

Tongue rolling in Cattle

What is tongue rolling??

Tongue rolling behavior in cattle is considered an oral stereotype. It's a reoccurring behavior which involves opening the mouth and flicking the tongue outside to perform rapid movements. These rapid tongue movements vary in terms of intensity, frequency, and direction (Biven 2020)



Royalty-Free photo: Brown and white cattle with tongue out near green grass field PickPik

Which cattle exhibit this behaviour?

Tongue rolling behavior can effect 8% up to 13.33% of cattle aged 6 months to 6 years (Ridge et al. 2020)
It is most prevalent in female cattle between the ages of 13-25 months (Biven 2021)



Beef Farm Animal Simmental Cattle - Free photo on Pixabay

What does tongue rolling indicate?

Poor animal welfare

Tongue rolling is a coping mechanism in cattle. Cattle may use tongue rolling as a response to low welfare which includes stress and frustration. Tongue rolling has been stated as having a de-arousal function which decreases heart rate in response to stressors and frustration (Seo et al. 1998)

Specific causes of tongue rolling?

Diet

Diets fed in confinement are larger, less frequent, higher in grain, and contain less roughage compared to a pasture.

This most likely causes reduced rumination (digestive organ) time, which means cattle have to deal with digestive frustration (Bergeron et al. 2008)

Tongue rolling was also linked to higher cortisol (stress hormone) levels under low feed levels (Redbo 1998, Webb et al. 2016)

Dietary factors that DO NOT impact tongue rolling:
- Ingredient type, Particle size, Mineral content

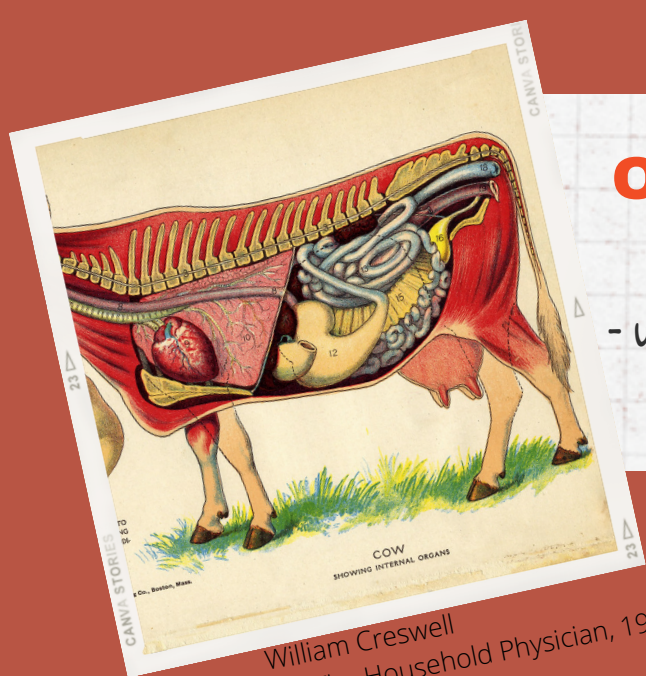
Stress - Free of Charge Creative Commons Chalkboard image (picpedia.org)

Boredom and locomotion

Lack of social interactions or restricted movement have been associated with tongue rolling behavior, most likely due to locomotive frustration and unfulfilled social needs (Binev 2020).

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Other changes in the body?

Tongue rolling is NOT associated with:
 - weight gain, reproductive success, rectal temp.,
 respiratory rate (Binev 2020)

William Creswell
 Interior of a cow from *The Household Physician*, 1905

So how can we promote cattle welfare?

Overall, tongue rolling behavior is an important indicator of cattle welfare, specifically the frustration level, boredom, and stress of the animal. It's been suggested that welfare of the animal is compromised if it spends about 10% of its time tongue rolling or engaging in other oral stereotypies (Phillips 2008)

Open pasture

An open pasture is the recommended housing environment for cattle. It allows the cattle to move and feed freely. It allows the cattle to better meet its behavioral needs, limiting frustration, stress, and boredom. This in turns decreases tongue rolling behavior.



Cows Netherlands Pasture - Free photo on Pixabay

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