

21 February, 2023

## Welfare of broilers on farm

### Disclaimer

- This plain language summary (PLS) is a simplified communication of EFSA's *Opinion on the welfare of broilers on farm*.
- The purpose of this PLS is to enhance transparency and inform interested parties on EFSA's work on the topic using simplified language.
- Anyone interested in the more in-depth assessment and analysis should consult [the full EFSA opinion](#).

### Background: broiler welfare

- In line with its Farm to Fork strategy, the European Commission (EC) is reviewing animal welfare legislation, including the rules for the protection of broiler chickens kept for meat production which is covered by the 'Broiler Directive' ([Council Directive 2007/43/EC](#)). This Directive currently does not cover breeding stock or hatcheries.
- In addition, a 2018 European Citizen Initiative (ECI) – the so-called “End the cage age” – called for banning the use of individual stalls and cages for laying and broiler breeders and laying hens amongst other farmed animal species.
- EFSA provided previous opinions on broiler welfare in [2010](#) and [2012](#).
- EFSA's Scientific Panel on Animal Health and Welfare (AHAW) carried out this assessment.

### What was EFSA asked to do?

- Provide a scientific basis for revised measures on the welfare of broiler chickens, day-old chicks and broiler breeders on farm.
- Describe the most relevant husbandry systems used in Europe.
- Identify the relevant welfare consequences for each system along with related [animal-based measures](#) (ABMs) and hazards that can have welfare implications.
- Recommend measures to prevent or correct the hazards and/or mitigate the welfare consequences.
- Assess the risks associated with a number of key specific housing (e.g. housing in cages) and rearing conditions (e.g. stocking density) and practices such as mutilation and feed restriction.
- Recommend the most relevant ABMs to monitor broiler welfare on farm that can be collected at slaughterhouses.

### How did EFSA carry out this work?

- The AHAW Panel followed EFSA's *Methodological [guidance](#) for the development of animal welfare mandates associated with the Farm to Fork Strategy*.
- The Panel reviewed both peer-reviewed and [grey](#) literature as well as information provided by the European Forum of Farm Animal Breeders (EFFAB) and EFSA scientific networks.
- [Expert knowledge elicitations](#) (EKE, a structured way to obtain information from individuals with specialised expertise in a particular field) and [uncertainty assessment](#) were conducted following the EFSA guidance. A behavioural model was used to quantify the space needed to express nine behavioural needs of broiler chickens and provide estimates of stocking densities accordingly.
- The data used covered the period between 2010 and November 2022.

### What were the limitations of the currently available data?

- Limited data were available on alternatives to feed restriction and characteristics of housing in broiler breeders, and heat and cold stress in broilers.
- Uncertainties were also noted regarding the stocking density, group size, and the concentrations of gases and dust in barns.

## What are the main outcomes?

- Nineteen highly relevant welfare consequences of currently used production systems were identified:
  - Bone lesions
  - Cold stress
  - Inability to perform comfort behaviour
  - Inability to perform exploratory or foraging behaviour
  - Isolation stress
  - Gastrointestinal disorders
  - Prolonged thirst
  - Heat stress
  - Prolonged hunger
  - Handling stress
  - Locomotory disorders
  - Predation stress (fear of attack by a predator)
  - Restriction of movement
  - Resting problems
  - Group stress
  - Soft tissue and integument (skin) damage
  - Umbilical disorders
  - Inability to avoid unwanted sexual behaviour
  - Sensory under- and overstimulation
- For **day-old chicks**:
  - Feed deprivation for longer than 48 hours will lead to 'prolonged hunger' which is detrimental to their welfare.
  - Dark brooders (conditions that simulate the behaviour of a mother hen) promote resting behaviour and reduce sensory overstimulation.
- For **broiler chickens kept for meat production**:
  - Current stocking densities impair broiler welfare.
  - Stocking density greater than 11 kg/m<sup>2</sup> will increase footpad dermatitis, reduce the ability to walk and impair comfort and exploratory behaviours.
  - Friable litter (dry, sand-like) is essential for broiler chickens to perform comfort, exploratory and foraging behaviour.
  - Accessible elevated platforms for broilers reduce the risk of locomotory problems, predation stress and promotes resting behaviour.
  - Ammonia levels above 15 ppm (parts per million) impair the welfare of broiler chickens.
- For **broiler breeders**:
  - Feed and water restriction cause prolonged hunger and thirst, respectively.
  - Further genetic selection for fast growth rate will exacerbate the negative welfare consequences.
  - Housing grandparents, great grandparents, and pure pedigree lines in individual barren cages leads to isolation and handling stress; impaired exploratory, foraging and comfort behaviours; impaired resting; and movement restriction.
  - Accessible perches for broiler breeders reduce the risk of locomotory problems, predation stress and promote resting behaviour.
  - Mutilations such as beak trimming, de-toeing, de-clawing and comb dubbing (trimming of combs) are widely performed across the EU in broiler breeders and impair welfare. They can be avoided with appropriate management practices.
- The most relevant ABMs to monitor on-farm welfare at slaughterhouses are total on-farm mortality, presence of wounds, carcass condemnation (rejection of carcass) and footpad dermatitis.

## Key implications and recommendations

- The following measures are recommended:
  - Limit the growth rate of broilers to a maximum of 50 g/day.
  - Substantially reduce the stocking density to meet the behavioural needs of broilers.
  - Provide dry and friable litter and re-scatter new litter after the second week of production.



- Provide a covered veranda for broilers and broiler breeders from 2 weeks of age.
  - Provide access to an outdoor range covered with 70% of vegetation.
  - Provide accessible elevated platforms with ramps for broiler chickens and perches for broiler breeders.
  - Avoid all forms of mutilations in broiler breeders.
  - Avoid the use of cages, feed and water restrictions in broiler breeders.
  - Develop alternative methods enabled by Precision Livestock Farming technologies to collect data.
  - Keep ammonia concentration in the barn below 15 ppm.
  - Provide minimum environmental lighting of 20 lux.
  - Transport fertilised eggs that are hatched on farm rather than transporting day old chicks.
  - During incubation, eggshell temperature should not exceed 37.8°C.
  - On-farm total mortality, wounded animals, carcass condemnation and footpad dermatitis should be monitored at the slaughterhouse.
- Further research is recommended on:
    - Use of Precision Livestock Farming technologies.
    - Specificities of elevated platforms and perches.
    - Concentrations of ammonia, CO<sub>2</sub> and dust in barns.
    - Impact of group size on the welfare of broiler chickens.
    - Impact of providing moist feed in hatchers on the welfare of day-old chicks.

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