

# AFFECTIVE STATE



THE UNIVERSITY of EDINBURGH  
The Royal (Dick) School  
of Veterinary Studies

The Jeanne Marchig International Centre  
for Animal Welfare Education

**What you will learn: How different *production* systems impact on welfare of dairy cattle**

How common welfare issues and opportunities for positive animal welfare  
can impact the affective state of dairy animals

## Affective State

Nutrition, physical environment, behaviour, human-animal relationships, and health will have positive and negative effects in the mental state (emotions) of dairy cows and calves, as briefly discussed in the previous sections.

At the same time, dairy cows' emotions may also influence its behaviour, physiology, and cognition either positively or negatively.



For example:

- Calves given a low milk allowance regime may show signs of hunger and frustration. On the other hand, calves with access to an adequate milk allowance will feel satiated, less frustrated and this may reduce the development of stereotypic behaviours.
- Healthy and comfortable calves are highly motivated to play; and cows are highly motivated to graze. Preventing them from performing these behaviours will lead to frustration and distress.
- Cows need to lie on a comfortable surface to be able to rest sufficiently. Lack of an ability to rest causes fatigue and exhaustion.
- Cows raised in an extensive system with no access to shade, or in a housed system without good ventilation or heat dispersion, will feel uncomfortably warm (called heat stress) on a hot day, and consequently have decreased milk production.
- Young calves are vulnerable to cold stress when they may feel the unpleasant sensations of shivering and the discomforts of draughts.
- Young calves are also vulnerable to heat stress in some region which causes reduced growth rate and risk of infection, so the calves should also be provided thermal comfort through cooling devices at farm.
- Calves should also be provided contact of their dams may be through fence line where they don't have physical contact they can only remain in visual contact, this improves welfare and performance of cows and their calves.



- Dairy cows are docile. Gentle interactions between cows and stock people promote positive emotions in cows, while negative handling leads to avoidance behaviour and fear.
- Group housing promotes a more complex environment, with more sensory stimuli, spatial dimensions, and opportunities to interact with others and surroundings compared to individual housing, which promote positive emotions and optimism in calves.
- Cows and calves enjoy tactile stimulation. For calves this can be through licking from their mothers, whereas access to brushes can provide these comforting and pleasurable stimuli, which may also reduce the incidence of dystocia in pregnant cows.

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