

[Home](#) > [Country Reports](#) > [Denmark](#)

[search](#)

Organic Farming in Denmark 2003*

by **Tomas Fibiger Norfelt**

[Albania](#)
[Austria](#)
[Belgium](#)
[Cyprus](#)
[Czech Republic](#)
[Denmark](#)
[Estonia](#)
[Finland](#)
[France](#)
[Germany](#)
[Great Britain](#)
[Greece](#)
[Hungary](#)
[Iceland](#)
[Ireland](#)
[Italy](#)
[Latvia](#)
[Liechtenstein](#)
[Luxemburg](#)
[Macedonia,
FYROM](#)
[Montenegro](#)
[Netherlands](#)
[Norway](#)
[Poland](#)
[Portugal](#)
[Slovenia](#)
[Slovakia](#)
[Spain](#)
[Sweden](#)
[Switzerland](#)
[Turkey](#)
[Ukraine](#)

Updates (not part of the text)

- [Organic food: Information about organic farming, inspection and legislation at the homepage of the Danish Veterinary and Food Administration Head Office](#)
- [Statistical updates at the homepage of the Danish Ministry of Food, Agriculture and Fisheries](#)
- [Organic Farming Research in Denmark 2006](#)
- [April 2005: Organic Farming in Denmark - 2005 by Tomas Fibiger Norfelt at the homepage of the Danish Agricultural Advisory Service](#)

Contents

[Agriculture in Denmark](#)

[Organic Farming in Denmark](#)

- [Number of organic farms and farmland](#)
- [Husbandry on organic farms](#)
- [Land use](#)
- [The size of organic farms](#)
- [Regional Distribution](#)
- [Conversion and funding](#)
- [Organic Production and Processing](#)

[The Development of Organic Farming in Denmark](#)

[Organic Objectives and Principles](#)

[Inspection and Label](#)

[Domestic Sales](#)

[Consumers](#)

[Export and Import](#)

[Advisory System](#)

[Research](#)

[Training](#)

Contents

[Agriculture in Denmark](#)

[Organic Farming in Denmark](#)

[The Development of Organic Farming in Denmark](#)

[Organic Objectives and Principles](#)

[Inspection and Label](#)

[Domestic Sales](#)

[Consumers](#)

[Export and Import](#)

[Advisory System](#)

[Research](#)

[Training](#)

[Organisations](#)

[Prospects](#)

[Author](#)

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[top of page](#)



Organic Eprints, an archive for electronic documents related to organic agriculture was established in 2002. Researchers and organisations are invited to join the archive.

Organisations

Prospects

Author

Agriculture in Denmark

Denmark is situated in the northern part of EU and is one of the Nordic and Scandinavian countries. It is a small country with a population of 5.3 million inhabitants, and the GNP per capita is approximately 35 000 USD.

[top of page](#)



In 2000, primary agriculture, including fur farming and horticulture, employed 84,000 people, or 3 percent of the workforce. Although the part played by agriculture in the Danish economy overall has steadily fallen in step with industrialisation and economic developments as a whole, it is still an essential occupation based on its net foreign currency earning capacity, its effect on employment and its importance in supplying everyday foodstuffs. A further 100,000 persons are employed in industries downstream from primary production, most notably the food processing companies.

[top of page](#)

Denmark is a flat country with rich agricultural land situated in a temperate climate. Summers are generally warm with an average temperature of 16.4 degrees centigrade and freezing temperatures are seldom experienced in winter for prolonged periods. In total, 664 mm of precipitation fall evenly spread over the year.

2.7 million hectares or sixty-three percent of Denmark's land area is cultivated farmland. Grain crops amount to over half of Denmark's agricultural production with wheat, barley and rye being the most widespread. Roughage - beets and grass - are also grown. Two thirds of production is utilised as fodder for animals.

23 million pigs are produced in Denmark each year, three-quarters of these for export. This constitutes 7 percent of Denmark's total annual export. From the beginning of the 1980s the production of pigs has risen by almost 50 percent to c. 1.8 million tonnes of pork in 2000. Over the same period milk production fell by 15 percent to 4.7 million tonnes, partly as a result of the European Union's introduction of milk quotas.

[top of page](#)

The area devoted to agriculture peaked in the 1930s with 3.2 million hectares under cultivation. A reduction in the area has occurred as agricultural land has been given over to urban development and recreational activities, especially since 1960. At the same time profound changes have taken place in farm structures.

In the first half of the 20th century there were about 200,000 farms with an average area of 16 hectares, but after 1950 numbers began to decline slowly. From 1960 this trend accelerated, and during the 1960s an average of 5000 farms disappeared each year. In the 1970s and 1980s the decline levelled off to 2600 holdings a year, and in the 1990s to 2300 so that in 1999 the number of holdings had fallen to 58,000 with an average area of 46 hectares.

Self-ownership is a sustaining element of farming in Denmark. There are only few corporation-owned units and co-operatively owned farming units.

■ For more information on agriculture in Denmark

- [Danish Agricultural Council](#)
- [Danish Farmers' Unions](#)
- [Royal Danish Ministry of Foreign Affairs](#)

[top of page](#)

Organic farming in Denmark

Denmark is one of the top-ten countries in Europe as regards the organic share of the total cultivated area. There were in 2002 3714 organic farms cultivating approx. 180,000 hectares corresponding to 6.7 percent of the total Danish farmland (for updated data please check the statistics [at the homepage of the Danish Ministry of Food, Agriculture and Fisheries](#)).

The table shows that the number of authorised organic farms was fairly constant from 1991 to 1994. In 1995 there was a large increase of organic farms equalling a growth of 55 percent compared to 1994. In 1996 there was a minor increase of 116 farms equalling 11 percent. The net growth for 1997 to 1999 was about 39 percent per year. And from 1999 to 2001 net growth was 367, equalling 11.8 percent.

- [Number of organic farms and farmland](#)
- [Husbandry on organic farms](#)
- [Land use](#)
- [The size of organic farms](#)
- [Regional Distribution](#)
- [Conversion and funding](#)
- [Organic Production and Processing](#)

■ Table: Number of organic farms and farmland (1989-2002)

[top of page](#)

	Farms	% of all farms	Hectares	% of all agricultural land
Year				
1989	401		9554	
1990	523		11 581	
1991	672		17 963	
1992	675		18 653	
1993	640		20 090	
1994	677		21 145	
1995	1050	1.5	40 884	1.5
1996	1166	1.7	46 171	1.7
1997	1617	2.5	64 329	2.4
1998	2228	3.5	99 163	3.7
1999	3099	5.2	146 685	5.5
2000	3466	6.4	165 258	6.2
2001	3525	6.5	173 497	6.5
2002	3714	7.3	178 360	6.7

Source: Danish Plant Directorate, 2002

■ Table: Animal husbandry on organic farms, 2002

	Farms	% of organic farms	% of all Danish farms
Dairy cattle	718	19.3	17.6
Suckling cows	860	23.2	21.9
Pigs	364	9.8	23.2
Sheep	593	16.0	5.9
Hens	465	12.5	8.1

[top of page](#)

Source: Danish Plant Directorate, 2002

Note that farms can have more than one type of husbandry and that a larger part of organic farms has dairy cattle and suckling cows than the average of Danish farm. The organic pig production is very limited.

Land use

■ Table: Crop Production on Organic Farms

	Percentage of organic farms		
	1 st year of conversion	2 nd year of conversion	Fully converted
Cereals	42.3	25.5	28.0
Legumes	4.7	1.5	2.3
Root crops	0.2	0.4	1.9
Seeds for industrial use	0.7	0.6	1.4
Seeds for sowing	0.6	0.1	0.3
Grass crops	46.2	66.0	59.2
Horticultural crops	0.2	0.5	2.1
Other crops	5.1	5.5	4.8

[top of page](#)

Source: Danish Plant Directorate, 1999

Size of organic farms

The table shows a larger number of small organic farms and farms with more than 100 hectares than in average in Denmark. In 2002 the average size of organic farms was 48 hectares.

[top of page](#)

■ Table: Farm size

Average size	<5 ha	5-9 ha	10-19.9 ha	20-29.9 ha	30-49.9 ha	50-99.9 ha	>100 ha	Total
Number of organic farms	398	532	663	394	435	628	542	3292
Share of organic farmland in percent	0.6	2.3	5.5	5.4	9.6	25.5	51.1	100
Number of organic farms in percent	11.0	14.8	18.5	11.0	12.1	17.5	15.1	100
Number of all farms in percent	2.1	15.8	19.1	12.5	15.9	19.9	13.1	98.4*

* 751 farms without cultivated farmland

Source: Statistics Denmark 2002

Regional distribution of farms

The biggest share of organic farms is found in Jutland (73.2 percent of all organic farms) followed by Zealand /Sjælland (20.9 percent)

[top of page](#)

and Funen /Fyn (5.9 percent).

Conversion and funding

Substantial government support has led to increased organic production. In 1998, the support accounted for 58 percent of the total green farming grants, compared to only 7 percent of grants in the United Kingdom. In addition to heavy financial support to organic farmers, the Danish government also discouraged conventional farming by levying high taxes on products such as insecticides and pesticides.

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. The system of funding to organic farmers is shown in the table. The amounts are restricted, the maximum amount per hectare on the farm can, as a maximum be 5,000 Danish kroner. A new system of funding is soon to be implemented (November 2003).

■ Subsidies per hectare

	Danish kroner per hectare				
	Year 1	Year 2	Year 3	Year 4	Year 5
Basis subsidy	600	600	600	600	600
Conversion subsidy	450	450	-	-	-
Subsidy to permanent pasture	600	600	600	600	600
Supplement subsidy to environmentally sensitive areas	500	500	500	500	500
Conversion plant production	2000	2000	1200	500	500
Maximum subsidy	5000	5000	4000	3500	3500

[top of page](#)

Source: The Directorate for Food, Fisheries and Agri Business

Organic Production and Processing

According to the regulations governing organic farming in Denmark, organic foods must be produced as naturally as possible. Chemically produced flavours, colours and artificial sweeteners are therefore banned from the processing of organic food products. According to the regulations, it is nevertheless possible to use a few non-organic additives.

[top of page](#)

A company that wishes to produce, process or package organic items must file a formal application to The Danish Veterinary and Food Administration. The applicant and the inspectorate draw up an "organic report" which lays down precisely how the organic element of the company's activities will be run. For example, it describes how organic produce must be kept separate from conventional produce, either by allocating a certain area for organic production on the premises, or by producing organic foods at specific hours.

Organic certification can only be issued once the final approval from the state inspectorate has come through. Inspection of organic production is an integrated part of the activities of The Danish Veterinary and Food Administration and ensures effective and regular inspection. The authorities visit a company several times a year, which gives them thorough knowledge of the company and insight into how best to ensure organic production in each case.

[top of page](#)

The Danish authorities take the production of organic foods seriously. If a company is found to be cheating, the management is reported to the police and can face fines or imprisonment. Furthermore, the management can be barred from producing or selling products for up to five years.

The Development of Organic Farming in Denmark

Organic farming has its roots in alternative farming systems, and these systems have existed for many years both in Denmark and other countries around the world, questioning whether intensive agriculture, which uses artificial fertilisers and sprays to provide the greatest possible yield, is the best way to produce foods that promote human health. Furthermore agreeing that the impact of the production method on the surrounding environment should be included as a parameter of quality.

Roughly speaking the alternative systems have been significant in two periods in modern times. The first period was 1920-1940, and the second period was from 1960 and onwards.

In the 1920's Denmark experienced a widespread interest in natural living and natural foods, not least influenced by the biodynamic agricultural system from Germany. In 1936 The Biodynamic Association was established by influential landowners from the aristocracy.



[top of page](#)

The development of modern organic farming in Denmark can be divided into four periods.

- [1960-1980](#) – Organic pioneers emerge
- [1981-1986](#) – Limited Consumption
- [1987-1992](#) – Mass media and Politicians
- [1992-2003](#) – Organic Commercial Breakthrough
- [Highlights](#)

1960-1980 - Organic pioneers emerge

Throughout the 1960s and 1970s we experienced acute environmental degradation. In particular, nitrate and pesticides in drinking water, residues of pesticides and medicine in foods, eutrophication of marine and fresh water, and eutrophication and acidification of terrestrial ecosystems caused the environmental problems. For these problems agricultural production carried the main responsibility and organic farming seemed to offer a solution to some of these problems. This led pioneers in organic farming to start out – many of them being young townspeople with no experience in farming wanting to show how real sustainable (organic) farming should be practised. The new term "organic" farming was based to a greater extent on the farming principles of the Howard Balfour method and the organic biological system, rather than the biodynamic approach.

[top of page](#)

In organic plant production, emphasis was laid on the avoidance of all chemical pollution by forbidding the use of chemical sprays and artificial fertilisers. Organic farming does not exclude loss of nitrogen when organic animal manures and legumes are used. It was however a clear objective to avoid all forms of pollution from agricultural activities and to avoid excessive use of organic fertilisers, and an upper limit was set for the amount of animal manures that may be applied per hectare. All this was designed to limit the losses of

nitrogen. Alongside the environmental debate, the intensification of animal production methods stimulated increased concern about the well being of animals in modern farm buildings. For this reason concern for animal welfare became an integral part of the objectives of organic farming. Within a few years all these concerns created the basis of the framework of the first Danish organic regulations.

[top of page](#)

The organic pioneers worked alongside the approx. 100 biodynamic farmers who were present at that time. The production and consumption of organic goods were in this period very modest - under one percent.

1981-1986 - Limited Consumption

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.

[top of page](#)

In the spring 1982 the first organic carrots were sold in the Coop Denmark supermarkets. The interest from consumers was very limited, and the development in the 1980's was slow. In January 1988 the best selling organic products were potatoes, carrots and celery root with a market share of more than ten percent of the total organic turnover. However the total turnover of organic fruit and vegetables was less than one percent of the total turnover of fruit and vegetables in Coop Denmark at that time.

1987-1992 - Mass Media and Politicians

In particular politicians and the mass media drove the development forward in this period. Danish parliament adopts the world's first comprehensive legislation on organic farming in 1987, inspired by the story in the media about lobsters dying as a result of oxygen depletion in Danish coastal waters (environmental concern).

An important step was the establishment of the Council on Organic Food and Agriculture in 1987. The council serves as a platform for consensus building on organic policies and has been a catalyst for initiatives in every area of the organic food production. It has representatives from the state, the organic farmers' organisations and the conventional farmers' organisations, the labour organisations, the processors, retail organisations and the consumers.

[top of page](#)

The Danish State control-label, red Ø-label, was launched in 1990 strengthening the consumption of organic products, leading to more processors and retailers being interested in producing and selling organic products, and State control of organic production was established to give the consumer confidence with regard to the genuineness of products.

The organised sale of organic milk was initiated by the organic farmers themselves in 1988 through the establishment of organic dairy circles.

1993-2003 - Organic Commercial Breakthrough

1993 was the "Year Zero" in the sales of organic products in Denmark. Suddenly the market turned around with a massive increase in the production and sales of especially organic milk and eggs.

The same year as general economical support for organic farming was established, the consumer prices in the biggest retail-store chain were lowered combined with an intensive marketing effort. A few figures illustrate the vastly positive effect: In the beginning of 1993 Coop Denmark sold weekly approx. 100.000 litre of organic milk. In the beginning of 1995 the sales were 350.000 litres weekly, and Coop Denmark could have found sale for minimum 200.000 litre more. Thus the demand increased in two years from 100.000 litres to more than 500.000 litres weekly.

[top of page](#)

In 1995 the Council on Organic Food and Agriculture developed an "Action plan for Organic Farming" with 65 recommendations to the Minister of Agriculture, Food and Fishery to encourage organic farming in Denmark. The Action plan I served as a base for much of the political work in the following years. It was followed by a second five year Action plan in 1999.

■ For more information on the second Action plan

- [Council on Organic Food and Agriculture](#)



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.

[top of page](#)

Towards the end of the period Denmark experienced what should be described as a natural weakening – the export did not expand, the domestic consumption stagnated, and a surplus production led to fewer farms converting.

The political focus has shifted from an environmental approach to a market approach towards the end of the 1990's. Observers of organic production in Denmark doubts today (2003) that the free sway of the market forces can ensure a continued growth in organic farming. But it is hard to predict the future. One thing however seems certain: Never has the alternative farming been so predominant and such a strong source of inspiration for the traditional farming community.

[top of page](#)

Highlights - Organic Production in Denmark

- 1936 The Biodynamic Association and Demeter Association were established.
- 1972 An umbrella organisation, the International Federation of Organic Agriculture Movements (IFOAM), was set up for societies working towards alternative agriculture.
- 1981 The Danish Association of Organic Farming is founded and a number of specific rules are formulated. The association sets up its own inspectorate.
- 1982 The first Danish organic agricultural college is set up in northern Jutland.
- 1985 The first organic agricultural advisory service was set up.
- 1987 The Danish parliament adopts the world's first comprehensive legislation on organic farming. State inspection and certification scheme are introduced. [top of page](#)
- 1988 The first litre of organic milk is bottled at a small dairy.
- 1990 Launch of a national campaign for organic agriculture.
- 1993 The largest Danish supermarket chain, Coop Denmark, reduced prices by 15 to 20 percent on a large number of organic products. Boom in consumption.
- 1993 General economical support for organic farming is introduced
- 1995 The Danish Ministry of Food, Agriculture and Fisheries presents a comprehensive Action plan I designed to propel organic farming towards the year 2000.
- 1996
 - The 11th IFOAM World Conference is held in Denmark
 - The Danish Ministry of Food, Agriculture and Fisheries introduce an increased support to plant producers
 - The Danish Research Centre for Organic Farming is established, and the Organic research station Rugballegaard is established.
- 1998 The number of organic farms more than triples over a five-year period. [top of page](#)
- 1999 Organic organisations establish co-operation in the Centre for Organic Agriculture. Action plan II is introduced.
- 2000 Organic e-commerce is launched by the company "Aarstiderne" – www.aarstiderne.com.
- 2001 Denmark hosts the European Organic Food and Farming Conference [top of page](#)

Organic objectives and principles

Organic farming differs from conventional farming in that it is based on principles of.

- Preserving the fertility of the soil
- Avoiding all forms of pollution

- Producing goods of optimum nutritional quality
- Utilising local resources and labour in a closed cycle
- Reducing the use of non-renewable resources to a minimum
- Providing domestic animals with good living conditions
- Ensuring that the farmer can generate sufficient income from his farm.

The organic associations in Scandinavia have agreed on the following definition of organic farming:

“Organic farming means a self-sufficient and sustainable agro-environmental system in equilibrium. The system is based as far as possible on local, renewable resources. Organic farming builds on an integrated ethos, which encompasses the environmental, economic and social aspects in agricultural production both from a local and from a global perspective. Thus, organic farming perceives nature as an entity, which has value in its own right; human beings have a moral responsibility to steer the course of agriculture so that the cultivated landscape makes a positive contribution to the countryside.

[top of page](#)

The use of industrially produced pesticides and other chemicals foreign to the environment are prohibited in organic farming, as is the use of artificial fertilisers. Genetically modified organisms (GMO) are forbidden in animal feedstuffs and in connection with plant production or processing.

Organic farming is also about animal welfare, and the regulations governing organic farming contain detailed guidelines as to how specific livestock should be bred and fed. Generally, it involves conforming to the objective of “providing all livestock with good conditions that are in keeping with their natural behaviour and needs”.

A common feature of all organic objectives is that farming people are considered to be part of nature - in a rotation. Nature is so complex, however, that we do not have a full understanding of the consequences of our actions on it - we therefore work carefully. Finally, the cultural and social aspects of agriculture have a central place in organic farming.

[top of page](#)

Inspection and Labelling

Denmark is exceptional in having an official set of regulations and a single unique symbol for organic products, and also in that the State undertakes inspections. In general Danes contrary to other neighbouring countries have great confidence in the State as a serious and neutral body of inspection and labelling.

All farmers who practice organic farming must be authorised in organic management. Amongst other things, in collaboration with an organic agricultural adviser, the farmer must set out a plan for converting to organic management. Authorisation is not granted until the farm has been inspected and the conversion plan accepted by the Plant Directorate.

[top of page](#)

An inspector visits all Danish organic farms from the Plant Directorate at least once a year. The control visit normally occurs during the summer period, whilst the crops are still in the field. In addition, an unannounced visit is paid to 25 percent of the farms each year.

The control consists partly of a physical check, in which fields, animal buildings, and other farm buildings are inspected, and partly of an inspection of documents. The latter includes control on the purchase of feeds and manures, and inspection of the farmer's feeding, sowing and manure application plans.

When a product is sold as "organic", a control must also be made to see that any processing (such as that involved in the case of juice and sandwich spreads, etc.) complies with organic rules. Furthermore, a control must be made of the wrapping and packaging processes to ensure that there is no mixing with non-organic products. Companies that, for example, process, pack or import organic foods must notify the public authorities.

In association with the company, the authorities will work out an organic report that, amongst other things, describes how organic products are to be kept separate from non-organic products, and how accounts for purchases and sales must be presented.

[top of page](#)

In addition, a very comprehensive control of organic production is carried out at least once a year. To strengthen the control of organic products The Danish Veterinary and Food Administration also makes crosschecks. Each year a random selection of companies is made, and their accounts are compared with those of their suppliers and customers. This process establishes whether the amount of organic products bought and sold tallies between companies.

If, at a control visit, it is established that a company is not complying with the regulations for organic production, the authorities will step in. In minor cases the company will receive a sharp reminder to comply with regulations. Serious cases can lead to an order, fine and possible report to the police.



The "Ø"-label is an inspection label launched in 1990. The regulations associated with the Ø label are based on EU legislation - although Danish rules still apply in a few areas because EU legislation still does not cover all aspects of organic activities.

[top of page](#)

Fundamentally the red Ø label signifies that the Danish authorities have carried out a control on the farms and work places that produce, process, package or label the goods in Denmark. The red Ø-label shows that the latest preparation of the organic product has taken place in a Danish company under inspection of the public authorities. Therefore, the logo can be seen both on foods of Danish origin and on imported foods processed or packaged and labelled in Denmark.

Maintaining confidence in organic production is dependent on adherence to and strengthening of the Ø-label. The production standards on which the symbol is based must satisfy the standards of both consumers and organic producers as to respect for the environment, health, livestock, welfare etc.

Approximately 94 percent of the Danish consumers are familiar with the "Ø"-label. Intensive marketing has created awareness and established great confidence in the label in Denmark. A study shows that 85 percent of the consumers do not trust foreign organic products without the Ø-label. The more distant the product is, the less confidence the consumers had.

[top of page](#)

The red Ø-label symbolises the organic origin; the crown in the middle symbolises the Danish Ministry of Food, Agriculture and Fisheries. The red colour symbolises that the inspection is Danish – the Danish flag being red and white.

Recently a new EU label was introduced which signifies that an organic product is produced and controlled within the EU. It is the long-term objective of the Danish authorities to support the implementation of the EU label.



Domestic Sales

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, meaning that it does not suffer seriously from the supply shortages and barriers, which dominate most of the markets outside Denmark.

[top of page](#)

The most successful product in the Danish organic food sector is organic cereal. 29.5 percent of the rolled oats sold in Coop Denmark is organic. On almost the same level is milk – especially in the capital, Copenhagen, the consumption of organic milk is high. – In one IRMA store in greater Copenhagen 9 out of 10 litres are organic. Organic eggs account for around 17 percent of egg sales and organic carrots represent 13 percent of the total carrot sales in the supermarkets.

Consumption of organic vegetables is low but increasing steadily, the market share is estimated at over 6 percent of the total vegetable market. Potatoes, carrots and onions, in terms of volume, dominate the sale of organic vegetables.

The production of organic meat does not match the volumes of organic milk and organic vegetables.

Bakery and cereal products have also increased in recent years in response to an increasing demand. Although domestic producers supply most of the market, Danish manufacturers and packers also import significant quantities of bread and cereals.

The market share of organic products amounts to 3.5 percent of the total food sales equal to a sales level of around DKK 2 billion.

[top of page](#)

Table: Total market shares in percentage - selected organic products (2002 and 1999)

Product	1999	2002 -GfK Denmark A/S 2002	2002 - Market share in Superbrugsen supermarkets, Coop Denmark 2002
Milk	-	23.5	30.5
Oat grains	-	27.2	29.5
Carrots	-	12.8	32
Eggs	-	16.8	26.1
Wheat flour	-	12.2	20
Pasta, fresh	-	8	13.4
Rye bread	-	5	6.4
Coffee	-	-	5.3
Pork	-	0.4	-
Beef	-	0.9	-
Curdled milk	8	-	9
Potatoes	7	-	-
Onions	4	-	-
Butter	3	-	8.3
Wholemeal flour	22	-	-
Cheese	2	-	6.1

[top of page](#)

Domestic production of organic milk has increased 400 percent since 1996. It is therefore hardly surprising, that the balance between supply and demand of organic milk in the last few years has been increasingly distorted. In 2001 Arla (dairy) accepted 415m kilos of

organic milk, but only 165m kilos were marketed as organic. The rest was sold as ordinary milk. This has led to uncertainty about the renewal of suppliers' contracts.

[top of page](#)

COOP Denmark, one of the major Danish retail conglomerates and a retail co-operatives part of Coop Norden, has focused on organic products as part of its core strategy, and its organic market share lies around 5 percent of their total food sales. In 1993 COOP reduced prices on organic products, which resulted in a substantial increase in demand. The reduction in prices and aggressive promotion in the media have increased the demand for organic products over the years. However the annual growth has slowed down since 2001.

Coop Denmark announced in summer 2003 that the domestic sales are becoming more and more polarised. The sales of organic products are increasing in urban areas whilst decreasing in rural areas.

■ Table: a Annual growth rates in organic sales for COOP Denmark

- 1996 2.8 %
- 1997 4.1 %
- 1998 5.0 %
- 1999 6.3 %
- 2000 6.3 %
- 2001 10.9 %

[top of page](#)

Source: Organic Denmark

Consumers

To boost the domestic consumption The Danish Minister of Food, Agriculture and Fisheries, Mariann Fischer Boel, has in June 2003 launched a nation-wide campaign to promote organic food products in Denmark. A total of Dkr 5.0m (US\$0.79m) was invested in the campaign.



Denmark has the largest per capita consumption of organic products within Europe. Important motives for buying organic products are concern for the environment and animal welfare but egotistical motives like own health and quality are increasingly important.

95 percent of the Danish consumers have purchased organic products at least once in 2002, and 89 percent at least twice. A large share of the Danish consumers is willing to pay a premium for an organic product (Gfk, ConsumerScan, 2002).

The typical Danish organic consumer is

- Well-educated
- Living in urban areas
- Having children younger than seven years
- Higher income, can afford to spend a larger part of budget on food
- Older than 40 years
- Being environment-conscious
- Being health-conscious Woman

[top of page](#)

■ Table: Development in consumption of organic produce

	1999	2002
Households spending more than 10 percent of their food budget on organic produce	15%	13%
Households spending 2.5-9.9 percent of their food budget on organic produce	26%	27%
Households spending up to 2.5 percent of their food budget on organic produce	52%	55%
Households which do not buy organic produce	7%	5%

Source: Gfk ConsumerScan, 1999, 2002

As it can be seen, 55 percent of Danish consumers spent up to 2.5 percent of their food budget on organic products, but these consumers only constituted 11 percent of the total organic turnover in Denmark.

[top of page](#)

■ For more information on consumers

- [Consumer Demand for Organic Foods - Domestic and Foreign Market Perspectives](#)

Export and Import

Both export and import of organic products has increased considerably during the 1990's but has slowed down in last year. Danish exporters experience that national regulation and certification making export difficult.

10 percent of the Danish organic production is exported. Danish exports of organic food products totalled DKr 224m (US\$ 31.9m) in 2002, compared to DKr 290m for 2001. Sales of Danish organic food products in the United Kingdom fell to DKr75m for 2002 compared to DKr140m for 2001.

■ Table: Percent of total export

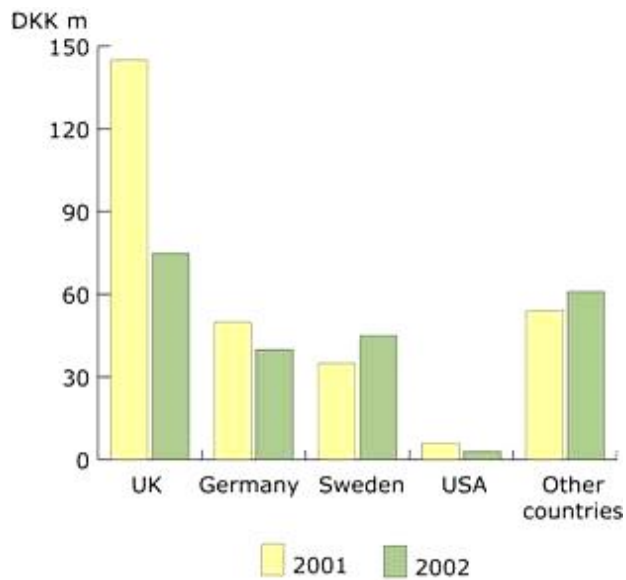
Meat products	19
Dairy products	33
Other products	48

[top of page](#)

Source: Organic Denmark

Meat and dairy products had earlier a larger share of the total volume, but other product types such as cereals, groceries, beverages and snacks are gaining importance.

[top of page](#)

[top of page](#)

Source: Organic Denmark

The largest markets for Danish organic products were United Kingdom, Germany, Sweden and the United States (representing 75 percent of the total Danish export of organic products).

According to the Ministry of Food, Agriculture and Fisheries, the export of organic foods is in its infancy because organic producers' first priority is to satisfy the demand on the domestic market. As production rises, export opportunities will become more evident.

[top of page](#)

■ For more information on Danish export

- [Organic-Denmark](#)
- [Ministry of Food, Agriculture and Fisheries](#)

Advisory System

Denmark has a comprehensive and well-organised agriculture advisory system, which comprises approximately 60 independent local advisory centres and one joint advisory centre, The Danish Agricultural Advisory Service, National Centre.

[top of page](#)



Today approx. 150 advisers (the equivalent of 50 full-time jobs) provide advice on organic farming. Besides providing organic farmer with the latest information, the organic advisers supply information to conventional farmers who are gradually being inspired by organic methods of production, e.g. the increasing use of clover and grass on dairy and arable farms.

At the National Centre specialists co-ordinate the advisory development within organic farming systems. This is done by an internal group of 14 specialists representing the various professional fields. The farmers association, Danish Agriculture owns the National Centre.

■ For more information on the advisory system

- [The Danish Agricultural Advisory Service, National Centre](#)

Research

Danish research in organic farming has increased considerably since 1995, but there is still a need for targeted research activities to help promote and develop organic farming.

[top of page](#)

Many of the concerns of farming today such as consideration of the environment and nature, animal welfare, product quality and health are all fundamental aspects of organic farming. The promotion of organic farming has been part of Danish government policy for several years. A major initiative in this respect has been the establishment of the Danish Research Centre for Organic Farming in 1996. The remit of DARCOF is to initiate and co-ordinate Danish research in organic farming. The centre synthesises and communicates scientific information across traditional boundaries and disciplines.

DARCOF is a "centre without walls" where scientists remain in their own environments but work across institutions. Activities in DARCOF are co-ordinated by the secretariat at Research Centre Foulum, Denmark. The collaboration in DARCOF currently implicates about 150 research scientists working at 20 different institutes in 44 different research projects. The annual budget for the centre in 2003 is 9.500.000 EURO.

Research concerning all aspects of organic farming and food processing has been initiated by and carried out by various Danish

research institutions, e.g. The Danish Institute of Agricultural Sciences, National Environment Research Institute, Denmark, The Royal Veterinary and Agricultural University, Technical University of Denmark, Danish Institute of Agricultural and Fisheries Economics and Danish Agricultural Advisory Service, National Centre.

Under the auspices of DARCOF an open access archive, Organic Eprints, for electronic documents related to organic agriculture was established in 2002. Researchers and organisations are invited to join the [archive](#).



■ For more information on research

- [DARCOF research](#)
- [DARCOF electronic and free of charge newsletter in English](#)
- [Database Organic Eprints](#)

Training

Denmark has the oldest organic agricultural college in Europe, The Organic Agricultural College. Twenty to thirty agricultural students graduate each year. The Organic Agricultural College offers a new international education aimed at young Europeans interested in organic farming. It is a two-year course with no tuition fee.



The Danish education as skilled farmer takes about 4 years. The students join a college 3 times at a total of 13 months and have apprenticeship training on a farm for a total of 30 months. The students need to get the apprenticeship training at 3 different farms, and they can have apprenticeship training up to 6 months abroad.

Other agricultural colleges in Denmark offer organic courses and training. Besides agricultural colleges, agricultural advisers and farmers' associations offer many in-service courses for organic farmers. These are typically one to three days long and are in various fields of organic farming. The supply of these in-service courses is higher than the actual demand.

■ For more information on training

- [The Agricultural College](#)

Organisations

The successful development in recent years in production and sales of organic products is to a large degree based on a consistent and

fruitful co-operation between the many specialised organisations and agencies within Danish organic production and manufacturing.

Governmental organisations

■ The Organic Foods Council

Appointed in 1987. The aim of the Council is to encourage, monitor and assess the opportunities to develop Danish organic food production, to assess the current advisory and research work, to formulate proposals for additional activities and to comment on standards for the control of production, marketing, storage, transport, labelling, distribution and retailing of organic goods.

■ The Danish Directorate for Food, Fisheries and Agro Business

Under the Danish Ministry of Food, Agriculture and Fisheries. Administers EU market schemes on farm products, fruit and horticultural products in addition to fish produce. The directorate is the sole Danish payment agency, which takes care of all payments financed by the European Agricultural Guidance and Guarantee Fund (EAGGF). Deals within organic agriculture with national strategy issues, product development issues, and equivalence agreements and pending negotiations with foreign certification bodies, Action Plans on organic farming and EU-related issues.

■ Danish Plant Directorate

Under the Danish Ministry of Food, Agriculture and Fisheries. The assignments of the Danish Plant Directorate cover legislation on seeds, feeding stuffs, Plants, potatoes, fruit and vegetables, use of fertilisers and the establishment of vegetation cover, EU agricultural schemes and organic farming. The Danish Plant Directorate lays down regulations, performs administrative functions, carries out inspections, e.g. on organic farms, prepares legislation, provides service to the authorities and prepares policies. It has several offices across Denmark. The inspections on organic farms take place when crops are still in the fields so that the inspectors can verify that everything is up to standard.

■ The Danish Veterinary and Food Administration

Is part of the Ministry of Food, Agriculture and Fisheries. The Food Administration accredits and checks the processing and trading of organic food products. Eleven regional veterinary and food control centres handle food control and veterinary inspection.

Non-Governmental Organisations

■ Danish Agricultural Council

Is a joint committee for various professional farmers' associations and the food industry. Prime objective is to further the co-operation within the business in relation to the Government, the Danish Parliament, the central administration, the authorities, and other domestic and international trade organisations

■ Danish Agriculture

In 2003 the two previous central organisations, the Danish Farmers' Unions and the Danish Family Farmers' Association merged into one organisation, Danish Agriculture. The aim is - in co-operation with the

local farmers associations - to take care of Danish farmers business, political, social and cultural interests. Deals with organic farmers issues in a special committee for organic farmers.

■ The Danish Association of Organic Agriculture

Established in 1981. A merger between various organisations in 2002 led to formation of one association for organic farmers, consumers and companies. It publishes a magazine in Danish named Organic Farming. The association disseminates information about organic farming and its products and contributes in co-ordinated marketing efforts for organic products.

■ The Biodynamic Association and Demeter Association

Established in 1936, representing the Biodynamic farmers. Publishes a magazine in Danish named Biodynamisk Jordbrug.

■ The Danish Consumer Council

It represents the interests of consumers and is independent of public authorities and commercial interests. Founded in 1947, the Consumer Council is the spokesperson for consumers' interests, lobbying vis-à-vis the Government, the Danish Parliament, public authorities and the business community.

■ Network for Ecological Education and Practice

Founded in 1994, with the objective to establish a foundation for information, exchange of experience and dialogue about initiatives in promoting a sustainable development in Denmark. This is done by informing about meetings, courses etc., and by establishing connections between projects and people. The Network publishes the newsletter Eco-net Newsletter in Denmark.

■ The Danish Society of Practical Ecology

Association of organic gardening.

Research and Advisory Service

■ Danish Agricultural Advisory Service, National Centre

The centre provides the local advisers with the latest information, which forms the basis of the farmer advising. The specialist staff renders advice in nine subject areas. The Department for Organic Farming at the National Centre co-ordinates the advisory development within this field. The author of this article belongs to this department.

■ The Organic Agricultural School

Self-governing institution established in 1992. It offers agricultural education module, professional/technical education, manager course, and extended manager course. It also offers additional training courses and management consultant- and counselling functions related to organic farming projects.

■ The Royal Veterinary and Agricultural University

- The Department of Agricultural Sciences

Founded in 1856. Research is carried out within the fields of natural science, veterinary medicine, animal science, environmental science, agriculture, horticulture, landscape architecture and landscape ecology, forestry, food sciences

and human nutrition. The Department of Agricultural Sciences at The Agricultural University works mainly with research and teaching in areas related to plant breeding, crop science, plant nutrition, and the qualitative and quantitative aspects of agricultural and horticultural crop production in temperate and warmer climate zones. The Organic Farming Unit is responsible for the development of teaching activities and for the promotion of research activities within organic agriculture at the Department of Agricultural Sciences.

■ Technical University of Denmark

- The Institute of Environment and Resources
E&R aims to develop technical and sustainable solutions to minimise the impact of society on the hydrologic and geologic environment. The institute is committed to research and teaching at an international level.

■ The Danish Research Centre for Organic Farming

DARCOF was established in 1995 as a so-called "centre without walls" where the actual research is performed in interdisciplinary collaboration between the participating research groups. The remit of DARCOF is to co-ordinate research for organic farming, with a view to achieving optimum benefit from the allocated resources. Its aim is to elucidate the ideas and problems faced in organic farming through the promotion of high quality research of international standard.

■ Danish Institute of Agricultural Sciences

DIAS was established in 1997 and is a sector research institution under the Ministry of Food, Agriculture and Fisheries. Aims to conduct research and accumulate knowledge of importance to agriculture. Emphasis is on responsible resource utilisation, environmental impacts both internal and external, animal welfare, and the quality and competitiveness of the products.

■ Danish Institute of Agricultural and Fisheries Economics

Conducts e.g. research in economics of organic farming

Prospects

Consumers, politicians, companies and farmers are all looking for ways to secure a sustainable development in Denmark. Organic farming is playing a vital role in this context. The challenge is to

- Maintain the integrity and the quality of the organic products
- Develop organic farming further
- Get the political establishment to maintain focus on organic farming as an effective environmental tool and not just a market opportunity
- Get conventional processors involved in the processing and promotion of organic products both home and abroad

Denmark has an excellent starting point due to high degree of innovation in farming, political and consumer attentiveness and market-oriented retail chains.

Author



Information Officer Tomas Fibiger Norfelt, Danish Agricultural Advisory Service, National Centre, Udkaersvej 15, DK 8200 Aarhus N, phone +45-87405000, fax +45-87405010, e-mail tfn@landscentret.dk, Internet site: www.landscentret.dk

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Comments to [Helga Willer](#)



The site is maintained by
Research Institute of Organic Agriculture (FiBL)
Ackerstrasse, CH-5070 Frick
Tel: +41-62-865 72 72 Fax: +41-62-865 72 73
Internet <http://www.fibl.ch>