

## Welfare of dairy cows

### Disclaimer

- This plain language summary (PLS) is a simplified communication of EFSA's scientific opinion *Welfare of dairy cows*. The full EFSA report, can be found [here](#).
- The purpose of the PLS is to enhance transparency and inform interested parties on EFSA's work on the topic using simplified language to present a summary of the main findings.

## Welfare of dairy cows – an overview

- This scientific opinion of the European Food Safety Authority (EFSA) provides an up-to-date view on the welfare of dairy cows in the European Union (EU) and supports the ongoing revision of the EU's animal welfare legislation.
- The recommendations in the scientific opinion are relevant for risk managers, policy makers, stakeholders in the food chain, the scientific community, the media and the general public.
- The opinion contains three assessments covering:
  - housing systems for dairy cows in the EU;
  - welfare consequences;
  - farm characteristics.
- From these assessments, five farm characteristics were identified and proposed to classify the level of on-farm cow welfare. If any of these characteristics are present, it is recommended to assess the welfare of cows on the farm in question.

## What was EFSA asked to do?

- The European Commission asked EFSA to provide a scientific opinion on the protection of dairy cows based on the latest scientific knowledge covering the following three specific areas of dairy cow welfare:
  1. **Housing systems:** describe the most common systems for housing dairy cows in the EU and practices of keeping them; summarise their main strengths, weaknesses and welfare hazards.
  2. **Welfare consequences:** describe five detrimental consequences specific to dairy cows: locomotory disorders (including lameness), mastitis (inflammation of the udder), restriction of movement, inability to perform comfort behaviours, and metabolic disorders. For each, define animal-based measures (ABMs [an example of an ABM is clinical disease]) to identify hazards potentially leading to the consequence. Provide recommendations to prevent or correct the consequences.
  3. **Specific relevant hazards:** analyse farm characteristics that could be used to classify the level of on-farm welfare.

## How did EFSA carry out this work and what data was used?

- EFSA searched the relevant scientific literature and consulted official EU and national statistics. A full list of sources is shown in Appendix A of the report.
- Specific sources for each assessment were as follows.
  - Housing system: mainly literature reviews.
  - Welfare: literature reviews complemented by expert opinion.
  - Farm characteristics: From the available scientific literature, it was not possible to derive relevant associations between available farm data and cow welfare. Therefore, an approach based on expert knowledge (expert knowledge elicitation, EKE) was developed.



## What were the limitations/uncertainties?

- Dairy cow management varies enormously across the EU, making it difficult to draw general conclusions.
- The design of the available scientific studies to assess welfare is often weak.
- The certainty of each conclusion, expressed using 3 categories (50–100%; 66–100%; 90–100% certainty ranges), was based on a consensus discussion between the experts of the working group.

## What were the outcomes and their implications?

### 1. Housing systems.

- Cubicle housing is the most prevalent system, followed by open-bedded systems and tie-stalls.
- The number of farms offering access to pasture has declined in several EU Member States in the last decade.
- The impact on animal welfare of each housing system is highly variable but cows permanently tied in stalls have impaired welfare and this is related to the duration of tethering, the adequacy of tethering design, the dimensions of the stall and the characteristics of the lying surface.

### 2. Welfare consequences.

- *Mastitis*. No differences were found between the housing systems with regards to incidence of mastitis. Suitable ABMs of mastitis are available.
- *Locomotory disorders*. Lameness is one of the major welfare issues; no differences were found between housing systems.
- *Movement and resting problems*. The different housing systems were ranked in terms of restriction, from year-round tethering, which is particularly restrictive, followed by cubicle housing systems and open-bedded systems and finally pasture, which is the least restrictive. The following recommendations for this consequence were identified.
  - Dairy cows should not be permanently housed in tie-stalls because of continuous and severe restriction.
  - Access to well-managed pasture should be provided.
  - A total indoor area – including lying area – of at least 9 m<sup>2</sup>/cow should be provided.
  - Minimum width and length and other features of cubicles are recommended.
- *Comfort behaviour*.
  - Cubicle housing provides better hygiene and cow cleanliness compared to tie-stalls and open-bedded systems.
  - Tethering prevents self-grooming.
- *Metabolic disorders*.
  - No differences were found between the housing systems with regards to incidence of metabolic disorders. The type of housing can influence feeding practices, which is a risk factor for metabolic disorders.
  - No single ABM is suitable for all metabolic disorders.

### 3. Farm characteristics

- Five farm characteristics that could be used to classify the level of on-farm welfare resulted from the EKE: if one or more of these farm characteristics is present, it is recommended to conduct an assessment of cow welfare on the farm in question.
- In order of importance attributed by the experts, the five farm characteristics are: 1) more than one cow per cubicle; 2) a limited total space for housed cows (<7 m<sup>2</sup>/cow); 3) cubicle dimensions are inappropriate for the size of the cows; 4) high annual on-farm mortality (that is, more than 8% including emergency slaughter) rates; 5) cows have access to pasture less than 2 months per year.



## What are the key recommendations?

- All recommendations are for policy makers.
- Recommendations about housing systems and welfare are combined in the opinion (see Section 7.2).
- Dairy cows should not be permanently housed in tie-stalls.
- While they should in general not be practised, in a transition period housing in tie-stalls with regular access to a loafing area, or access to summer pasture, could be used.
- In cubicle houses, at least one cubicle per cow should be provided.
- For indoor housing, a total indoor area – including lying area – of at least 9 m<sup>2</sup>/cow should be provided.
- Access to well-managed pasture (i.e. well-drained, shaded) should be provided because it allows the cows to walk freely, easily change posture and lie comfortably.
- Dry, soft and deformable lying surfaces, preferably deep bedding, should be provided because they allow longer lying time and ease of lying down and rising up movements. When using bare concrete, bedding of at least 30 cm thickness should be provided. When using mats and mattresses, a bedding with a minimum depth of 5 cm of compressed material (i.e., compressed because of the animal lying on it) should be provided. For instance, this corresponds to 3 kg of straw per day to be provided per cubicle space.
- Brushes should be available in all loose-housing systems.
- The risk-based scheme developed from the EKE should be piloted.

## Are there any additional information sources for the reader?

- Please read the bibliography in the scientific opinion to see all the sources used.
- Previous, relevant opinions include:
  - EFSA provided opinions on the welfare of dairy cows in 2009, 2012 and 2015.
  - Overall effects of farming systems on dairy cow welfare and disease (2009).
  - Scientific opinion on the use of animal-based measures to assess welfare of dairy cows (2012).

## Reference

This plain language summary of this opinion is available under Supporting Information in the scientific opinion *Welfare of Dairy Cows*.

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