

# HOW TO PRODUCE A CHICKEN

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**In 2016, around 215 farms where producing the 205 million broilers that were slaugh-tered in Denmark.**

**The Danish broiler production is based on high standard with focus on food safety, animal welfare and good production facilities. The success behind this production can be found in the Quality Assurance Systems used in Denmark.**

**The Danish Poultry Meat Association launched the system in the beginning of the 20's century, to serve as the industry's quality concept of "Quality assurance in the chicken production". The system documents the quality and traceability intensively through all parts of the Danish broiler production, from farm to fork.**

**T**he Quality Assurance System in the Danish broiler production was established and implemented to gather all the information of the total broiler production chain in Denmark in one place. The traceability in the system covers all broilers slaughtered in Denmark. The system ensures and documents traceability throughout the en-tire production process – starting with the chicken feed and ending when consumers buy the end product at the retailers. The Quality Assurance System is based on a central and common database into which all pro-duction data on food safety, production methods, quality, animal welfare and environmental conditions is en-tered. This ensures both consumers and retailers full documentation and traceability for all products from Danish broiler producers. The system is therefore also a fast and efficient system for tracking and stopping a source of infection, feed problems, a rise in number of dead birds, animal welfare in total, etc. Everything is covered by the quality system. This guarantees awareness of the problems all the time in the production and in the end, it guarantees the consumers the highest possible level of food safety.

## Database Records

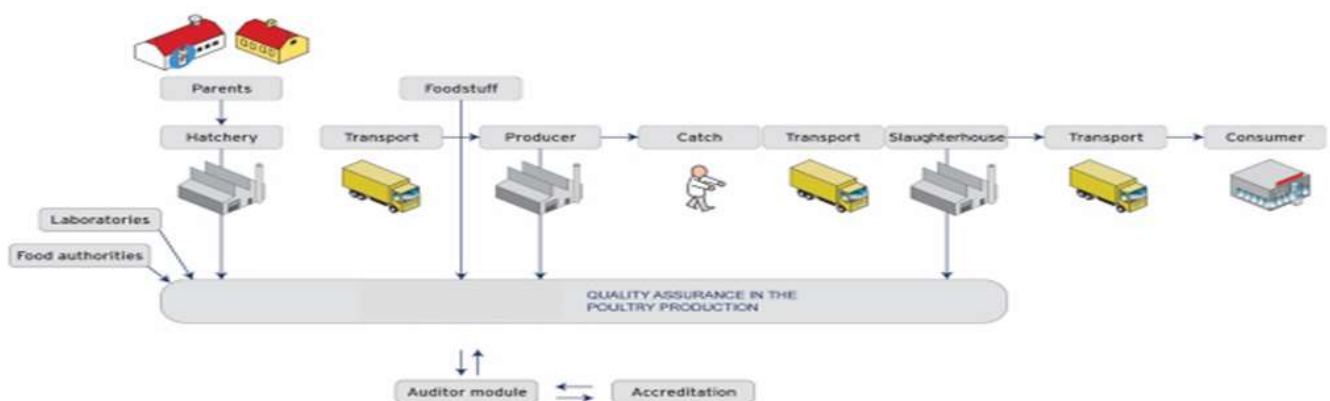


Fig. 1 The Danish broiler production system

### The benefits of the system are:

- Full documentation of the production process
- Overview of the supply chain
- One system for all information
- Ability to make statistical analyses to improve earnings or diminish costs in the value chain
- Ability to make statistical analysis regarding the production conditions
- Full accountability of the broiler chickens throughout the production chain. With daily reporting by producers of diseased poultry, a mass balance is established.
- Accredited system allowing veterinarians, slaughterhouses and key customers to monitor the mass balance and general health of a batch of broiler chickens.

### The elements of the Quality Assurance System are:

- Quality assurance schemes for all sites in the production chain
- Registration of data on all sites in the production chain
- Education of all players in the production chain
- Audit of all players in the production chain every year by third party

# The Quality system

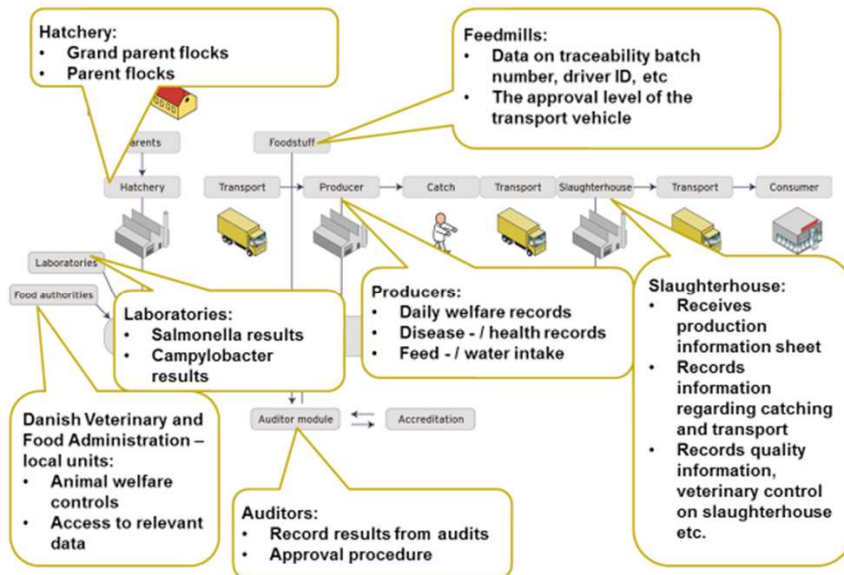


Fig. 2 Where are data collected in the Danish broiler production system

## Minimising risk factors and optimizing production

The Danish quality assurance system has been developed by the entire Danish poultry industry to mini-mise all possible risks. It is also an excellent tool used to optimize production results. The system ensures that data from the HACCP-based control systems throughout the production chain are quickly and efficiently registered in the central database. This means, for example, that any source of infection can quickly be traced and stopped before it reaches the consumers. Both farmers and slaughterhouses use the excellent data collected as a tool for benchmarking, and to identify which production methods give the best results.





## Feed Supply

Only broilers that are fed nutritious and healthy feed can become first-class food products. Feed for Danish broilers is subjected to a number of requirements which help to ensure healthy, high-quality products for consumer.

The standardised requirements governing feed production comprise e.g.:

- High standards of hygiene during manufacturing, for example all feed for Danish broilers must be completely Salmonella-free
- Routine cleaning and disinfection of production equipment
- No antibiotic growth promoters since 1998 or meat and bone meal in the feed
- Heat treatment of animal feed to 81°C
- Process control and quality assurance

Only feed mills, which are approved and regularly inspected by experts from the Danish Agriculture and Food Council and by an official audit regime can supply feed for the Danish broiler production.

## Poultry slaughterhouses

Danish broilers are slaughtered and processed at modern poultry slaughterhouses and productions plants. The process

is continually checked by veterinarians who are employed by the Danish authorities. All Danish broiler slaughterhouses have a minimum of one senior veterinarian per working shift. The veterinarian(s) are assisted by meat inspectors and specially trained slaughterhouse staff. In addition to food safety, these officials also monitor animal welfare.

 **The Quality Assurance System covers all legislation and production regulation for the Danish broiler production. The highlights of the regulation are stated below.**

## Additives

Since 1998 Danish poultry breeders have not used antibiotic growth promoters in broiler feed. Feed which does not contain growth promoters minimises the risk of developing undesirable resistant bacteria. The Danish authorities regularly check the broiler producers' feed. This strict control of Danish broiler feed secures that Danish broiler meat is free from residues of undesirable substances.

## Animal welfare

Danish legislation contains some of the strictest requirements in the world on animal welfare. The Danish act on the production of broilers has been prepared in collaboration between the authorities, animal welfare organisations and the poultry industry, and it helps to ensure the welfare of the Danish broilers. Special emphasis has been put on the issue of foot pad lesions, thereby securing both animal welfare and good quality of chicken feet, an issue which is important to many Asian customers. Danish broilers are caught using a special machine which ensures that the animals are handled as carefully as possible. Catching and transport to the slaughterhouse follows a procedure established in collaboration with the Danish authorities.

## Bacteriological Control BEFORE SLAUGHTERING

Danish poultry breeders want to provide consumers with the best and healthiest broilers on the market. As a result of the extensive bacteriological checks and control programmes, Denmark is leading the way in the battle against zoonoses which can transmit diseases to humans.

Feed production, parents stock and hatchery houses are completely Salmonella-free. The very strict requirements governing handling and hygiene

also help to ensure that Danish broiler production has one of the lowest incidences of Salmonella in the world, without using vaccines in fighting Salmonella.

Broilers are continuously monitored for Salmonella. Sock samples (samples from the soil in the chicken house) are taken twice during a production period. If Salmonella is found in the samples, the broilers are subsequently slaughtered separately, so there is no risk of the bacteria spreading to other flocks, and the meat should only be used for heat-treated products or be destroyed, which is the Danish way to handle Salmonella positive flocks. All serotypes of Salmonella are included. Additionally, every flock is tested for Campylobacter at the slaughterhouse.

### **Bacteriological Control AT THE SLAUGHTERHOUSE**

Every week 300 neck skin samples are taken from one randomly selected flock. These samples are analysed for Salmonella. The broilers are also examined for other microorganisms. Bacteriological control of the production facilities also contributes to monitoring the quality of the cleaning at the enterprises on an on-going basis. On top of this, end products are tested heavily for Salmonella as a part of the HACCP programme and customer requirements and this works as a verification for the national test programme.

### **Quality Security**

To enjoy a well-prepared broiler both food safety and product quality must be second to none. Inspectors from the Danish Veterinary and Food Administration help to ensure this. As a supplement to the slaughterhouses' own quality assurance the public inspectors carry out on-going checks and take random samples. The

authorities are also controlling that EU marketing Standards for poultry meat are met.

### **Uniform quality**

The Danish broiler slaughterhouses are certified according to international quality standards, just as an extensive control programme has been implemented according to HACCP principles at all the poultry slaughterhouses.

### **Danish Veterinary and Food Administration**

Danish food safety standards are among the highest in the world and are governed by strict legislation. This means that the veterinary authorities under the Danish Veterinary and Food Administration control the broilers from farm to fork. The Danish Veterinary and Food Administration carry out regular checks on both food safety and animal welfare in Danish broiler production

### **End remarks**

The extensive Danish Quality Assurance System and the national control systems secures high levels of food safety, welfare and traceability of the broilers produced in Denmark. The high and uniform quality of Danish broilers is the reason why Danish broilers are supplied to some of the leading restaurant and retail chains.

