TFS-Ruminants-Equines-2025-02-EN
Version 1 – September 2025
https://doi.org/10.5281/zenodo.17036971

Quality of care in ruminant and equine farming

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What is quality of care?

Farm animals depend on humans. Care includes human actions that are necessary to sustain an animal's life, e.g. housing management, provision of food, medical treatments, herd management, handling. Quantitative aspects of care relate to the frequency and duration of actions, which depend on the number of animals per caretaker (i.e. people responsible for the care of animals). Qualitative aspects refer to the nature of the tasks performed and how well they are carried out (e.g. implementation of best practices, calm handling).

The skills of caretakers affect the quality of care. Caretakers' knowledge of animal needs, behaviour and welfare, and of best practices is key to good quality of care. Besides theoretical knowledge, procedural knowledge is also important and can be reinforced through practical training and experience. Many tasks involve contact with animals, such as handling, and thus depend on the human-animal relationship. Personal characteristics can influence quality of care: attitudes towards animals, empathy, personality traits and job satisfaction all affect how people interact with animals. In addition, the time devoted to care affects the quality of care: even skilful caretakers cannot ensure proper care if they do not have sufficient time.

Husbandry systems can also affect the quality of care. For example, it can be more difficult to meet nutritional needs of animals in a pasture-based system than it is indoors with mixed rations. Facility design that enables easy handling (e.g. grouping, restraining for medical treatment) is also important to consider for quality of care.

For more detailed information on quality of care in ruminants and equines see: ***Review 'Quality of care in ruminants and equines'***.

Legal requirements

According to Directive 98/58/EC, animals kept for farming purposes must receive an adequate quantity and quality of care. Directive 2008/119/EC on the protection of calves specifies a minimum of two inspections per day for housed calves and one inspection per day for calves kept outdoors.

Assessment of quality of care

Direct observation of aspects of care such as handling, feeding management or health care may allow deficiencies to be identified and preventive measures to be taken. It is, however, difficult to detect such deficiencies. Animal-based indicators can be used to assess the quality of care. For example, the quality of handling can be assessed by tests aiming to assess the level of fear in animals towards humans (e.g. avoidance distance test, Figure 1).

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Figure 1: Avoidance distance test – Human approaching an animal to determine the distance at which the animal withdraws

Effect of quality of care on animal welfare

Quality of care is an important factor affecting the welfare of farm animals. Variations in the quality of care received by animals in similar environments can lead to large differences in their welfare (e.g. disease prevalence, mortality rate, stress). Both, quantitative and qualitative aspects of care can be associated with animal welfare (Table 1). Management practices (e.g. frequency of equipment cleaning, appropriate feeding) have a direct impact on animal health and vigour. In addition, negative interactions with humans (e.g. during handling) have a negative impact on the animals' perception of humans and thus impair human-animal relationship. Animals that have had negative experiences or are not used to humans can be more difficult to handle and may even be dangerous. Such animals will also experience stress during handling and may flee or become aggressive toward humans when handled. A good relationship between animals and their caretakers is also linked to a better problem recognition and resolution by caretakers, probably associated with a better understanding of animals. When best practices, such as calm handling or regular inspection of the animals, are applied, less welfare problems are observed in animals.

Table 1: Examples of associations between some aspects of quality of care with human-animal relationship, animal welfare indicators and other aspects (adapted from Waiblinger et al., 2025).

	Factors contributing to quality of care	Human-animal relationship[1]	Association with welfare and other aspects[1]
Quantitative aspects of care	Low number of animals per caretaker	+ (calves)	Better body and fleece condition in sheep
	Small number of caretakers	+ (dairy cattle, goats) +/- (calves)	More affiliative interactions and higher production in dairy cattle; less agonistic interactions and injuries in goat
	Prolonged contact with or in close proximity to animals[2]	+ (dairy cattle)	Less agonistic interactions and injuries in goats; better udder health, less physiological stress in dairy cattle
Qualitative aspects of care	Good ability to identify individual animals	+ (dairy cattle)	More affiliative and less agonistic interactions in dairy cattle
	More positive (tactile) interactions / contact / training / calm handling or less negative interactions	+ (dairy cattle, calves and goats)	Ease of handling in cattle, calves, sheep and New World Camelids; better productivity in dairy cattle and calves; better health and less mortality in dairy cows, calves and sheep
	High frequency of manual feeding	+ (dairy cattle, goats)	
	Good problem recognition/solving/awareness		Less agonistic interactions and injuries in goat and dairy cattle

[1]+, beneficial effect; +/-, positive or negative effects depending on the context
[2]Contact here refers to the situation that the person is in the barn/the same room as the animal and thus may or may not interact

Recommendations for a good quality of care

The main recommendations which aim at improving quantitative and qualitative aspects of care are related to (Table 2):

- Education, training and experience of caretakers
- Low workload
- High frequency of inspections of the animals by caretakers
- Adhering to good practice during animal handling

The number of animals a caretaker can adequately care for depends on various factors, such as species, available equipment and housing. Therefore, it is not possible to provide a recommendation on this matter. The workload must ensure there is sufficient time for performing tasks and supervising animals.

Having one person responsible for animal care and welfare on each farm improves the likelihood of good care. This person would be responsible for ensuring appropriate quality of care, checking caretakers' education and skills, monitoring animal welfare and ensuring good working conditions for caretakers.

Table 2: Recommendations to improve quality of care on farms (adapted from Waiblinger et al., 2025).

	Recommendations
Education, training and experience of caretakers	- Training of caretakers on animal needs, behaviour, sensory capacities, general welfare, risks associated with different farming systems, welfare indicators, appropriate handling and best practices
Workload	- Appropriate workload for caretakers - Sufficient time to perform tasks and maintain contact with animals
Frequency of inspections of animals	- At least one inspection per day of all animals - At least two inspections per day for young animals kept indoors (e.g. calves) - More inspections for vulnerable animals such as neonates
Good practice during animal handling and welfare monitoring	- Habituation of animals to the facilities and to caretakers - Use of positive reinforcement - Appropriate handling facilities in order to restrain animals safely

Figure 2: Examples of interactions between caretakers and animals (left to right: milk feeding, herding, scratching, hay distribution).

Legal requirements

The legal requirements referred to are based on EU legislation. National regulations in EU Member States may exceed these requirements.

Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes

'owner' or 'keeper': any natural or legal person or persons responsible for or in charge of animals whether on a permanent or temporary basis;'
(Article 2, Paragraph 2.)

'Animals shall be cared for by a sufficient number of staff who possess the appropriate ability, knowledge and professional competence.'
(Annex, Paragraph 1.)

'All animals kept in husbandry systems in which their welfare depends on frequent human attention shall be inspected at least once a day. Animals in other systems shall be inspected at intervals sufficient to avoid any suffering.'
(Annex, Paragraph 2.)

'Any animal which appears to be ill or injured must be cared for appropriately without delay and, where an animal does not respond to such care, veterinary advice must be obtained as soon as possible. Where necessary sick or injured animals shall be isolated in suitable accomodation [sic] with, where appropriate, dry comfortable bedding.'
(Annex, Paragraph 4.)

'The owner or keeper of the animals shall maintain a record of any medicinal treatment given and of the number of mortalities found to each inspection.'
(Annex, Paragraph 5.)

Council Directive 2008/119/EC of 18 December 2008 laying down minimum standards for the protection of calves

'All housed calves must be inspected by the owner or the person responsible for the animals at least twice daily and calves kept outside must be inspected at least once daily. Any calf which appears to be ill or injured must be treated appropriately without delay and veterinary advice must be obtained as soon as possible for any calf which is not responding to the stock-keeper's care. Where necessary, sick or injured calves must be isolated in adequate accommodation with dry, comfortable bedding.'
(Annex, Paragraph 6.)

Regulation (EU) 2016/429 of the European Parliament and of the Council of 9 March 2016 on transmissible animal diseases and amending and repealing certain acts in the area of animal health

'1. Operators and animal professionals shall have adequate knowledge of:
(a) animal diseases, including those that are transmissible to humans;
(b) biosecurity principles;
(c) the interaction between animal health, animal welfare and human health; (d) good practice of animal husbandry for the animal species under their care; (e) resistance to treatments, including antimicrobial resistance, and its implications.

2. The content and the level of knowledge required in accordance with paragraph 1 shall depend on:
(a) the species and categories of kept animals or products under the responsibility of the operators and animal professionals concerned and the nature of their occupational relationship with those animals or products;
(b) the type of production; (c) the tasks performed.

3. The knowledge provided for in paragraph 1 shall be acquired in one of the following ways:
(a) professional experience or training;
(b) existing programmes in agricultural or aquaculture sectors that are relevant for animal health; (c) formal education;
(d) other experience or other training which results in the same level of knowledge as that covered by points (a), (b) or (c).'
(Section 1, Article 11)

References

Waiblinger, S., Mounier, L., Verbeek, E., & Brunet, V. (2025). Review - Quality of care in ruminants and equines. EURCAW Ruminants & Equines. https://doi.org/10.5281/zenodo.16536104