BroilerNet Factsheet AH1-C3-3

Water circulation central heating with renewable energy

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Intro to Good Practice

In Finland, the use of water circulation central heating has been the most common form of heating for a long time. The benefit comes from its way of heating the rearing space and controlling moisture. This way of heating does not add moisture in the air and by using water circulation central heating there is no need to limit the ventilation to keep the temperature at the correct level. Warm air consists of more moisture so you can keep the correct humidity level with ventilation.

With water circulation central heating the air humidity is lower and bedding stays dryer throughout the rearing period. The benefits are better rearing conditions and less footpad lesions. Healthier broilers do not have a need for antibiotics. With the right temperature, broilers do not need to eat to keep warm which results in a better feed efficiency.

Radiators with circulating hot water ensure that the chickens always have the right temperature during rearing

Background & challenges

Finnish broiler breeding invests in good rearing conditions, disease prevention and control, which allows broiler production without using antibiotics. Antibiotics may only be used in exceptional situations where a serious disease is diagnosed.

Broiler production in Finland is subject to a national *Salmonella* control program. *Salmonella* samples are taken from each production batch. If the sample for a batch is positive for *Salmonella*, the batch will not be slaughtered for food. The prevalence of *Salmonella* in the Finnish broiler production chain is considerably below the target level of the national *Salmonella* control program, which is one percent.

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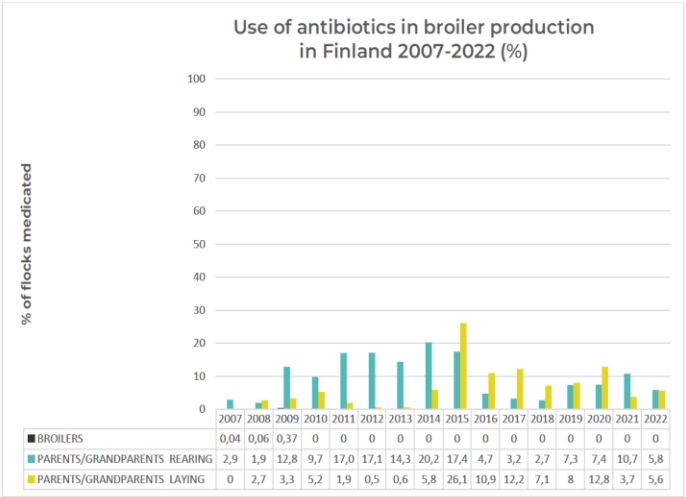
Additional information

The practice plays a significant role in Finland´s good production results. There is plenty of experiences and results from practice.

Maximum stocking density in Finland is 42 kg/m^2. Thinning is not allowed. The number of placed chicks is limited and there is clear target weight for the chickens. That makes the growth more optimal instead of maximal, and that has a positive impact on health. Higher stocking density in the end of growing period requires good rearing conditions and good management. The producer must be competent.

With water circulation central heating you can use any kind of energy. In Finland most used source of energy is wood chips and solar panels. Environmental impact depends on the source of energy used.



Antibiotic usage in Finland between 2007-2022. Source: ETT Finland.

Benefits

Better rearing conditions and lower disease pressure means healthier birds. Healthier birds grow better, and feed efficiency is better. Lower disease pressure also means less *Campylobacter*, less *Salmonella*, better footpad scores and less need for antibiotics.

In 2022 in Finland, the weighted average footpad score was 2.64/200 points. In the Finnish rearing method, stocking density and footpad scores do not correlate with each other, as our broiler production farms have sufficient heating capacity and effective control of conditions.

Prevention is cheaper than the consequences of the disease.

Additional information on Finnish broiler production

Broiler production is contract production based on agreements, in which the criteria for keeping broilerss are determined. Contract production allows for the continuous monitoring and development of production and welfare parameters.

The authorities (veterinary inspectors) examine each broiler flock at the slaughterhouse. Farms are also visited each year by municipal veterinarians in accordance with the *Salmonella* monitoring program. During the visit, rearing conditions, disease control, pest control, and accounting are reviewed, as well as *Salmonella* samples taken. Slaughterhouse veterinary inspectors monitor compliance with housing conditions and agreed upon management practices, during the farm visits, as well as through ongoing monitoring of production data.

Seasonal variation of the foot pad scores of the Finnish broiler flocks from 2012-2022

National data concerning the footpad lesion scores is collected in Finland by Animal Health ETT Collection system constructed by a project financed by the Finnish Ministry of Agriculture and Forestry.

Publication date: April 2024

Version: 1 (English)

Funded by the European Union

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No101060979. It reflects only the authors view. The European Commission is not responsible for any use that may be made of the information it contains.