

A photograph of three cows in a grassy field. In the center is a small white calf with black markings on its face and neck. To its left is a larger white cow, and to its right is a larger brown and white cow. The background shows green trees under a bright sky.

Welfare of farm animal

Definition and evaluation

Modern animal husbandry technologies create completely different environmental conditions than what are in the wild or in the traditional farms.

At the same time with the intensification of livestock breeding through the use of high concentrations of animals and the industrialisation of breeding, efforts to maintain the so-called "**animal welfare**" began to be **actively promoted in the 1960s:**



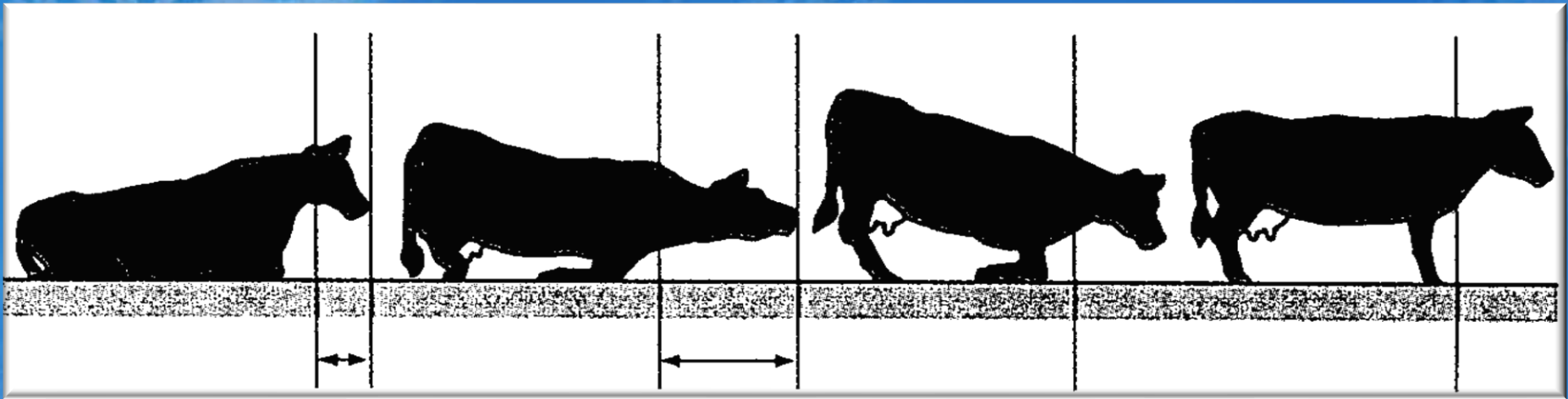
Every human-reared animal is housed, fed and cared for (with regard to species, biological characteristics and degree of adaptation) in a manner appropriate to its needs in accordance to physiological and ecological knowledge and experience. The freedom of movement inherent in the animal according to its species shall not be restricted in such a way as to cause suffering or injury to the animal.

On the intensive farms we can often find an inappropriate housing solutions are used, living space is restricted. We are saying that the welfare of the animals is bad. Although feed barriers are offered as a suitable solution for housing dairy cows, we see that animals cannot stretch out comfortably and prefer to lie across.

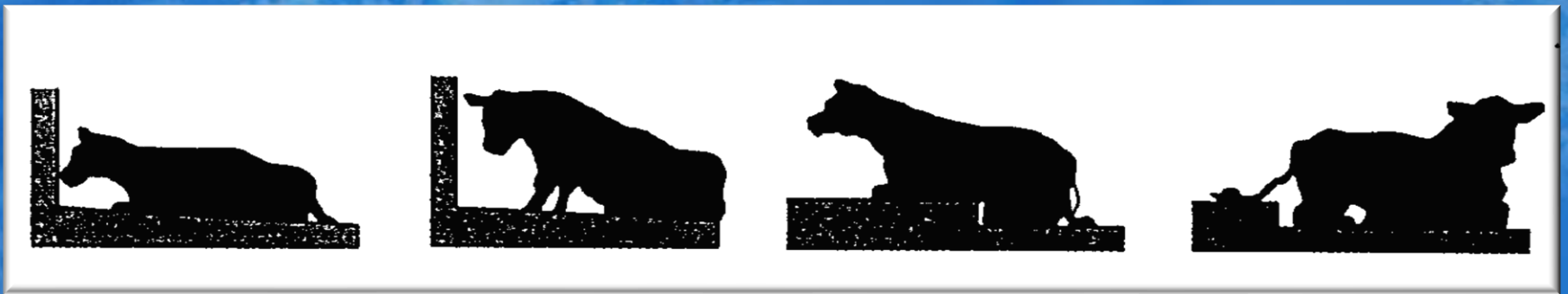
There must be comfort even during feeding. Each animal must have comfortable access to the trough to avoid restricting weaker or inferior (submissive) animals.



Sample competency test. The animals are fed in a small feeder in the middle of the stall. The subordinate (submissive) animals are immediately pushed away and do not get to eat at all.



When getting up, the cow needs space in front of her
for a sharp forward movement



Incorrect position and location in the cubicle (box).

Animals do not have the opportunity to express their natural behaviour, so on the contrary, often we see **abnormal behaviour**.



chewing and licking of cage barriers in sows

The origin of the word „welfare“

Velferth – old Norwegian word derived from the word „good“ (val) and „way“ (fara), similar word is used today in German = **wohlfahrt**, in English – **farewell**

in romanic languages – the term is based on „**beeing good**“ – in Spanish– **bienestar**

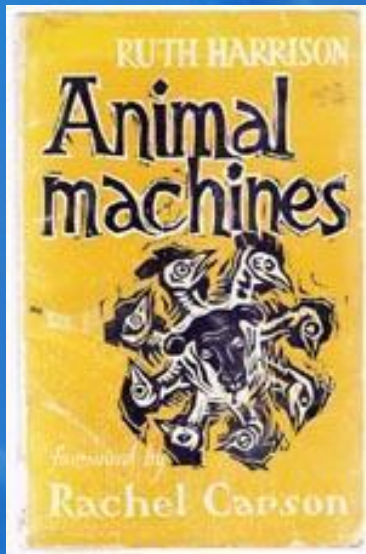
in French– **bien-être**

in Portuguese– **bemestar**

in the USA – **well beeing**

In the USA, the word is used with a similar meaning in the context of people.

Ruth Harrison – „Animal Machines“ (1964) – English activist, breakthrough in the field of livestock protection, opening the way for discussion.



Ruth's book is a critique of factory farming, and attracted a great deal of interest from the UK public and prompted the government to set up an expert committee to research the welfare of animals kept in intensive farms. It introduced the concept of animal factories.

The Brambell Commission was set up (1965) inspected the welfare of farm animals, suggested that animals should at least have the freedom to "stand up, lie down, turn around, clean their bodies and stretch their limbs" = **5 freedoms**

The Brambell Commission's definition narrows the view because it focuses on only one aspect of behaviour, **namely rest**, to the exclusion of everything else that contributes to well-being - good food, health and safety. Commission concludes that when animals are prevented from natural behaviour, they react with abnormal behaviour and, among other things, animals kept in bare enclosures such as battery cages for laying hens, exhibit behavioural patterns that show frustration i.e. welfare is endangered.

As a direct result of the Brambell Report, **the Farm Animal Welfare Advisory Committee (FAWAC)** was set up. This was disbanded at the same time that the **Farm Animal Welfare Council (FAWC)** was established by the British Government **in July 1979**, with some common membership. One of these bodies started to list the provisions that should be made for farm animals in five categories, which also became known as **the Five Freedoms**.

1993 – Farm Animal Welfare Council (FAWC) – set the provisions of the 5 freedoms and defined the ideal state of animal welfare:

Freedom from thirst, hunger and malnutrition - with full access to fresh water and food sufficient to maintain health.

Freedom from discomfort - by providing a suitable environment including shelter and a comfortable place to rest.

Freedom from pain, injury and disease - through prevention or fast diagnosis and treatment.

Freedom to carry out normal behaviour - by providing adequate space, a suitable , and the company of animals of the same species.

Freedom from fear and distress - by ensuring conditions and treatment that exclude mental distress.

[Video](#)

The absolute achievement of all the "five freedoms" is unrealistic in practical terms, and they are even mutually incompatible to some extent. For example, total freedom in behaviour does not allow any species of animal to achieve an optimal level of hygiene. Hence the need to avoid a one-sided approach to evaluation. For example, **breeders** prefer production aspects - criteria 1 and 3, while **animal protectionists** prefer ethological aspects - criteria 4 and 5. Animals themselves perceive well-being differently from humans. Knowledge of the experience with animals can only be gained through regular daily contact with them.

The FAWC has emphasised that absolute achievement of all 5 freedoms is unrealistic, but can be an ideal and practical tool for assessing welfare on farms and can be used to compare farms:

Comparison of the welfare of laying hens in battery cages and outdoor runs using the five freedoms concept

	Battery cages	outdoor enclosure
hunger and thirst	satisfied	satisfied
comfort: - thermal - physical	good bad	variable usually good
health: - diseases - pain	rare feet and legs	parasites (?) injury
behaviour	very limited	cannibalism(?)
fear and stress	frustration	agoraphobia

The application of the five freedoms points to the following facts :

1. The criteria provide **a set of rules** for understanding welfare as perceived by the animals themselves and thus for making environmental adjustments that can reconcile legitimate needs for the animals with the equally legitimate operational goals of the producers.
2. The five freedoms show that all commercial farming systems have **their strengths and weaknesses**.
3. It is dangerous to introduce **anthropomorphisms** into animal welfare assessments!

The term welfare can be most simply explained by saying that it is the state of how an animal feels. Welfare can be very good to very bad.

Well-being is a complex state of mental and physical health in which the animal is in harmony with its environment.

Welfare requires such a mental state of the animal, that expresses: satisfaction, equanimity and well-being.

Welfare is a direction that deals with the correct handling of animals: in farms, during transport, in slaughterhouses, solving comfort of animals, their health, physical and psychological needs.

The term Welfare is related to biological disciplines:

Ethology

- preference tests, stereotyping, behavioural disorders, motivation

Sociobiology

- adaptation, coping with the environment

Psychology

- depression, frustration

Physiology

animal performance, constitutional physiology, blood count, infections

Morphology

- physical anomalies, injuries, histology

Pathology

- morbidity, mortality

Endocrinology

- stress responses, endogenous opioids

Imunology

- immune responses, body defence

Welfare definitions

Earlier definition - characterized well-being as a state, when the animal is in harmony with its environment.

It was assessed whether the animal is healthy and its production is at a good level, whether its needs are met in terms of quality and sufficient nutrition, whether the animal is sufficiently protected against negative environmental influences, etc.

Research has also focused on monitoring physiological aspects such as heart rate, blood plasma cortisol content and endorphins. **Later**, researchers working on the topic, understood that this approach was limiting because, for example, an increase in cortisone is observed not only in the case of positive but also in the case of negative emotions.

Welfare definition

Another perspective on defining animal welfare is that part of welfare is not only physical, but also psychological health.

The well-being of each animal is determined by the state of its mind and body, how it feels on a range of moving from enjoyment to suffering and whether it is able to sustain itself mentally and physically in good condition.

If an animal is to achieve a sense of mental well-being, it must allow the physical and social environment to act in such a way that to avoid hunger, thirst, fear, pain, frustration and stress before the intensity of these potential sources of suffering grows too great.

American Veterinary Medical Association (AVMA)

An animal is well when it is healthy, it has adequate and appropriate nutrition, it feels safe, comfortable, can exhibit natural behaviour and does not suffer from unpleasant conditions such as pain, fear and stress. The AVMA proposes this opinion:

1. Reasonable use of animals for human purposes, both companion animals, food animals, animals bred for work, exhibition, and research for the benefit of both humans and animals and corresponding to the oath of the veterinarian.
2. Decisions regarding animal care, use and welfare should be based on a balance of scientific knowledge and professional judgement, taking into account ethical and social principles.
3. Animals must be provided with water, food, appropriate handling, medical care and a suitable environment for their use, taking into account their biological species and behaviour.
4. Animals should be cared for in such a way as to minimise fear, pain, stress and suffering.
5. Procedures relating to the housing, management, care and use of animals should be continuously evaluated and, where indicated, replaced or refined.
6. The protection and management of animal population should be humane, socially responsible and strictly scientific.
7. Animals should be treated with respect for their lives and, when necessary, given a humane death.
8. The veterinary profession should strive to improve the health and welfare of animals on the basis of the results of scientific research, education and in accordance with legislative developments.

Animal welfare



The word "welfare" has two meanings (Prof. John Webster):

1. A description of the physical and mental state of the animal in relation to its physiological and behavioural needs.
2. It also highlights the moral aspect. It is derived from the belief that an animal can have feelings that can be interpreted as pain and suffering and therefore we have a duty to protect the animals in our care from them.

Caring for animals is not only a virtue, but also requires an understanding of the principles of husbandry and welfare, which is achieved **through education and practical experience.**

A new generation of ethologists:

M. Dawkins – told that definition admits that animal behaviour is motivated by the need to find satisfaction or avoid pain. Many of these emotions are associated with primitive feelings such as hunger, pain, anxiety. Some species also feel higher feelings such as friendship, sadness over loss

Marian Dawkins (1980), psychologist **Fred Toates** –developed methods for studying animal consciousness as opposed to the simplifying Pavlovian stimulus-response theory. The new approach asks animals precise questions in a form they can understand.

Scientists ask questions:

Do all species really experience suffering, and if so, how?

A fundamental limitation of considering animal welfare from the perspective of moral philosophy is that what matters to animals **is not what we think or feel, but what we do!**

**What do the animals themselves ask
for?**

How do they feel?

**How do they perceive the quality of
their own life?**

**In exploring these questions, we need to find the
source information from physiology, ethology and
psychology, and add common sense and animal
sensitivity!**

Further definitions of welfare

- **David Fraser and Broom** (1990) – the animal's well-being depends on its ability to cope with its environment
- **Webster** (1999) – the animal's well-being is determined by its ability to avoid suffering and maintain its fitness.

Brouček a kol. (1993) – welfare is a dynamic, diverse, complex state serving to ensure natural species behaviour adapted to the course of life processes.

Doležal and Bílek (1996) - a condition where the animal remains in good health (objective aspect) and, according to external signs, feels reasonably comfortable in the environment (subjective aspect).

Večerek and Večerková (2000) - the experience of life by an individual animal at a level of satisfaction at a certain time interval.

Ondrašovič and Sokol (1995) - breeding condition where animals are comfortable, i.e. the breeding environment meets their physiological requirements and they are not abused during rearing by inappropriate technological equipment or inappropriate feeding, handling and other breeding-related procedures.



D. Fraser (2004) presents three approaches to animal husbandry and welfare assessment:

The first view is held by **producers** - they consider biological functioning as the key welfare criterion.

The second approach - is advocated by **welfare scientists** and emphasizes the emotional state of the animal. Animals should be spared unpleasant conditions such as pain or suffering as much as possible and, on the contrary, experience as many good emotions as possible. Again, it does not matter what the breeding system is.

The third approach - the key is to let animals live their natural lives so that they are free to express their behaviour. This is a **consumer-driven** approach.

European Agreement on the protection of animals kept for farming purposes (1976) – Europe Council. The Czech Republic acceded to this agreement in **1998**. The agreement stipulates that farm animals are to be treated with respect for their physiological and ethological needs.

The agreement covers the maintenance, care and housing of animals particularly in modern systems of an intensive farming.

Animal Welfare

EU Strategy 2011-2015



Welfare is the most accurate way of expressing an animal's quality of life. This is expressed in the EU **Animal Welfare Strategy 2011-2015** - the aim was to ensure that all animals in Europe have a life worth living. This can be understood to mean that the positive aspects of an animal's life and experience should outweigh the negative ones.

Here, experts agree on three components of welfare:

1. how the animal is doing physically,
2. how it feels, how it experiences life psychologically,
3. the extent to which it can live in a way that is natural to the species.

Each of these components are important, but none alone will cover or ensure welfare.

For example, a pregnant sow that is healthy and in good physical condition, but does not have a high level of welfare due to the genetically based strong appetite of today's breeds, she is kept on a restrictive ration and may suffer from persistent hunger and stereotypic behaviour.

For example, free-range laying hens, which provide the opportunity for natural behaviour, but if the husbandry system is not well managed may be more heavily infested with parasites, have a higher mortality rate and suffer from fear of predators.

Welfare assessment

- A large number of methods have been developed in the past to assess the welfare of livestock. Some are based on the assessment and compliance with **minimum standards** regulated by legislation, where limits are set for each species of livestock. Another type is **index-based approaches**, the main principle of which is to evaluate the multifactorial nature of welfare. These index concepts result in a final welfare score for the assessed livestock farm, which determines whether the assessed farm is excellent or unsatisfactory in this area.
- **Part of these concepts are used to compare farms with similar animal husbandry technologies.**

Welfare assessment methods

- ▶ use of the „5 freedoms“,
- ▶ methods based on assessment and compliance with minimum standards regulated by legislation,
- ▶ index concepts.

Indicators for assessing animal welfare

1) Indicators at herd (stable) level - based on environmental factors

In the 1980s, methods for assessing animal welfare at the herd level were developed in Europe. These methods were developed for sometimes substantially different objectives and relied on a wide range of animal welfare indicators. Environmental factors, which described features of the environment in which animals were kept such as length of boxes, feeding and watering facilities, space requirements, litter quality and access to grazing. Assessments against these factors were easy to record, could be repeated without difficulty and the data recorded was often central to solving animal welfare problems.



resting boxes - uncomfortable mattresses causing bedsores in the animals



**too much access to the sun - poor feed quality
(in the summer)**



insufficient hygiene near the drinking facility



free movement in the pasture or paddock



a humid environment has an adverse effect on the
hooves of dairy cows

2) indicators at individual animal level – based on measuring animal responses to specific environment - animal behaviour, health and physiological parameters

Examples of these parameters were **stress hormone levels, aggression, fear, abnormal behaviour, signs of acute disease and mortality**. These parameters had the advantage of recording the specific welfare status of **individual animals**. On the other hand, these parameters were difficult to obtain and often the results of the measurements were difficult to interpret.



affected health status



abnormal behaviour - tail nibbling in piglets



In calves, undesirable suckling patterns are the most common abnormal behaviour. These include sucking on other calves (mutual sucking), sucking on themselves (self-sucking), but also sucking on parts of the stall equipment.

Reasons why stall evaluation is unsatisfactory:

- It always depends fundamentally on the breeding responsibility, knowledge and skills of the farmer - a significant role is played by the farmer's attitude and attitude towards the animals (stockmanship).

[video](#)

- Different farming systems can guarantee the same level of welfare, but in each of them different key aspects are important, which the farmer must get into his blood in order for the system to reach its potential in terms of both performance and welfare. For example, **free-range housing systems** can simplify the work on the farm, as the animals will come for many of their own needs, but on the other hand they require more attention from the farmer to the social relationships in groups of animals.

The same system and its technical parameters may ensure animal welfare under certain conditions (in terms of breed, climatic conditions, intensity and size of breeding, disease situation) but may fail in other circumstances.

For example, high-yielding breeds or certain categories of animals are more susceptible to health problems and this must be taken into account when organising and managing breeding.

In welfare, it is **always about animals**, then the quality of their lives should be determined directly according to their actual condition, and technical regulations should play a rather secondary, auxiliary role.

European and our welfare legislation is still **based on stall measurements**, i.e. it prescribes what animals should be provided with.

The welfare level can be also measured according:

1) Welfare evaluation by animal production

Growth rate, milk production or production index scores are common indicators of biological functions that are often associated with high level of animal welfare. However, a direct relationship has not been demonstrated.

2) Veterinary issues

Cases of animal injuries caused by technological elements of housing, respiratory diseases resulting from poor quality of stable air and disorders of the gastrointestinal system as a consequence of nutritional factors and management can be associated with well-being.

3) Physiological approach

This approach is based on the general adaptation syndrome. Stressors do not only activate classical stress mechanisms, but affect virtually all endocrine glands, interfering with reproductive functions, metabolism and immunity.

4) Evaluation in terms of animal behaviour

The study of behaviour becomes central to understanding animal well-being. In an environment with which animals cannot cope, they begin to exhibit various forms of abnormal behaviour - aggression, depression, stereotypies...

A practical view on welfare assessment

Parameters of the external environment (features of the environment and management)

- Length of the box,
- space,
- the quality of the lying space,
- access to grazing,
- cage size,
- number of feeding places and watering facilities,
- temperature requirements...

Parameters based on animal responses to the environment - husbandry, health, physiology

- Health (diseases, injuries, mortality),
- physical condition/appearance (cleanliness, lesions on skin),
- behaviour of the animal when exposed to stimuli (ease of movement, signs of pain or fear)...

These parameters, focused **on the external environment**, are convenient to record and form a good basis for problem solving. The disadvantage is that it does not really assess welfare, does not take into account the level of care, the influence of the breeder, does not pay attention to details.

Animal-based parameters advantage - direct measurement of welfare, flexible in terms of housing type and management. Disadvantage - can indicate a problem but not the source, results are difficult to interpret, demands to record large numbers of sources.