



SURGICAL AND NON-SURGICAL INTERVENTIONS FOR CROSS-SUCKLING IN CATTLE

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Abstract: Cross-suckling is a behavior observed in calves, particularly in intensive rearing systems. It consists of reciprocal sucking of various body parts by calves, such as the ears, prepuce, vulva, or umbilicus. This behavior can lead to health and animal welfare problems. In our study, we aimed to control cross-suckling in adult cows initially with anti-suckling nasal rings for cattle, and subsequently through surgical methods, by excising a muco-muscular flap from the ventral surface of the tongue. The study was conducted on a farm with 250 adult cattle of the *Romanian Spotted* breed. From the total herd, 15 adult cows exhibited this behavioral tic. The recurrence rate of cross-suckling was 66.66% with the use of anti-suckling nasal rings and 13.34% with the surgical method.

• Introduction

In intensive rearing systems, a frequently observed behavioral stereotypy is cross-suckling. This is defined as the reciprocal sucking act directed towards various body parts of other individuals, such as the ears, prepuce, vulva, or umbilicus. In an attempt to manage this behavioral pathology, various strategies have been implemented. Non-surgical interventions, such as the use of anti-suckling nasal rings, aim to create discomfort associated with the sucking act. However, their long-term effectiveness is often limited, with significant rates of behavioral recurrence observed after device removal. Alternatively, surgical interventions have been explored as potentially more durable solutions. Techniques such as the excision of a muco-muscular flap from the ventral surface of the tongue aim to modify the oral anatomy to physically impede the sucking act. The present study aims to comparatively investigate the effectiveness of anti-suckling nasal rings and lingual flap excision in controlling cross-suckling in adult Romanian Spotted breed cattle, on a farm with a herd of 250 animals. Observation of 15 adult cows exhibiting this behavior allowed for the evaluation of a 66.66% recurrence rate in the case of nasal rings and 13.34% following surgical intervention.

• Material and method

The present study was conducted on a cattle farm located in Mănăștiur, Arad County, Romania. The farm maintained a herd of 250 adult *Romanian Spotted* breed cows. During the winter months, the animals were housed in a closed, stable system, while in the summer they were raised in a free-grazing system on pasture. Notably, during the winter period, a behavioral deviation represented by cross-suckling was observed in 15 cows. This behavior was predominantly noted in heifers and primiparous cows.

Two methods were employed to address this behavior:

- Conventional method: the use of anti-suckling nasal rings.
- Surgical method: the excision of a muco-muscular flap from the ventral surface of the tongue.

The application of nasal rings was performed with ease, requiring minimal head restraint of the cattle. For the surgical method, the animals were introduced into a restraint stand. Sedation was achieved using intravenous xylazine, and local analgesic blockade of the lingual nerves was performed using xylocaine (lidocaine hydrochloride).

• Results and discussions

Post-surgical recovery following the excision of the muco-muscular flap from the ventral surface of the tongue (Fig. 1, 2, 3) proceeded without complications. Complete wound healing was observed within one month. Regarding the cows' feeding behavior, a reduced feed intake was noted for approximately one week postoperatively, without leading to a significant decrease in their milk production.



Figures 1, 2, 3. Excision of the muco-muscular flap from the ventral surface of the tongue

The use of anti-suckling nasal rings resulted in a recurrence rate of 66.66%. This high recurrence was mainly attributed to the animals' ability to circumvent the protective device or their adaptation to the discomfort caused by the nasal rings. Following the surgical excision, only 2 cows (13.34%) exhibited a recurrence of the cross-suckling behavior. For these two animals, culling was recommended due to the significant economic losses associated with the persistence of this behavior.

• Conclusions

The recurrence rate of cross-suckling behavior following the use of anti-suckling nasal rings was 66.66%, while the recurrence rate after the surgical excision of the muco-muscular flap from the ventral surface of the tongue was 13.34%.

Animals in which the behavior recurred even after surgical intervention were culled.