Facts about Denmark

Capital: Copenhagen
Danish population: 5.7 million (2014)
Area: 43,000 m²
GDP: 458 billion DKK / 61 billion EUR
GDP per capita: 310,000 DKK / 41,550 EUR
# Table of content

## Preface

### 1. The Danish Veterinary and Food Administration

1.1 Mission of the Danish Veterinary and Food Administration (DVFA)  
1.2 Vision of the Danish Veterinary and Food Administration  
1.3 Organization  
1.4 International Cooperation

## 2. Food and Feed Safety

2.1 Food Safety  
2.2 Zoonoses and Microbiological Contaminants  
2.3 Chemical Contaminants  
2.4 Food Control  
2.5 Traceability and Alert  
2.6 The ‘Smiley’ Scheme  
2.7 Feed Control

## 3. Animal Health and Welfare

3.1 Animal Diseases  
3.2 Animal Diseases Surveillance  
3.3 Veterinary Advisory Service Contracts (VASC)  
3.4 Reducing Antibiotics  
3.5 Animal Welfare Legislation and Initiatives  
3.6 Control in Livestock Production and Veterinary Practitioners
4. Meat Inspection
  4.1. Meat Inspection System
  4.2 Export Markets
  4.3 Training and Development

5. Nutrition and Labelling
  5.1 Dietary Recommendations
  5.2 Food and Nutrition Labelling
  5.3 The Culinary Culture
  5.4 Nordic Cooperation

6. Organic Foods
  6.1 Development in Danish Organic Retail Sales
  6.2 The Danish Organic Label
  6.3 Organic Sales in the Food Service Sector
  6.4 The Organic Cuisine label
  6.5 Trade with Organic Products

7. International Trade
  7.1 Export
  7.2 Import
  7.3 Starting a Food Business in Denmark

8. Research, Risk assessment and Innovation
  8.1 Universities
  8.2 Other Centres

9. Databases and Statistics
  9.1 Databases
  9.2 Farms and Employment 2013
  9.3 Agricultural and Food import and Export 2013
  9.4 Agricultural and Food Production 2013
About the Danish Veterinary and Food Administration (DVFA).

Denmark has a long tradition for food production and export. The first dairies and slaughterhouses opened in the 1880s, and soon after public inspections were made compulsory in order to take care of food safety for the growing export. For instance public meat inspection was gradually introduced from 1886.

Today, dairy products and meat are still predominant, but other products like fish products, beverages and fur have been added. Presently, more than 180 countries covering all continents and major countries import Danish food and agricultural products.

In 2014 exports from the sector amounted to 148 billion DKK (19.8 billion EUR). This corresponds to about a quarter of Denmark’s total exports of goods, thus making the food and agricultural sector one of the largest export successes in the history of Denmark.

What is the secret, one might ask. How is it possible to gain and maintain high confidence to Danish food products not only in Denmark but also worldwide on the export markets?

Part of the explanation is the basic principles of public intervention, i.e. the role of the Danish Veterinary and Food Authority (DVFA). The most important principles are:
• The principle of traceability and transparency obliging each food enterprise to maintain documentation one step back and one step forward in the chain, e.g. where did they buy from and to whom did they sell. The traceability principle also goes for livestock holdings and slaughterhouses.

• The principle of own-check programs obliging all food enterprises to carry out inspections of critical points and provide clear documentation of the controls.

• The principle of cooperation between business organizations, NGO’s and food authorities when dealing with food safety, healthy food choices etc.

• The principle of risk evaluation and risk handling, where scientific risk evaluation of e.g. contaminants belongs to universities and the risk handling is the responsibility of DVFA.

• An official control and monitoring system, risk-based, competent, and with a comparatively high level of control.

The DVFA’s main goal is to promote safety, health and quality in food production and economic growth in the food and agricultural sector.

The DVFA addresses the task by adapting to the changing conditions of the market, paying attention to consumers’ needs and demands, and by being innovative in organizing the work. This way, the DVFA strives to provide a continued intelligent contribution to the high level of food safety and veterinary standards in Danish food production.

I hope you’ll find this publication on the activities of the Danish Veterinary and Food Administration (DVFA) informative and useful.

Esben Egede Rasmussen
Executive Director
1. The Danish Veterinary and Food Administration

The Danish Veterinary and Food Administration (DVFA) is part of the Ministry of Environment and Food, and has approximately 1.675 employees and an annual budget of 1.1 billion DKK (150 million EUR).

1.1 Mission of the Danish Veterinary and Food Administration (DVFA)

The mission of the Danish Veterinary and Food Administration (DVFA) is to promote safety, health and quality from farm to table. The DVFA covers the entire process from farm to fork. To do so, the entire production of foodstuffs must be followed beginning with production of animal feed, animal births, fish landings, through the food processing enterprises to the consumer’s table.

The DVFA can promote safety, health and quality, but cannot guarantee them. This is the sole responsibility of each individual enterprise. The foundation for success is a high level of compliance.

Safety means animal welfare and safeguards against the spreading of livestock diseases and infections – and against human diseases resulting from food borne illness.
To livestock, **health** means general well-being and the absence of livestock diseases and infections. To humans it means food and dietary habits that result in wholesome, proper nutrition, and the absence of lifestyle diseases caused by poor dietary habits.

Food **quality** relates to safe food but also the taste and the nutritional value is included in the quality definition.

### 1.2 Vision of the Danish Veterinary and Food Administration

Our work shall have a visible effect:

- Still fewer people shall suffer from food related illnesses, food and dietary habits shall improve, misleading practices and claims shall decrease as shall the number of diseased livestock
- We shall have the best veterinary contingency capabilities in the EU – both in the event of microbiological and chemical contamination and to prevent and eradicate livestock diseases and infections.
- We shall provide a good, conducive and supportive framework for producing, selling and buying foods.

### 1.3 Organization

Organization chart of the Danish Veterinary and Food Administration:
- **The Danish Veterinary and Food Administration (DVFA)** consist of five departments. Three covers the areas of animals, food and meat inspection. Two covers supporting organizational issues such as finance and accounting, communication and innovation.
- **The Board of Directors** consists of the executive director and each director/officer in charge of the 5 departments.
- **The Veterinary Department** handles inspections of farmed animals and develops, maintains and coordinates emergency measures against infectious livestock diseases. The department furthermore fights outbreaks and handles legislation and policy formulation in relation to animal health, animal welfare and veterinary medicine.
- **The Food Safety Department** handles food inspections of raw materials as well as finished products. Inspections at food establishments include checks of internal control schemes, hygiene and labeling. Furthermore, the department handles legislation and policy formulation in relation to food and feed safety, chemistry and food quality, diet and nutrition.
- **The Meat Inspection Department** monitors food law compliance during the animal slaughtering process, meat cutting and meat processing in slaughterhouses exporting beef, pork and poultry from Denmark.
- **The Department of Communication and Innovation** handles business development, coordination of inspections and communication and quality concerning the areas of: International Coordination, International Trade, Legal Services, Control Coordination and Customer Service.
- **The Administration and Laboratories Department** handles finance and accounting, HR, IT, the laboratories and the facility management division.
1.4 International Cooperation
The aim of the DVFA is to ensure protection of consumer safety and animal health and welfare. To deal with such objectives, the DVFA participates actively in the work of international organizations including:

- The European Union (EU)
- Codex Alimentarius
- World Organization for Animal Health (OIE)
- Food and Agriculture Organization of the United Nations (FAO)
- World Health Organization (WHO)
- The Nordic Council of Ministers.

UN Organizations
The strategy of the DVFA emphasizes a strong international outlook in order to gain knowledge and inspiration for better management of food from farm to fork. In this respect, The Food and Agriculture Organization (FAO) and the World Health Organization (WHO) are both important when it comes to the human and animal health and welfare.

Nordic Region
In the Nordic Region, Denmark is part of the Nordic-Baltic cooperation for control bodies and authorities from Scandinavia and the Baltic States. Every year a meeting is held in one of the participating countries with exchange of views on control measures and on development of new legislation.

Bilateral relations
As an exporting nation, the DVFA set standards high and wishes to meet all the requirements necessary. The DVFA demonstrates strong commitment and aims to be an outstanding trusted partner in bilateral relations.
2. Food and Feed Safety

Food safety and consumers’ health are top priorities in Denmark and form a vital part of the modern welfare society. Also animal feed plays a vital role in terms of influencing the composition and quality of livestock products for human consumption.

2.1 Food Safety
On the public agenda concerns of microbiological contamination, food additives, antibiotics in animal feed, pesticides, GMO, and functional food frequently appear. There is no doubt about the immense responsibility of farmers and processors to produce safe food of high quality. The consumers demand
safe food, and expect an effective and targeted governmental policy with respect to food safety.

The Danish food safety system contains a coherent control structure based on traceability and documentation, which covers the whole food chain from farm to fork or the “stable-to-table” approach.

Improving food and feed safety is a broad and comprehensive project. It implies close co-operation between research, the legislative process and the administrative framework of control and surveillance. And due to the international dimension of food safety, co-operation goes beyond national borders.

2.2 Zoonoses and Microbiological Contaminants
Zoonoses are diseases that can be transmitted from animals to humans, and are a threat to food safety. The DVFA collaborates with industry and research institutions in developing strategies and action plans to combat pathogens such as campylobacter and salmonella in foodstuffs and livestock.

Campylobacter is the bacterium causing the highest number of food-borne diseases in Denmark. The Danish action plan on campylobacter in food and environment focuses on reducing campylobacter prevalence in broilers and chicken meat. Another important issue is to gain knowledge on other infection routes than chicken meat.

Salmonella causes the second highest number of foodborne diseases in Denmark. Many of the human foodborne infections are acquired abroad. Statens Serum Institut\(^1\) has estimated

\(^1\) Statens Serum Institut (SSI) is a public enterprise under the Danish Ministry of Health responsible for research-based health surveillance, rational use of IT in the Danish healthcare system and prevention and control of infectious diseases, biological threats and congenital disorders.
that around half of the salmonellosis and one third of the capylobacteriosis cases are travel related. Since the early 1990s, action plans have been in place to control salmonella, and plans have been established in the poultry, pig and cattle production. Salmonella has been reduced effectively in the broiler and table egg production. Denmark has achieved special guarantees regarding salmonella in table eggs in the EU regulation, and also Danish produced chicken meat is free from salmonella.

In the pig and pork production, the main control strategy is to ensure a low prevalence of salmonella in fresh meat, and targets are set at carcass level.

In cattle production the action plan is targeting Salmonella Dublin, and the aim is to eradicate Salmonella Dublin. These action plans have been successful in reducing the number of human cases as shown in figure 1. (Section 2.3)

Other important zoonoses are Listeria, STEC and Yersinia. For further information on control and surveillance data see Annual Report on Zoonoses in Denmark\(^2\).

\(^2\) [http://www.food.dtu.dk/english/Publications/Food-safety/Zoonosis---annual-reports](http://www.food.dtu.dk/english/Publications/Food-safety/Zoonosis---annual-reports)
2.3 Chemical Contaminants

The DVFA continuously examine food and feed for harmful substances. Chemical contaminants in food and feed can be divided into five groups:

- Environmental contaminants
- Production Aids left in the product in too high doses
- Toxic substances created during preparation of the products
- Natural toxic substances in the raw material
- Migration from contact materials

In order to protect the health of consumers and animals, limits have been adopted in the regulation for many of these substances.

In general, the limits are set by the EU on the basis of a safety assessment from the European Food Safety Authority (EFSA). There are limits for e.g. pesticide residues and environmental contaminants, such as heavy metals and dioxin. Other ways of limiting exposure is by setting up dietary guidelines or requiring companies to include a risk assessment.

**FIGURE 1.** Number of cases of foodborne diseases - the table shows the number of human cases for five of the main foodborne diseases companies to include a risk assessment.
An annual sampling scheme confirms that Danish fruit and vegetables are far below the applicable EU limits for pesticide residues, and also low compared with products from the EU and outside the EU. This is largely due to a responsible effort from the Danish horticulture and agriculture sector, which have seen the benefits of being able to market their production as quality with a high level of health and safety. The official control of organic fruit and vegetables from Denmark shows no residues at all.

As seen in figure 2, the proportion of samples with no concentrations of pesticides in Danish conventionally produced fruit is 55 %, while the corresponding proportion of samples with concentrations in fruits produced in the EU and outside the EU is 27 and 31%.

**FIGURE 2.** Pesticide content in samples of fruit from Denmark, EU and outside the EU, 2014 (pct.)

Figure 2 and 3 shows the proportion of the samples where no pesticide residue were detected (none found), pesticide residue in the range below 10% of maximum residue levels ($\leq$ 10% of MRL), between 10 % and 50% of the maximum residue levels (10-50 % of MRL), between 50 % and 100% of the maximum residue levels (50-100 % of MRL) and where pesticide residues were detected in concentrations above the maximum residue levels (> MRL), respectively. Source: National Food Institute, Technical University of Denmark 2014
As seen below in figure 3, 75% of samples of conventionally produced Danish vegetables are pesticide free, while the corresponding proportion of samples from the EU is 48 and 54% from outside the EU.

Migration of substances from food contact materials is an emerging area, where research has shown that there are more and more possible contaminants; many of which are suspected to be hormone disturbing. Therefore, the DVFA has great focus on producers and importers of food contact materials; they must ensure and document that their food contact materials comply with the legislative requirements.

The control of chemical contaminants in food and feeds is risk-based and contains both sampling and inspection. Every year more than 100 sampling projects are run in order to monitor the different identified risks. A supplementary number of campaigns are run, where the inspectors focus on specific potential hazards in the food businesses.

**FIGURE 3.** Pesticide content in samples of vegetables grown in Denmark, EU and outside the EU, 2014 (pct.)

Source: National Food Institute, Technical University of Denmark 2014
2.4 Food Control

The control system

Confidence in the control system is very important. Both in Denmark and abroad, consumers, establishments, primary producers and inspection authorities must be able to rely on the Danish control system.

The Danish Veterinary and Food Administration (DVFA) has established a risk based and need oriented food control system in order help maintaining high food safety and fair competition. All food establishments are subject to food control. As examples of establishments can be mentioned wholesalers like slaughterhouses, breweries, traders and retailers like supermarkets, restaurants and large-scale kitchens. There are three different types of food control:

- **Basic control** is a risk based inspection according to fixed frequencies. All sectors of food businesses (e.g. slaughterhouses, butchers and bakers) are placed in one of five risk groups based on seven risk factors covering both microbiological and chemical factors and a general factor depending on the activity of the sector.

- **Prioritized controls** are inspections in certain sectors of food establishments when there is a specific need – e.g. due to specific or technical reasons. Typically conducted at retailers.
• **Inspection campaigns** on subjects needing a specific focus. Each campaign is going on for a limited period of time. A campaign could focus on e.g. misleading labelling, handling of salmonella at pig slaughterhouses or handling of food in food production.

The need oriented approach is used regarding the differences between establishments and their ability and will to respect the food legislation will cause:

• Either less inspection - fixed as elite frequencies for ordinary control of businesses which have achieved elite status.
• Or more control as extra (follow-up) inspections of businesses, which have been sanctioned.

Samples for analysis can be taken in order to supplement the inspections or for surveillance purposes. The DVFA has two laboratories analysing the samples as planned for e.g. microbiology, pesticides, additives and composition of the food.

**TABLE 1: DVFA inspections in 2014**

<table>
<thead>
<tr>
<th>Branch</th>
<th>Establishments</th>
<th>Number of inspections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retailers</td>
<td>49.500</td>
<td>52.300</td>
</tr>
<tr>
<td>Wholesalers with food processing</td>
<td>1.950</td>
<td>17.300</td>
</tr>
<tr>
<td>Wholesalers without food processing</td>
<td>4.900</td>
<td>4.650</td>
</tr>
<tr>
<td>Primary manufacturers</td>
<td>2.150</td>
<td>500</td>
</tr>
<tr>
<td>Others</td>
<td>2.100</td>
<td>550</td>
</tr>
<tr>
<td>Total</td>
<td>60.600</td>
<td>75.300</td>
</tr>
</tbody>
</table>

Note: Others include border inspection posts, markets and festivals, some institutions and associations etc.
**Principles**
It is the responsibility of every food establishment to comply with the food legislation in order to produce and sell safe food. The DVFA controls that the food establishments comply with the legal requirements. The food establishments have to perform own checks concerning food safety etc.

In the spring of 2015 a broad political agreement was made, which further strengthens the Danish control contributing to a high level of food safety. This means an increased focus on a risk based control system, guidance during the inspection and intensified focus on chemical and microbiological contamination of food.

**Food inspection task force**
For almost 10 years the food inspection task force has revealed illegal food establishments or other types of food fraud. The task force is a special unit which focusses on fraud and systematically violation of the food legislation. The unit makes in-depth inspection of food, food supplements and internet sale of food. The task force often works in cooperation with the Danish Tax Authority, the police or other relevant authorities.

**2.5 Traceability and Alert**
Traceability means that a company must be able to identify from whom it receives products, and to whom it delivers goods to. The rules on traceability are common for all EU member states. If the company does not comply with the requirements for food safety it must withdraw their goods from the market. The DVFA monitors that withdrawals actually take place and in the right way by using random checks. In larger events of foodborne illnesses the DVFA cooperates with other authorities tracing the route of infection.
A special Danish Alert Unit for Food secures unambiguous and co-ordinated instructions concerning the handling of food crises. The unit is also Danish Contact Point of the Rapid Alert System for Food and Feed. The responsibility of the unit includes among other things:

- Coordinating the work with food borne outbreaks.
- Withdrawing and recalling products out of compliance with food safety requirements.
- Contingency plans for food and for civil preparedness in the DVFA.
- Early warning of the public in emergency situations and emergency hot line for acute inquiries.

2.6 The ‘Smiley’ Scheme
The smiley scheme was introduced in 2001. The purpose of the smiley scheme is to inform consumers of how establishments comply with the rules and regulations, so consumers can make an informed and transparent choice on where to buy food and meals. At the same time it gives establishments an incentive to secure a high food safety - a basis of comparison and to compete.

After the inspection has taken place the inspection reports are published by DVFA at findsmiley.dk – easily understood by the smiley-faces at retail reports. The four different smileys signal how the establishment complies with food regulations.

The different smileys:

- No sanctions
- Warning/enjoining order
- Injunction or prohibition order
- Administrative fine, reporting to the police or approval withdrawn
TABLE 2: The distribution of smileys in Denmark, 2014 (pct.)

<table>
<thead>
<tr>
<th>Branch</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>No. of inspections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retailers</td>
<td>84</td>
<td>14</td>
<td>0</td>
<td>2</td>
<td>52.308</td>
</tr>
<tr>
<td>Wholesalers with food processing</td>
<td>95</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>17.308</td>
</tr>
<tr>
<td>Wholesalers without food processing</td>
<td>85</td>
<td>12</td>
<td>1</td>
<td>2</td>
<td>4.654</td>
</tr>
<tr>
<td>Primary manufacturers</td>
<td>97</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>506</td>
</tr>
<tr>
<td>Others</td>
<td>70</td>
<td>19</td>
<td>1</td>
<td>10</td>
<td>532</td>
</tr>
<tr>
<td>Average percentage and total numbers</td>
<td>86</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>75.308</td>
</tr>
</tbody>
</table>

Note: 1 = No sanctions, 2 = Warning/enjoining order, 3 = Injunction or prohibition order, 4 = administrative fine, reporting to the police or approval withdrawn. Figures rounded to whole numbers.

In 2008 the ‘elite-smiley’ was introduced. The elite-status is achieved when an establishment for four consecutive times has had no sanction imposed, and all inspection reports for the last 12 months are sanction-free. Retailers must also ensure the reports are publicly displayed, easy for consumers to read before they enter the shop, and must also be placed easy to find on the establishments’ web-sites.

The elite-smiley sends a strong signal to consumers, and contributes to competition among the establishments. The recognizable symbol is the key behind the success. In 2013 a survey was conducted among the consumers. Virtually all consumers know the scheme, and a majority looks at the inspection report before entering a shop or restaurant.
2.7 Feed Control
Legislation on animal feed is harmonized within the EU. It applies principally to feed for farmed livestock, but also covers feed for horses and pets.

All registered or approved feed businesses operators, who produce, trade, store or transport feed, are inspected in order to reveal their compliance with the feed regulation. As a feed business operator you are responsible for meeting the statutory requirements in any processes and products, just as you are responsible for having an updated and efficient quality management system.

The control of the feed business operators is risk based; companies that experiencing the highest control frequencies are the ones with high risk products. As is the case of food control where there are three different types of inspections (basic, prioritized and campaign).

As with the food area, sample projects are also run within the feed area. The samples are taken during the inspection of the companies on the basis of a risk evaluation. Each sample is analyzed for a number of different substances, from pesticides to mycotoxins and nutritional value.
3. Animal Health and Welfare

The DVFA is responsible for setting the framework for a high standard of animal health and welfare in Denmark. Eradication of animal diseases, reducing the use of antibiotics and new initiatives to improve animal welfare are the most important elements supported by risk based veterinarian inspections on farms.

3.1 Animal Diseases

Denmark has a long tradition of eradicating animal diseases. By the mid-1900s, tuberculosis and brucellosis had been eradicated from domestic livestock in Denmark as the result of close collaboration between the veterinary research laboratory, the veterinary administration authority and the industry since the end of the 1800s.

Several animal diseases besides tuberculosis and brucellosis have been eradicated in Denmark, e.g. enzootic bovine lekosis, Aujeszky’s disease, infectious bovine rhinotracheitis, bluetongue and viral haemorrhagic septicaemia.

Today, Denmark is a world leader in the eradication of animal diseases and diseases transferable from animals to humans (zoonoses). Initiatives to prevent and control infectious diseases have successfully been carried out together with the agricultural sector in Denmark.
A unique animal registration system - Central Husbandry Register - containing information on all holdings, herds and individual cloven-footed animals makes it possible to trace diseases to a single animal or farm.

3.2 Animal Diseases Surveillance
The DVFA is responsible for controlling the notifiable animal diseases in Denmark. Diseases in animals are controlled due to concerns about animal welfare, to prevent infections of humans and animals and because of food safety and trade interests.

Surveillance is performed to substantiate the absence of listed diseases, and to detect any outbreaks of listed diseases as quickly as possible. Most of the listed diseases have not occurred over the last decade, or have never been detected in Denmark, e.g. foot-and-mouth disease which has not occurred since 1983, classical swine fever not since 1933, and African swine fever which never has been detected.

Diseases producing clinical symptoms are monitored passively by the DVFA as a consequence of the reporting duty on farmers and veterinary practitioners (e.g. foot-and-mouth disease), while other diseases require active surveillance programs (e.g. BSE, classical swine fever and avian influenza).
3.3 Veterinary Advisory Service Contracts (VASC)
For large cattle, pigs and mink holdings there is a mandatory animal health advisory service in the form of Veterinary Advisory Service Contracts (VASC). Their aim is to increase owner focus on the responsibility for animal health, welfare and disease prevention rather than treatment. Small cattle and pig holdings can be registered for the advisory service on a voluntary basis. VASC’s involve frequent vet visits to the farm and extended treatment possibilities for the farmer.

In Denmark, veterinarians are required by law to report data on all medicines used in practice for treatment of production animals. The data is registered in VetStat (see section 9.1). Data on medicine usage is collected from pharmacies, large animal practices and feed mills. The reported data includes date of sale, drug identity and quantity, identification of the prescribing veterinarians and the farm, where the medicine is being used, codes for animal species, age and disease. Data on companion animals and horses is reported with fewer details.
3.4 Reducing Antibiotics
The use of antibiotics in the husbandry sector is subject to close surveillance, and further restrictions are under implementation in order to reduce the risk of antibiotic resistance for human beings.

However, during the period 2001 to 2009 the use of antibiotics on Danish farms increased substantially. As a consequence a political agreement was reached to establish a surveillance system in 2010, which operates on threshold values of antibiotics used on each farm. If the limits are exceeded a Yellow Card is raised enforcing the farmer to put in force measures which reduces the use of antibiotics.

The Yellow Card initiative has, over recent years, considerably reduced the use of antibiotics in the pig production. However, to maintain the low level of antibiotic use, the threshold levels for antibiotic are adjusted regularly. The adjustment forms part of a political agreement on veterinary issues covering 2013-2016.

FIGURE 4. Antibiotic consumption in European countries

In April 2015, a political agreement on a MRSA Action Plan was made, which included a plan for reducing the consumption of antibiotics in pig production by 15% from 2015 to 2018. The Action Plan also included a decision to develop a differentiated Yellow Card initiative to target specific antibiotics that have proven to be important in antimicrobial resistance in humans.

Recent Danish initiatives to reduce the consumption and encourage prudent use of antibiotics:

- From 2013 Denmark implemented differentiated taxes on antibiotics in order to influence the consumption towards an even more prudent use.
- From 2014 further reduction of threshold values for antibiotic consumption in swine.
- In 2014 regulation for flock medication was introduced in order to encourage prudent use of antibiotics when antibiotics in flock medication.
- In 2014 the required number of consultations in pig farms with mandatory Veterinary Advisory Service Contracts was made dependent on antibiotic consumption
- In 2015 decision to further reduce the threshold values for antibiotic consumption in swine.

Finally, The DVFA is working together with Denmark’s Technical University (DTU) to establish a model for predicting the national level of antimicrobial resistance in pigs based on the use of antimicrobials in the pig production. The model is meant to be a decision tool when deciding reductions or restrictions in the use of antibiotics. The idea is that it becomes possible to foresee the development of antibiotic resistance in food when changing the pattern of use of antibiotics in pigs.
3.5 Animal Welfare Legislation and Initiatives
In general, basic animal welfare is regulated through EU. However, in Denmark there are a number of animal welfare Acts and Provisions that go beyond EU regulation - for example with respect to loose housing of pregnant sows already from the time of weaning, the keeping of horses, and the keeping of dairy cattle.

In March 2014, the then Danish Minister for Food, Agriculture and Fisheries and representatives from the Danish farming industry, slaughter-houses, animal welfare organizations, consumer organizations, veterinarians and retailers signed a ‘Pig Summit’ declaration to focus on better welfare for pigs.

It was agreed to work for significant animal welfare improvements for pigs - at the same time considering the high reputation of Danish Agriculture and Food Industry as well as future growth possibilities in the food sector.

Developing national animal welfare indices for pigs and cattle In Denmark, there is a desire to better assess and monitor changes over time in animal welfare, especially for pigs and cattle. Therefore, a political decision has recently called for a project with the aim of developing animal welfare indices for
pigs and cattle at a national level. National indices will form the basis for better decision-making among veterinary authorities, politicians and the agricultural industry with regard to animal welfare.

Furthermore, national indices will make it possible to assess the results of different activities that may affect animal welfare – e.g. new legislation or campaigns. The development of indices is carried out in a collaborative project involving The Danish Veterinary and Food Administration, University of Copenhagen and Aarhus University. These indices are expected to be finalized by the end of 2016.

3.6 Control in Livestock Production and Veterinary Practitioners

The DVFA carries out livestock inspections on cattle, pigs, sheep, goats, horses, fur animals, allying hens, broilers and other slaughter poultry and aqua farms.

The DVFA is the body licensing veterinarians. Furthermore, the DVFA performs veterinary inspections on veterinary practitioners and control of by-product producers, animal assembly centers etc. Also trade with live animals within Europe and export/import with third countries undergo an inspection by the DVFA to check if the animals are healthy and fit for the journey.

In relation to the Central Husbandry Register (CHR) regular controls are conducted to see that animals are correctly earmarked and herd/flock lists are up to date and mandatory reports have been submitted to the CHR.

When it comes to animal welfare control, the responsibility lies with the DVFA, and – as regards transport – also with the police.
Controls in relation to the welfare of animals during transport are carried out by both the police, which is responsible for roadside checks, and the Veterinary Offices, who are responsible for control at slaughterhouses and assembly centers.

Since 2013 the DVFA has implemented a new control system (basic, prioritized and campaigns) as is also the case for food and feed.

Control of animal welfare at the time of slaughter is the responsibility of the Meat Inspection Unit from the DVFA.

The DVFA and the Danish Centre for Animal Welfare (DCAW) issues a report every year, describing the results of the welfare control on-farm, at slaughterhouses and during transport. The reports (in Danish) can be found on the home page of the DVFA.

The Veterinary Task Force
A Veterinary Task Force has been established within the framework of the Danish Veterinary and Food Administration. This Task Force has various tasks regarding animal welfare and use of veterinary medicine. Examples are thematic, in-depth animal welfare inspections of livestock - for instance on correct on-farm killing of animals.
4. Meat Inspection

The DVFA is responsible for meat inspections at Danish slaughterhouses in order to ensure that the meat is suitable for human consumption and meets the requirements from importing countries. The inspection includes an ante-mortem as well as a post-mortem inspection.

For more than 100 years Denmark has aimed to ensure food safety in slaughterhouses by means of public meat inspection. Since 1886 Danish food and veterinary authorities have consequently developed the practice of meat inspection to meet current food and veterinary threats within slaughterhouses.

As a result, consumers worldwide can place unique confidence in the safety and reliability of Danish meat products, a confidence that constitutes the foundation for a billion euro export of raw and processed meat products from Denmark each year.

4.1. Meat Inspection System

Being a member of the EU, Denmark bases its meat inspection control system on EU regulations, supplemented in some cases by additional national requirements that exceed those of the EU. All larger slaughterhouses in addition establish and maintain individual Hazard Analysis Critical Control Point systems (HACCP). The Danish Meat Inspection Department verifies the validity of and the company’s adherence to the system.

Veterinarians and auxiliaries from the Meat Inspection Department control all aspects of risk minimizing and food hazard
prevention in the slaughterhouse, such as food borne diseases, hygiene, sampling, labelling and traceability. Also issues concerning animal health and animal welfare such as infectious diseases or stunning are controlled by the local Meat Inspection Department.

4.2 Export Markets
As well as providing meat products for home and EU markets Danish slaughter plants are approved for export to a demanding, global market. A number of Danish pig slaughterhouses are approved for export to the U.S., China and several Asian and South American countries. As for poultry and beef, several Danish slaughterhouses are approved for export to Arab and Asian countries.

4.3 Training and Development
Meat inspectors are government employed to assure their independence from the companies they control. Through training and regular supervision their skills and knowledge are maintained at a high level.

In later years, the Danish Meat Inspection Department has moved to a more risk based control system. This development will continue with the purpose of maintaining an extraordinarily high level of consumer protection, food safety and animal welfare in Danish slaughterhouses.
Alongside the food safety work, the DVFA emphasizes making healthy choices easy for the population through partnerships, nutrition labels such as The Keyhole Label and Whole Grain logo as well as target group specific recommendations.

5.1 Dietary Recommendations
The DVFA advises and issues recommendations to consumers and enterprises about nutrition, healthy eating and food production.

Lifestyle diseases and overweight challenges the Western world. To help the population to a healthier life, the DVFA advises everybody to eat by the current dietary recommendations. New dietary recommendations were launched in Sep-
The dietary recommendations build on the scientifically based Nordic Nutrition Recommendations, and are fully financed by the Danish government.

The Keyhole label
The Keyhole is a Nordic nutrition label which was launched in Denmark in 2009. It has gained rapid success with substantial support from Danish food producers and major retailers on the market. The Keyhole is obtainable for prepacked food products with a low content of sugar, salt, fats etc., and makes it easy for consumers to locate the products in the supermarkets. Today, most consumers recognize the brand, and many find that healthy food choices have become easier.

In 2001 the Keyhole label was also introduced to eating places, e.g. restaurants, canteens and cafeterias. The aim of the concept is to increase the knowledge of restaurant professionals on how to cook and serve healthier meals.

The Whole Grain Partnership
The aim is to create target-oriented and effective interventions to ensure that Danes consume more whole grain. The focus is to make whole grain products easily available through a recognizable logo. The partnership has been very successful and
has increased the consumption of whole grain substantially – on average from 36 to 63 grams per day in the time period 2004-2013. The DVFA is vice-chairman, and the partnership covers 37 member organizations.

**The Danish Meal Partnerships**
The Danish Meal Partnership is a rather new partnership with the purpose of making it convenient and desirable for all citizens in Denmark to eat healthier meals. The partnership has a special focus on improving social equality in food consumption patterns. The DVFA holds the chair, and at present 16 member organizations participate.

**The Salt Partnership**
The objective of the Salt Partnership is to reduce the intake of salt among consumers in Denmark. The partnership seeks to raise awareness of the link between salt and health to consumers and food professionals in canteens etc., and also promoting food with the Keyhole Label. Furthermore, collaboration with the food industry aims at reducing the salt content in processed food across the board. The DVFA holds the chair, and 16 member organizations participate.

**5.2 Food and Nutrition Labelling**
Labelling of food shall ensure that the consumers are appropriately informed as regards the food they consume. This shall serve both to achieve a high level of consumer protection and to guarantee the consumers the right to information. Food labelling regulations, including nutrition labelling is harmonized in EU.

Nutrition labelling of food is an important tool for consumers to choose healthier options, and from December 2016 nutrition labelling will be mandatory on prepacked foods in the EU. The nutrition labelling must contain an ingredient list, where the
ingredients shall be listed in descending order of their weight, and where allergens are highlighted.

By issuing detailed guidelines and by offering an open dialogue the DVFA helps industry and retailers to comply with the comprehensive rules on food and nutrition labelling. The DVFA is also committed to give guidance to consumers in order for them to understand and use the information given on foods. The DFVA has for instance published a leaflet to consumers on how to read the nutrition declaration. In cooperation with retailers this leaflet will be widely distributed.

5.3 The Culinary Culture
As everywhere else in the world, Denmark has a distinct culinary culture. To develop and strengthen food culture in Denmark the Ministry of Environment and Food has installed an independent organization ‘The culinary culture’. The culinary culture works for ‘Better food for all’.

5.4 Nordic Cooperation
The DVFA is involved in the Nordic cooperation related to the Nordic Council of Ministers for Fisheries and Aquaculture, Agriculture, Foodstuffs and Forestry (MR-FJLS). The Nordic Cooperation is one of the world’s most extensive regional cooperation, involving Denmark, Norway, Sweden, Iceland and Finland and the three autonomous areas of Greenland, The Faroe Islands and Aaland.
Furthermore, the DVFA chairs the Nordic working group responsible for Nordic cooperation on the Nordic Nutrition Recommendations, the Keyhole Nutrition Label and the implementation of "The Nordic action plan for improved health and quality of life through diet and physical activity". The New Nordic Food concept has also been developed within the frame of the Nordic Council of Ministers.
6. Organic Foods

It is a political goal to increase organic production, export and consumption. The tools taken in use mainly focus on enhancing a market driven demand for organic products. The DVFA promotes organic food in public kitchens, canteens and restaurants.

6.1 Development in Danish Organic Retail Sales

In Denmark consumption of organic products has reached 8 pct. of total food consumption, and Denmark ranks among the top 3 countries in the world.

Retail sales in organic products have tripled from 2003 to 2014, as shown below in figure 5.

FIGURE 5. Organic retail turnover in Denmark 2003 to 2014

Source: Statistics Denmark
6.2 The Danish Organic Label
The Danish organic label was used for the first time in 1990. The organic label indicates that the item has been controlled by the Danish authorities. Almost all Danes know and respect the Danish organic label visible on organic products from Denmark with the text “State controlled organic”:

In 2015 we therefore celebrated the 25th jubilee of our organic label; among other things a jubilee film spot for the organic logo was produced.

In 2013 a total of 7 pct. of the farmed area is organic corresponding to almost 182,000 ha. The aim of the Danish Government is to increase the organically farmed area.

6.3 Organic Sales in the Food Service Sector
Sales of organic food and beverages in 2013 reached almost 1 billion DKK (about 131 million EUR). The reason of this success is to find in the launch of the organic cuisine label (see below), and the support for the mass caterers when converting their kitchen to organic food preparation.

FIGURE 6. Organic sales in the food service sector in 2013

Source: Statistics Denmark
6.4 The Organic Cuisine label

The organic cuisine label was launched by the DFVA in 2009, and was created specifically to promote the use of organic produce in large-scale kitchens. The label is available in gold, silver and bronze indicating the percentage of raw materials used in organic quality. The DVFA is actively promoting the label with special focus on the use of organic products in public kitchens. However, the label has also become very popular in private canteens and restaurants. In April 2015 more than 1,000 kitchens have been certified, with the larger share found in public kitchens, e.g. in kindergartens, schools and hospitals.
6.5 Trade with Organic Products
One of the initiatives to create growth in organic production is to increase our efforts in promoting organic exports. Even though organic production is rising, Denmark is still a net-importer of organic products, as figure 7 below shows. Imports are mainly fruit and nuts, vegetables, cereals and fodder. Organic milk products and pork are the main exports.

FIGURE 7. Organic exports/imports, Denmark

Exports/Imports 2009 - 2013 in million Euros

Source: Statistics Denmark
The DVFA is responsible for facilitating international trade with live animals, food and feed. The main activites are issuing export certificates and organizing veterinary checks at Danish border inspection.

7.1 Export
The DVFA is responsible for facilitating the export of live animals, food and feed and other agricultural products to countries outside EU and ensuring that intracommunity trade is performed in accordance with EU legislation. The DVFA issues more than 80,000 certificates a year to more than 150 markets around the world, comprising 25 pct. of the total exports from Denmark.

FIGURE 8. Food cluster exports by countries, 2013 (pct.)
In cases of exports outside the EU, the DVFA negotiates and drafts the necessary health certification to meet the conditions for import into the country of destination.

If requested by the authorities of the importing country, the DVFA will organize both study visits and inspections to commence the export.

In order to export, the company must be registered at the Danish Veterinary and Food Administration. The exporter is obligated to notify the local Veterinary and Food Control Authorities about each consignment before the export.

The certificates are issued based on thorough investigation of background for certification, the Danish monitoring programs, officially recognized quality assurance schemes and our epidemiological surveillance systems. If an outbreak of a transmissible animal disease should occur in Denmark, the export of animals of susceptible species will be halted immediately. Furthermore, the certifying officer must be impartial and have no commercial interest.

As shown in the figure 9 below pork meat represents the largest export items of the food cluster, but also fish, shellfish and dairy accounts for a large part of the agricultural export.

Denmark also has a growing export of live animals – especially exports of live piglets are increasing.
7.2 Import
The DVFA is responsible for implementing EU legislation on veterinary checks on products of animal origin. The obligation of the DVFA, furthermore, is to organize the checks on products from third countries entering the EU via Danish border inspection points (BIPs), or entering Denmark from other Member status.

In case of import of certain food and feed products on non-animal origin, the DVFA implements the EU legislation and organizes the import control, making sure that documentary checks are performed, and that the frequency of physical and identity checks are in accordance with EU legislation. The control comprises products from third countries entering the Union via a Danish Control Point.

The DVFA is also responsible for the approval of the BIPs and Designated Points of Entry (DPEs) and Designated Points of Import (DPIs) in cooperation with the European Commission.

**FIGURE 9.** Food cluster exports by commodity, 2013 (pct.)
Greenland
From 1 May 2014, the DVFA has been responsible for organizing the veterinary checks on fish, fishery products, bivalve molluscs, animal by-products from fish, fishery products and bivalve molluscs and related products from these animal by-products entering Greenland from third countries.

From 1 May 2014 fish and fishery products and bivalve molluscs from Greenland may enter the EU on conditions similar to intra community trade, and are no longer subject to veterinary checks upon arrival to the EU.

7.3 Starting a Food Business in Denmark
In order to start a food business, incl. import of food from other EU Member States or third countries, or have activities relating to food contact materials in Denmark, the company must be registered or approved by the DVFA.

A special form must be filled out and send to the DVFA to register or apply for approval.

Download an English language version of the form here: http://www.foedevarestyrelsen.dk/english
8. Research, Risk assessment and Innovation

The DVFA cooperates with a number of universities, research centres, etc. in order to receive independent scientific based knowledge and risk assessment to be used for policy developing and risk handling.

8.1 Universities
As part of the Ministry of Environment and Food, the DVFA has multiannual contracts with 3 different universities pertaining to research:

- DTU, Denmark’s Technical University, Lyngby, Copenhagen. The contract covers a number of issues of which food safety, nutrition, veterinarian issues, antibiotics and antibiotic resistance are relevant to the DVFA. The main partners for the DFVA are the institutes of DTU Food and DTU VET.
- Aarhus University, Aarhus. The cooperation mainly concentrates on animal welfare, feed issues and consumers’ patterns of consumption.
- Copenhagen University. The contract goes with IFRO (Institute for Resources and Economy) and mainly deals with economic issues like cost-benefit consequences of policy initiatives etc.
8.2 Other Centres

Food Science Copenhagen (FOSCO)
FOSCO is an alliance between the food and veterinary areas of the Technical University of Denmark (DTU) and the University of Copenhagen. FOSCO is working on a large number of research, partnership and educational activities.

Danish Centre for Animal Welfare (DCAW)
The Danish Centre for Animal Welfare (DCAW) based at the Danish Veterinary and Food Administration was established in 2010 with an overall aim to contribute to the improvement of animal welfare in Denmark. The main tasks of DCAW are to collate and communicate animal welfare related data and knowledge to relevant stakeholders, such as farmers, politicians, NGO’s, veterinarians and the general public. In DCAW, the authorities work together with animal welfare researchers from the University of Copenhagen and Aarhus University in order to initiate and support animal welfare research in order to boost the animal welfare agenda.

The Danish 3R-Center
The Danish 3R-Center was established June 2013 by the Minister for Food, Agriculture and Fisheries, in collaboration with three pharmaceutical companies and three animal welfare organizations.

The centre will work to find alternatives to animal testing (replacement), develop methods that use as few animals as possible (reduction) and ensure that experiments where laboratory animals still have to be used are carried out under the best possible conditions, which also gives the greatest scientific value (refinement).
9. Databases and Statistics

9.1 Databases

CHR
The Central Husbandry Register contains information of all livestock holdings, including herds/flocks, individual earmarked cloven-footed animals and information of all movements of pigs between farms. Each livestock-holder must add mandatory up-to-date information to the register (on-line).

VetStat
Since 2000 data has been collected in VetStat - a state-owned database. Data has been collected on all medicines, including vaccines, prescribed by veterinarians for use in animals.

The aim of VetStat is to provide data for research and control purposes and to serve as an advisory tool for veterinarians and as a tool for the DVFA to regulate the consumption of antibiotics on each farm if necessary.
### 9.2 Farms and Employment 2013

#### Organic farms
- **Cultivated area**: 182,000 ha (7 pct.)
- **Organic farms**: 2,700 (7 pct.)
- **Organic share food consumption**: 7.8 billion DKK (8 pct.) / 1 billion EUR

#### Farms
- **Cultivated areas**: 2,620,000 ha (61 pct.)
- **Average per farmer**: 68 ha
- **Full time farmers**: 11,000
- **Part time farmers**: 19,000
- **Other farmers**: 9,000
- **Total number of farms**: 39,000 (7 pct. organic)

#### Total employment in agriculture and food sector
- **Employment in agriculture**: 65,000
- **Employment in other food production**: 53,000
- **Derived jobs**: 51,000
- **Total employment in agriculture and food sector**: 169,000 (6.3 pct.)
- **Total employment in Denmark**: 2.7 million
### 9.3 Agricultural and Food import and Export 2013

#### Danish agricultural and food import and export

<table>
<thead>
<tr>
<th>Total - Denmark</th>
<th>Export</th>
<th>Import</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>620 billion DKK / 83.1 billion EUR</td>
<td>549 billion DKK / 74.6 billion EUR</td>
</tr>
<tr>
<td>Food, biobased products and agro-technology</td>
<td>156 billion DKK (25 pct.) / 21 billion EUR</td>
<td>99 billion DKK (18 pct.) / 13.3 billion EUR</td>
</tr>
</tbody>
</table>

#### Main agricultural and food export countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Export</th>
<th>Import</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>16 billion DKK (25 pct.) / 2.1 billion EUR</td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>12 billion DKK (19 pct.) / 1.6 billion EUR</td>
<td></td>
</tr>
<tr>
<td>U.S.</td>
<td>6 billion DKK (9 pct.) / 800 million EUR</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>5 billion DKK (8 pct.) / 700 million EUR</td>
<td></td>
</tr>
</tbody>
</table>

---

3 Share of total agricultural and food import and export from Denmark
## 9.4 Agricultural and Food Production 2013

<table>
<thead>
<tr>
<th></th>
<th><strong>Stock</strong></th>
<th><strong>Annual production</strong></th>
<th><strong>Share of total export</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pigs</strong></td>
<td>12 million</td>
<td>19.4 million head</td>
<td>32 billion DKK (20 pct.) / 4.3 billion EUR</td>
</tr>
<tr>
<td>of which piglets</td>
<td></td>
<td>9.5 million</td>
<td></td>
</tr>
<tr>
<td><strong>Cattles</strong></td>
<td>1.6 million</td>
<td>1.4 million tons</td>
<td>2.9 billion DKK (2 pct.) / 400 billion EUR</td>
</tr>
<tr>
<td>of which dairy</td>
<td>0.6 million</td>
<td>5.1 million tons</td>
<td>15 billion DKK (10 pct.) / 2 billion EUR</td>
</tr>
<tr>
<td><strong>Young chickens</strong></td>
<td>14.3 million</td>
<td>0.1 billion head</td>
<td>2.7 billion DKK (2 pct.) / 400 million EUR</td>
</tr>
<tr>
<td>of which broilers</td>
<td>13.2 million</td>
<td>(0.2 million tons)</td>
<td></td>
</tr>
<tr>
<td>Total hens and chicken</td>
<td>19 million</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mink</strong></td>
<td>3.1 million</td>
<td>17.2 million fur skin</td>
<td>12.5 billion DKK (8 pct.) / 1.7 billion EUR</td>
</tr>
<tr>
<td><strong>Fish and aquaculture</strong></td>
<td></td>
<td></td>
<td>19.6 billion DKK (13 pct.) / 2.6 million EUR</td>
</tr>
</tbody>
</table>