




Improved water access for pre-weaned calves to improve concentrate intake, hydration and welfare

Topic	Topic	Topic
Socio-economic resilience 	Animal welfare 	Technical efficiency 

Background
The importance of providing drinking water to calves for improved production and animal welfare is widely recognised, however surveys and animal welfare assessment schemes suggest that many dairy calves do not have sufficient access to drinking water.

How does the strategy work?

The water intake of dairy calves depends on age and milk allowance

During the first 4 weeks of age, calves offered restricted amounts of milk consume up to 3 litres of water per day, while calves offered milk ad libitum consume approx. 0.5 litres of water per day if they have free water access.

Free access to water is important for calves' intake of solid food

- Calves' water intake is higher the more restricted the milk allowance because a higher intake of solids (concentrate and roughage) is required to meet the calves' nutritional needs.
- Calves offered restricted amounts of milk require, on average, 2 litres of water for every 1 kg of concentrate intake.
- After weaning off milk calves require on average 4 litres of water for every 1 kg of concentrate intake.

Permanent access to fresh drinking water

It is recommendable that pre-weaned calves have permanent access to water, because:

- During periods of hot weather, calves' water requirements increase due to loss of water through evaporation.
- Diarrhea causes loss of body water and increases calves' water requirements.
- Due to a shorter water turnover of young animals, calves drink water more frequently than older cattle.
- Cattle prefer heated drinking water when the ambient temperatures are in the lower end of their thermoneutral zone, but prefer colder drinking water to reduce heat stress in warmer weather

Positive features

- Permanent access to drinking water improves animal welfare
- Free access to drinking water is a prerequisite for unrestricted intake of concentrate and roughage
- Social housing stimulates intake of solid feed as well as water intake

Be careful, especially on these points

- Clean water bowls and buckets daily
- Do never restrict water intake – calves' thirst reflects their need.
- Contamination with manure, minerals, toxic compounds or bacteria reduces water intake or place calves' health at risk.

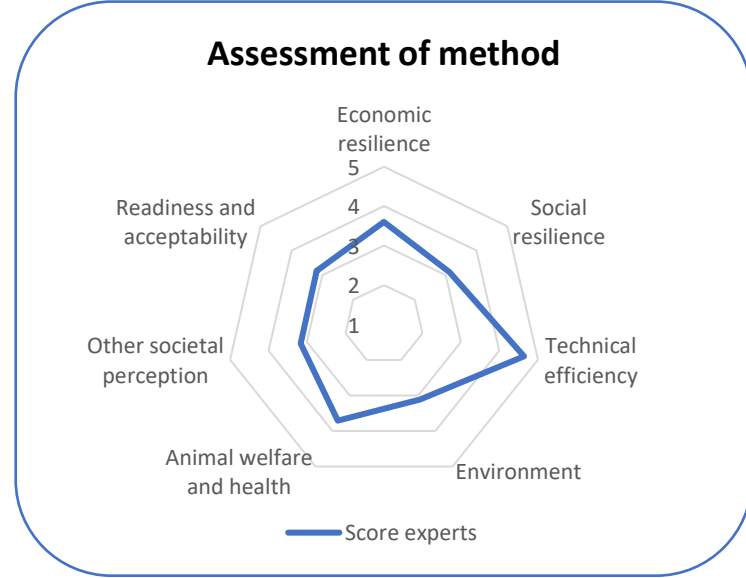
Specific advice

- Always offer water from open surface - when calves drink from open surface the water correctly ends up in the rumen.
- Offering water via milk teats is not recommended, because when calves suck this may activate the oesophageal (reticular) groove and the water may end up in the abomasum.
- Metal water nipples are unsuitable for calves.

Equipment involved?

Ensure free and permanent access to drinking water

- Provide water in bowls, and fill bowls until calves can operate a contact-activated valve
- Alternatively, provide fresh water in clean buckets at least twice daily



Quote of a farmer:
"We mustn't forget that calves need water to grow"

More info:
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