

29 March, 2023

Welfare of calves

Disclaimer

- This plain language summary (PLS) is a simplified communication of EFSA's *Scientific Opinion on the Welfare of Calves*. The full European Food Safety Authority (EFSA) opinion 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 calves – an overview

- The new EFSA opinion provides an up-to-date view on calf welfare in the European Union (EU). The advice contained is relevant for policy makers, risk managers and other interested parties in the area of animal welfare.
- The opinion describes rearing practices (husbandry) and the welfare of calves in different husbandry systems.
- The authors found 15 highly relevant welfare consequences of calf-rearing practice and provide recommendations to improve calf welfare.

What was EFSA asked to do?

- The European Commission (EC) asked EFSA to provide the latest scientific evidence on the welfare of farmed calves and EFSA's AHAW Panel of experts carried out this work. The assessment provides scientific advice to support the decision-making by legislators as part of the ongoing revision of the European Union's animal welfare legislation.
- Specifically, EC asked EFSA to:
 - describe and assess the most common husbandry systems for rearing calves (dairy and veal calves) and to identify the welfare issues in each.
 - recommend measures to prevent or reduce welfare consequences.
 - focus on three situations (Specific Scenarios): male dairy calves reared for white veal, risks associated with limited cow-calf contact, and animal-based measures (ABMs) to monitor on-farm welfare in slaughterhouses.
 - make sure that the expert panel covered the protection of calves and not the killing of animals on the farm (see Terms of Reference in the opinion).

How did the AHAW Panel carry out this work?

The AHAW Panel followed a method used for similar animal welfare assessments.

- **Animal welfare.** Experts considered eight negative states of animal feeling/emotion ('affective states': fear, pain, discomfort, fatigue, stress and distress, frustration and boredom). They also identified ABMs collected in slaughterhouses to evaluate welfare.
- **Husbandry systems** were identified through expert opinion. The AHAW Panel identified welfare consequences of highest relevance in each system.
- **ABMs.** The AHAW Panel only considered ABMs that could be feasibly monitored. To provide criteria to mitigate the welfare consequences of the three Specific Scenarios, the AHAW Panel used a bespoke risk-assessment model based on Expert Knowledge Elicitation (a structured way to obtain information from individuals with specialised expertise in a particular field).
- **Uncertainty** was assessed using the [EFSA AHAW Panel guidance](#) (2022).

What data were used?

- Previous EFSA outputs, published and [‘grey’ literature](#) (non-peer reviewed), data from a public consultation and expert opinion were used.

What were the limitations/ uncertainties?

- There were limited published data on husbandry systems and practices, which may vary largely depending on the EU region.
- There was also limited available information on the use of animal-based measures in slaughterhouses. This assessment was hence carried out based on expert judgement.
- There was also very limited published data on certain specific topics, namely on the welfare effects of blood haemoglobin concentrations between 4.5 and 5.3 mmol/L, on the calf’s responses to separation from the dam at 6-10 weeks of age, and on the cow’s responses to separation from the calf. Uncertainties on these specific aspects were reflected in the conclusions (lower level of certainty).

The AHAW Panel’s certainty about each conclusion was communicated in two different ways, depending on the type of outcome:

- For quantitative outcomes, the AHAW Panel reported their certainty using a 90% certainty interval (e.g., there is a 90% probability that the true value lies within this range)
- For qualitative outcomes, the AHAW Panel reported their certainty using 3 categories (50–100%; 66–100%; 90–100% certainty ranges). For a complete understanding of the Panel’s expressed uncertainties, please consult the full opinion.

What were the main outcomes?

- **Husbandry systems:** Eleven systems to rear calves were identified and their main features were described.
- **Welfare consequences of husbandry systems:** Each consequence was classified as high, medium or low depending on its relevance in each husbandry system. Fifteen highly relevant welfare consequences were identified for different types of rearing. The most frequent ones included: respiratory disorders, inability to perform exploratory or foraging behaviour, gastro-enteric disorders and group stress.
- **Specific scenarios:** Welfare assessments for each of the three scenarios were described:
 1. **Veal production:** Recommendations on timing of group housing and group size, space allowance, dietary iron and fibre.
 2. **ABMs in slaughterhouses:** Selected ABMs for veal calves were poor body condition, carcass condemnations, carcass colour, lung lesions, abomasal lesions and bursa swelling.
 3. **Cow-calf contact:** Outcomes of the assessment indicate that there are benefits of prolonged cow-calf contact but research on how to implement it in practice is ongoing.

What are the key recommendations from the opinion?

Recommendations to improve animal welfare include:

- Ensure good colostrum management and sufficient amounts of milk are fed to dairy calves (20% of body weight in milk over the first weeks).
- Keep calves in small groups (2–7 animals) during the first week of life and in stable groups thereafter.
- Increase space allowance to about 20 m²/calf to allow unrestricted play behaviour (preferable) or to 3 m² to allow resting in a comfortable lying position (minimum requirement).
- Provide a deformable lying surface and water in an open surface.
- Provide long-cut roughage from 2 weeks onwards.

- Feed on average 1 kg of NDF (fibre) per day, preferably using long-cut hay.

Recommendations on cow–calf contact include:

- Keep the calf with its mother for a minimum of 1 day post-partum, and build longer contact.
- Consider collecting different ABMs (body condition, carcass condemnations, abomasal lesions, lung lesions, carcass colour and bursa swelling) in slaughterhouses to monitor on-farm welfare. Experts recommended complementing these ABMs with behavioural ABMs collected on the farm.

Are there any additional information sources for the reader?

- The EC Scientific Committee on Animal Health and Animal Welfare on The welfare of cattle kept for beef production (2001): [Scientific committee on Animal Health and Animal Welfare \(europa.eu\)](https://ec.europa.eu/science/europa.eu).
- The AHAW Panel on the Methodological guidance for the development of animal welfare mandates in the context of the Farm to Fork Strategy (2022): <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2022.7403>

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