lib silage (fermented alfalfa etc) does not have the same effect as cut grass. Feather pecking - some farmers have experienced more problems with highline brown than with the Lohman Brown, while the Lohman white has very little feather pecking. Hardly any Isa Brown in Denmark.

Lhoman Silver is being used increasingly in organic and FR because of their disposition to roam widely and remain evenly dispersed.

OBSERVATION: Rearing pullets is a new area for me off which I have no experience. The farmers we spoke to who are rearing on farms have all said it is quite easy to do, so long as you have good management in place.

One of the most important practices emphasized to me was to spend time with the chicks. If the manager can spend as much time as possible, in the first 24 hours of chick placement into the rearing shed, lying down on the floor and letting the chicks run over, talking, singing and establishing a connection. (If it is not done in the first 24 hrs, then the opportunity has been lost.) In so doing, the chicks respond more positively to human contact. This is especially useful when moving through the shed and also when the pullets are relocated from rearing to laying shed. By moving around the birds it will help them to settle into their new surroundings.

OBSERVATION: the white hens were generally accepted as producing more eggs but the down side of being more flighty. However, I witnessed some very well managed white Lohmans in Denmark that had been reared on farm, had extra human contact in the first 24 hrs, and managed as described previously – and these birds were much less flighty in the shed, when I walked through, they moved aside so it is easy to spot floor eggs. When you stopped moving, they would close in around you. Normally these birds would scatter in all directions and fly into a panic.

In my experience on our farm, Hyline Brown tend to follow you around the shed or yard and are more placid. And the experience on this farm was that the extra nurturing as previously

described, enhances this behaviour to the extent that the chickens form a barrier around you and it is impossible to move.

But with both of these flocks, reared in the same manner, the feather pecking was still a major problem in the browns.

Rearing and outside exposure – in Denmark it is typical (check if in standard) to allow pullets outside at 6 weeks of age in summer and 9 weeks of age in winter.

There are obvious problems when the pullets are delivered to farm and they have not had any exposure to daylight. This was a common theme when pullets could be raised conventionally and only needed organic status once they were in lay.

This may partially explain some of the behaviour issues experienced in those countries where this practice is still allowed.

EXPERIENCE- the Lohman white production figs 94% under organic farming practices.

The Silver has a better temperament for ranging, less flighty, lays slightly less eggs and slightly smaller in size – the smaller size is a benefit in Europe and UK as the companies pay a premium price for medium and large size. Anything over 70g is penalized. These eggs are generally pulped.

Some conjecture –better prices to be had for these jumbo eggs direct selling to the consumer through farm shop or farmers market, home box delivery.

The supermarkets in general prefer to limit the number of lines they carry and the big eggs are more prone to damage. Yet it is evident that some consumers seek these out and are prepared to pay a little extra.

Bents rearing farm (Denmark) – rears 85,000 pullets in a year. Of which he and another farmer will use 30,000 and the balance supplied to other organic farmers.

Those customers can view information and daily data from the rearing operations control centered computer info accessed on line. If bird development is below specification, then this is taken into account in the final purchase price. If the pullets exceed specification, then this is also reflected in the price and the customer may pay a little more. The finer detail is made in consultation with Govt supervisors, who access extremely detailed data base on performance criteria for all farms.

Rearing for 2 different markets – some of the eggs produced for Danaegg are exported to Germany, so those pullets must also be reared according to German Organic Standards in which no fish meal is used. So two different feed rations are used for these birds respectively. Then when they are sent to the laying farms, the ration is continued i.e. eggs destined for export markets are reared on designated farms to meet the requirements for those countries.

Incentives to range in yards – some farmers in Denmark have planted apples and pears and cherries in their range yards to draw the hens out into yards.

This combined integrated pest management fertilizes the trees, provides shelter, and a second income stream for the producer. It is not as straight forward as first sounds. If there are other disease control issues for the orchard, the range of treatments is limited for reasons of the Organic standards for chickens and the orchard.

It is ideal if the orchard can be spelled at times to increase ground cover or perhaps sow a grain under story crop to take up excess nitrogen or a green manure or companion crop etc.

One farmer produces his own brand of organic apple juice by sharing in a mobile juice extraction plant, which services a number of other farms as well.

ALTERNATIVE HEALTH TREATMENTS:

Diatomaceous earth - or finely crushed basalt rock placed into feed to expel or macerate internal worms. Also used in dust baths on winter gardens or outdoor shelters.

Tannin extract for intestinal worms

Milk Acid – used a lot under various brand names, to adjust ph in gut and improve digestion

Homeopathic remedies - used a lot in Germany and UK

Bioresonance - therapies consist mainly of various methods of application of certain frequencies or magnetic fields to the body.

Bio dynamics - did not get opportunity to investigate but understand there are a number of applications suitable to Organic Egg production. Demeter is very strong in Germany and requires a dedicated study of its own.

DIAFLEX - for ecoli problems. Extract it is made from acacia bark. Used by farmers in Denmark (NFJ opinion it is probably the most effective natural treatment against ecoli)

Hemexide Pulver – used in food (internal parasites) and dust bath for external parasites. May be a form of diatomaceous earth

Olive leaf extract – natural antibiotic and immune system builder, respiratory problems and anti viral

Colloidal Silver – anti viral and bacterial, also being trialed in Indonesia as possible solution to Bird Flu

Cider vinegar and garlic – restores ph in the blood and garlic a natural antibiotic and worm expeller.



Free Range hens under poplars UK

BIO SECURITY:

Danish have eradicated Salmonella by progressively culling the parent stock of infected birds
All of the farmers contribute to the cost of running this program

USA –organic pullets are vaccinated up until 16 weeks, then convert to organic and receive no more vaccination prior to laying

Other opinion that during rest time(malt) if allowed then hens out of production and can be given antibiotics if needed for a specific ailment under EU rules.

In Denmark from 2004 all organic laying hens must be reared organically as pullets as well.
Main concern – can't use coccidiostats so vaccinate using Paracox – or

Leave untreated and if hens develop a problem then treat conventionally and withdraw eggs from sale for DOUBLE the prescribed period.

The majority of farms visited had bio security protocols in place. Mostly requiring us to be fully suited in disposable coveralls and wear boot covers.

FEED RATIONS:

80% Organic Diets. Some organizations still using 80% organic diet, with 20% being from non organic sources or from “in conversion” certified suppliers.

Organic standards for feed have been progressively stepping up the % of Organic certified ingredients over a period of time.

The current 80/20 is soon to be 95/5 and then 100% organic only.

Issues of whether this limitation will allow enough essential amino acids in diet to meet the high dietary intake of today's modern egg layers.

In a conventional ration the feed is augmented with synthetic amino acids, particularly methionine and lysine. To ingest these from natural feed sources means the hens must consume more feed of lower naturally sources of these essential amino acids, which creates a dilemma, because the modern livestock has been bred to eat less while having a have a higher feed conversion. So to now turn around and get them to eat more means to a conventional minded person to be undoing the progress and increasing the feed costs.

Denmark – Niels Finn Johannsen experimenting with fermentation of whole feed rations
benefits – Lowers the ph of the feed and eliminating Salmonella and ecoli risk. This is also a preferred method in organic feed rations since it is mandatory in Denmark to sterilize feed, hence the majority of feed is pelletised.

Danish home mixer organic ration – wheat 50% oats 5% peas 15% concentrate 31% (including soya, fishmeal, oyster shell powder,) plus barley and corn gluten if available (check quantities against supplied ration lists from farms)

Sesame Oil sourced from India is sometimes used in small quantities for Lysine and methionine – expensive.

Principle organic feed ingredients used in Germany – wheat, triticale, potato protein, corn gluten, soya beans, peas and linseed cake

Mobile feed mill – a German farmer I saw running about 4500 hens, not big enough to justify purchasing a feed mill, uses a mobile feed mill which services a number of farms in the district, by visiting once a week and it takes a couple of hours for which he pays an hourly rate. The grains and premix are stored on farm. He also had some new Danish silos grain storage

units made from a poly woven fabric with a capacity of about 15 ton, that were stored under a machinery shed roof. These were cheap and portable for easy relocation and have 60 degree cone for discharge.

MARKETING AND SUPPLY CHAIN MANAGEMENT:

Canada - discussions with Ontario Organic Co-operative – the Government controlled egg supply is limiting the growth of organics eggs, but has the up side of providing a stable income for the producer. The total egg production is governed, but the method of production is not.

Denmark – recently experienced cheap German caged eggs coming over the border by a supermarket chain at the expense of the local farmers. They had a limited ability to stop this due to EU non restrictive trade barriers.

The issue being – free trade agreement prohibits restrictive trade barriers, yet the Danish organic and conventional farmers are subject to much more stringent controls.

This also increases their costs of production (most farmers contribute financially to the national program) and yet cheaper imports, which escape the same food safety requirements, can be brought in by the supermarkets at much lower prices. In this particular instance the Danish Govt did not have the political will power to make changes to make situation more equitable or protect its farmers.

So farmers made the point by buying the eggs and smashing them outside the stores to show where the eggs came from and why they were hurting local farmers. The stores backed down due to adverse publicity. Then some farmers sent the imported eggs for salmonella tests that the Danish farmers had to comply with and the results came back with unacceptable levels of salmonella, so the double standard was exposed. The Danish farmers are required by law to send 60 eggs for testing every 9 weeks. If positive, the eggs are sent for processing and pasteurizing.

Germany – The Agriculture Minister was under pressure to extend derogation of removal of cages to 2012 instead of its current target of 2007. The Farmers lobby is powerful and a possible change of Govt at the next election could see a reversal of this decision.

As with most forced changes, the farmers are continuing old practices till the last moment...

UK – Supermarkets have been instrumental in developing consumer awareness of healthy eating and organics. They are actively involved in increasing the sales of Free Range and Organics eggs.

Now however, they are squeezing the farmers for lower priced Organic eggs.

Sainsbury's removed the Soil Assoc eggs because they claimed prices too high and not moving on the shelf. So have replaced with another line of certified organic eggs.

This appears to be extremely unfair as the supermarkets are promoting the public perception of their support for organics, but at the same time pushing down the standards and compromising the welfare of the animals and the livelihood of the farmers.

Farmers can produce to a price. But it cost more to produce a quality food, with high welfare standards for animals.

Comment - The supermarkets could make some concessions when calculating their mark ups, as it appears that in some cases they actually increase the markup percentage on the already higher cost price on Organic Eggs.

Growth of Specialized Organic Supermarkets in -

USA - Wild Oats, Wholefoods

UK - M & S Sainsb, Waitrose, Tesco, whilst all being conventional supermarkets and developing Organic ranges and product lines and promoting organics in house.

Germany - Metro, Tegut, Edeka

All countries had specialized organic stores. The major chain stores have dedicated Organic sections or integrate organic products amongst conventional categories.

Other Comments:

- The support of Organic Agriculture by European Governments cannot be understated. With Organic faculties in major Universities in every country and government agencies established specifically to foster and develop organic farming e.g. organic agricultural colleges in Denmark where 3 year courses are offered for young farmers and then positions for apprentices offered to be placed on organic farms.
- The purpose of branding identifications on eggs needs to be clear and promoted for public understanding. The Soil Association Organic label has been enormously successful and has credibility in the eyes of the public as a trustworthy certification. Whereas the Lion eggs label in the UK, which identifies UK laid eggs, was reported in 2001 by the Consumer Assoc as “not being helpful to consumers because it is not clear why they’re awarded or what standards they meet.” When a panel of consumers were questioned about how the Lion Scheme worked “some thought it might refer to freshness, undamaged eggs, animal welfare checks against salmonella or eggs from an approved supplier. Some assumed it was from a Government run scheme.” The Consumers Association believes for endorsements to become useful there must be a clear explanation of what they mean on the pack, along with details of how to get more information.(The Ranger – edited by John Widdowson April 2001)
- Mobile housing as seen in the UK has been developed to a very high degree of sophistication in design, with automatic feeders, drinkers and egg collection systems all adapted to the mobile house. Some are manufactured from canvas covering and others use insulated sandwich panel. Independent power from combined solar panels and wind generators.
- In Germany sales of organic food amount to around 3% of the food retailers turnover. The government has set a target of 20% of agricultural land under organic certification by 2010 and has set aside \$50m euros to assist farmers make the conversion.
- In Denmark if you wish to own agricultural land, you must attend an agricultural course for at least one year and then you must live on the land. This is legislation has been set up to keep farming land in the hands of farmers and also to stop the corporate take over of agricultural lands.
The following extracts give a concise overview of how a cohesive Government plan and financial support has driven the Danish Organic Agricultural growth.
- According to Danish law, companies are not allowed to own farms, thus owner-occupancy and self-ownership is a sustaining and dominating element of farming in Denmark. There are only few corporation-owned units and co-operatively owned farming units. Only persons who hold an agricultural education (The Green Certificate) are allowed to buy farms of more than 30 hectares. The education to the green Certificate lasts 4.5 years with a mix of study period and practical training on farms.

Number of organic farms and farmland (1989-2003)

Year	Farms	Per cent of all farms	Hectares	Per cent of all agricultural land
1989	401		9,554	
1990	523		11,581	
1991	672		17,963	
1992	675		18,653	
1993	640		20,090	
1994	677		21,145	
1995	1,050	1.5	40,884	1.5
1996	1,166	1.7	46,171	1.7
1997	1,617	2.5	64,329	2.4
1998	2,228	3.5	99,163	3.7
1999	3,099	5.2	146,685	5.5
2000	3,466	6.4	165,258	6.2
2001	3,525	6.5	173,497	6.5
2002	3,714	7.3	178,360	6.7
2003	3,510	7.2	168,154	6.3

Source: Danish Plant Directorate, 1995-2003

Conversion and funding

All EU countries are subject to the same rules for converting a conventional farm into an organic one. However, in Denmark the whole farm must be converted, whereas in other EU countries it is possible only to convert part of the production.

Government support has led to increased organic production. In addition to financial support to organic farmers, the Danish government also discouraged conventional farming by levying high taxes on products such as insecticides and pesticides.

In November 2003 support for organic farming was changed. The new scheme is more flexible and will hopefully encourage more farmers to convert. The new scheme has 3 elements:

- Support for converting to organic farming
- Support for environmentally-favourable extensification (MB). According to EU Council Regulation on support for rural development, article 22.
- Support for environmentally friendly farming (MVJ). According to EU Council Regulation on support for rural development, article 22.

The MVJ scheme was earlier earmarked for conventional farmers, but is now open for organic farmers as well. It consists of various types of support, e.g. support for grass- and permanent pastures, wetlands, reduction in nitrogen fertiliser.

The MB support is 870 DKK per hectare per year for a period of 5 years. To receive MB the farmers must extensificate the management of the land in an environmentally-favourable way; without use of pesticides and with a limited use of nitrogen.

The support for converting is 1.150 DKK per hectare per year for the first two years of converting. After that it is 100 DKK per hectare per year for the next 3 years. It is not possible for farms with milk production to receive support for converting. The new Danish regulation plays together with the EU single farm payments.



More organic farms were established, and the Danish organic movement was organised in 1981 with the foundation of the Danish Organisation for Organic Farming (LØJ). The organisation was made up of farmers, consumers and processors with its own growing and breeding regulations and an independent inspection. The set of rules was to a large degree inspired by the IFOAM basic standards.

The Danish Organic Agricultural College was founded in 1982 to educate organic farmers and is also in charge of continuing education for conventional farmers. In 1985 The Danish Family Farmers Association established a special organic advisory service, in co-operation with The National Association for Organic Farming and The Biodynamic Association. From 1987 The Danish Farmers' Union also contributed to the advisory work.



The Danish Research Centre for Organic Farming was established in 1996 co-ordinating Danish research in organic farming. In the same year The Danish Institute of Animal Sciences established Rugballegaard as an organic research station at Research Centre Bygholm, Horsens. The research station is officially approved as an organic farm. The aim of establishing the organic research station was to provide the scientists with the possibility to carry out analytic and comprehensive research, partly focusing on the conditions of the various animal species (feeding, livestock houses, welfare, etc.), and partly on the interplay between animals and crops (feed supply, grazing systems, utilisation of manure, crop rotations, etc.). Finally, the aim was to develop and demonstrate new techniques relevant to organic farming.

Until the beginning of the 1990s, most of the organic products in Denmark were sold at the farm gate, markets or from health-food shops. The situation is very different today where 85 percent of all organic products are sold in the supermarkets. One could describe the Danish market for organic foods as relatively mature; it does not suffer seriously from the supply shortages and barriers, which dominate other markets outside Denmark. A study from 2003 shows that supermarkets actively promoting organic food still experience growing market shares. The IRMA chain experienced a 19 per cent growth in the organic turnover in 2004. In total organic products represent 11 per cent of the turnover in IRMA.

The advice from supermarkets is that organic products needs to differentiate in taste, quality and "storytelling" if sales are to propel.

Organic eggs account for around 17 per cent of egg sales in the supermarkets.

Extracts from Danish Agricultural Advisory Service report "Organic Farming in Denmark – 2005" by Tomas Fibiger Norfelt

6. Conclusions and Recommendations

This report contains only a small portion of the information I have gathered during my investigations.

The value of the experiences I have gained and contacts made will carry forward as we develop our own Organic Egg practices and share this knowledge with other likeminded farmers.

The future direction for organic egg production in Europe will see a continued tightening up the Organic Standards.

Individual organic organizations have different standards and I believe this will continue, with the EEC providing a minimum level.

Replacement pullets will have to be reared organically, instead of conventional rearing with conversion periods allowed.

Organic breeders are developing new strains of birds with different traits of perhaps heavier birds with higher feed intake to compensate for lower levels of essential AA.

There may be some trade off with lower egg production, but less mortalities and better health in the birds.

Breeding stock will also have to be reared organically, with organic feed.

Organic feed rations will require 100% certified organic ingredients and no synthetic amino acids.

Some countries may be permitted to use fish meal, whilst others choose not.

In Australia, we have some logistical catch ups to make.

Our isolation and smaller population will make it harder for commercial Organic Egg Producers to try to match the same criteria that define organic egg production in Europe.

We need to bear this in mind when setting Organic Egg Production standards in Australia and make them relevant to our unique circumstances, environment, climate and available certified organic feed ingredients.

I do not foresee too many dedicated Organic breeder farms being created in the near future, so we may have to contend with continuing to use conventional commercial layer strains for parent stock, whilst rearing the layer chicks from day old on Organically Certified Farms.

To encourage the proliferation of organic egg production, I believe we should follow the pattern in Europe and make it more accessible initially and then set out a program of ratcheting up the criteria over a period of time.

Responses I have heard from egg producers from a recent PIX conference in Queensland, when they had heard presentation on criteria for Organic Egg certification in Australia as it presently stands, was not very encouraging.

They see restrictions, obstacles and barriers, such as, no antibiotic use, more land required, greater livestock management and increased accountability – It all seems too hard for the organic novice, particularly when they have come from a conventional farming mindset.

More needs to be done to encourage the good practitioners to change their thinking from the Conventional paradigm to Organic paradigm.

One strong message that did come through was that a high proportion of the innovative and more successful Organic Poultry Farmers I visited, have entered the industry from a different background.

In that they previously had another profession, were making a conscientious decision to enter farming organically and often introduced new ideas and innovations their practices.

I was interested to hear of the number of derogations in UK and Europe that allowed for extensions of e.g. higher flock numbers, delays in using the 20% non organic feed ration ingredients etc.

These derogations were granted to appease current egg producers and to help keep them viable while they readjust to newer standards.

There is a lot of Government support for Organic Agriculture in Europe. The farmers are encouraged to convert for self interest; more healthful products, improved returns, improved ecology, benefits to the environment, health benefits to farmers and families from using sustainable practices.

After an initial boon to these Organic Farmers of higher prices and better returns, many farmers are now starting to feel the price squeeze from the big supermarkets, which are starting to dictate prices. Remember that these farmers are also recipients of Government subsidies of some form or other!

Australian farmers, Organic and Conventional, do it much tougher without subsidies or other invisible financial support mechanisms.

In Australia, so far from what I've seen the Government attitude is much more mercenary in its support for organic agriculture, with its export orientation and promotion of the "clean green image."

I believe the Australian Government and its Agricultural agencies should listen to the existing certification bodies in Australia and embrace their passion for all the things that are good about organic farming practices, not the least of which is about rebuilding farming communities, family values, health and ecology as well as the economy.

By connecting with the intrinsic values that form the basis of organic farming, the Government agencies should come to appreciate the real worth of Organic Farming and give it the support it deserves.

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Useful WEB sites:

www.newfarm.org/ Rodale Institute e-news (USA)

www.attra.org/ National Sustainable Agricultural Information Service (USA)

www.cog.ca/ Canadian Organic Growers

www.ota.com/ontarbio.html Ontarbio Organic Farmers Co-operative (Canada)

www.theranger.co.uk/ British Free Range Egg Producers Association

www.soilassociation.org/web/sa/saweb.nsf/home/index.html Soil Association UK

www.organicfarmers.org.uk/ Organic Farmers and Growers (UK)

www.defra.gov.uk/farm/organic Defra - Organic Food and Farming

www.organic.aber.ac.uk Organic Centre Wales

www.fibl.net/english/index.php The Research Institute of Organic Agriculture (Switzerland)

www.ifoam.org International Federation of Organic Agricultural Movements

www.safonetwork.org/ Sustaining Animal Health and Food Safety in Organic Farming (EU)

www.organic-europe.net/country_reports/denmark/default.asp Overview of Organic Egg Farming in Denmark

www.fvm.dk Danish Ministry Food, Agriculture and Fisheries – Organic Farming