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THE ROLE OF HIGH-QUALITY COLOSTRUM AND SUBSEQUENT SUPPLEMENTATION WITH AN AQUEOUS MEDICINAL PLANT EXTRACT IN PREVENTING NEONATAL DIARRHEA IN CALVES

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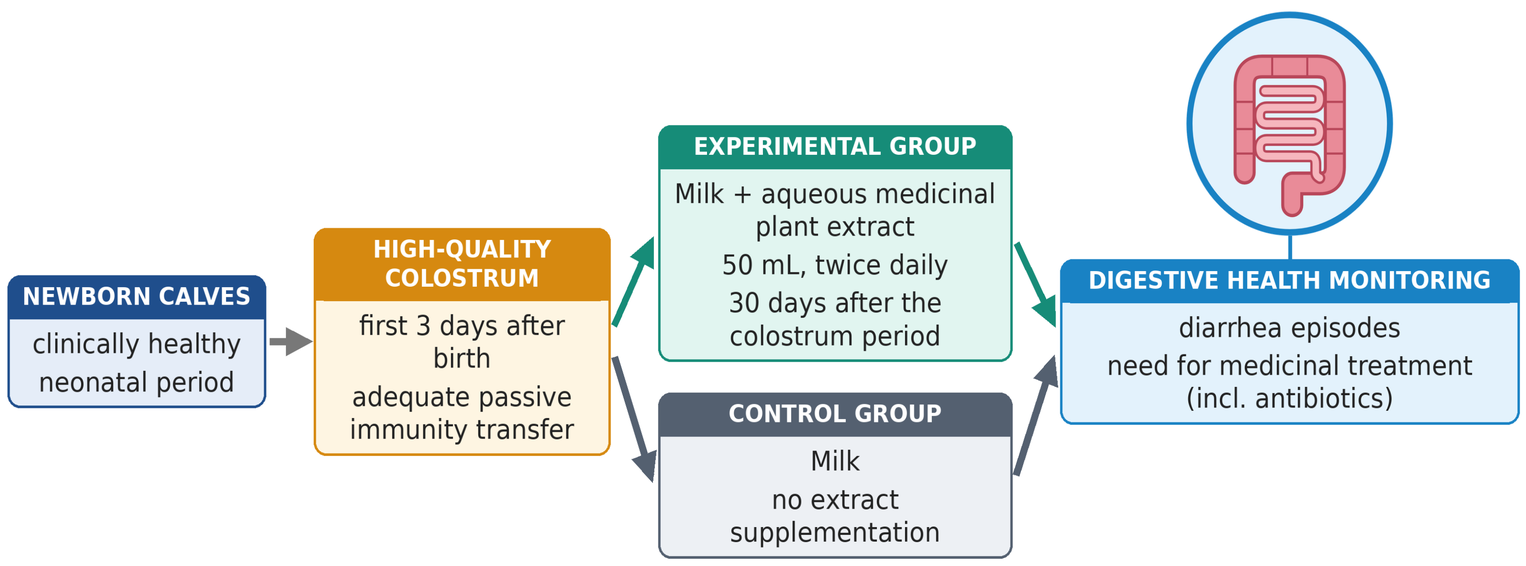
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Abstract: Adequate transfer of passive immunity through high-quality colostrum, together with additional support for digestive health during the neonatal period, plays an essential role in preventing diarrhea in calves, a leading cause of morbidity and economic loss in cattle rearing. This study examined the effect of feeding high-quality colostrum during the first three days after birth, followed by supplementation with an aqueous medicinal plant extract (50 mL twice daily in milk) for the next 30 days after the colostrum period, on the digestive health of newborn calves. Calves that received high-quality colostrum and were subsequently supplemented with the plant extract had fewer episodes of diarrhea and needed significantly less medicinal treatment than the control group. These findings suggest that optimal colostrum management in the first days of life, followed by prophylactic supplementation with an aqueous plant extract, can effectively reduce neonatal diarrhea and reduce reliance on antibiotics and other medications, representing a practical and sustainable strategy for modern calf-rearing systems.

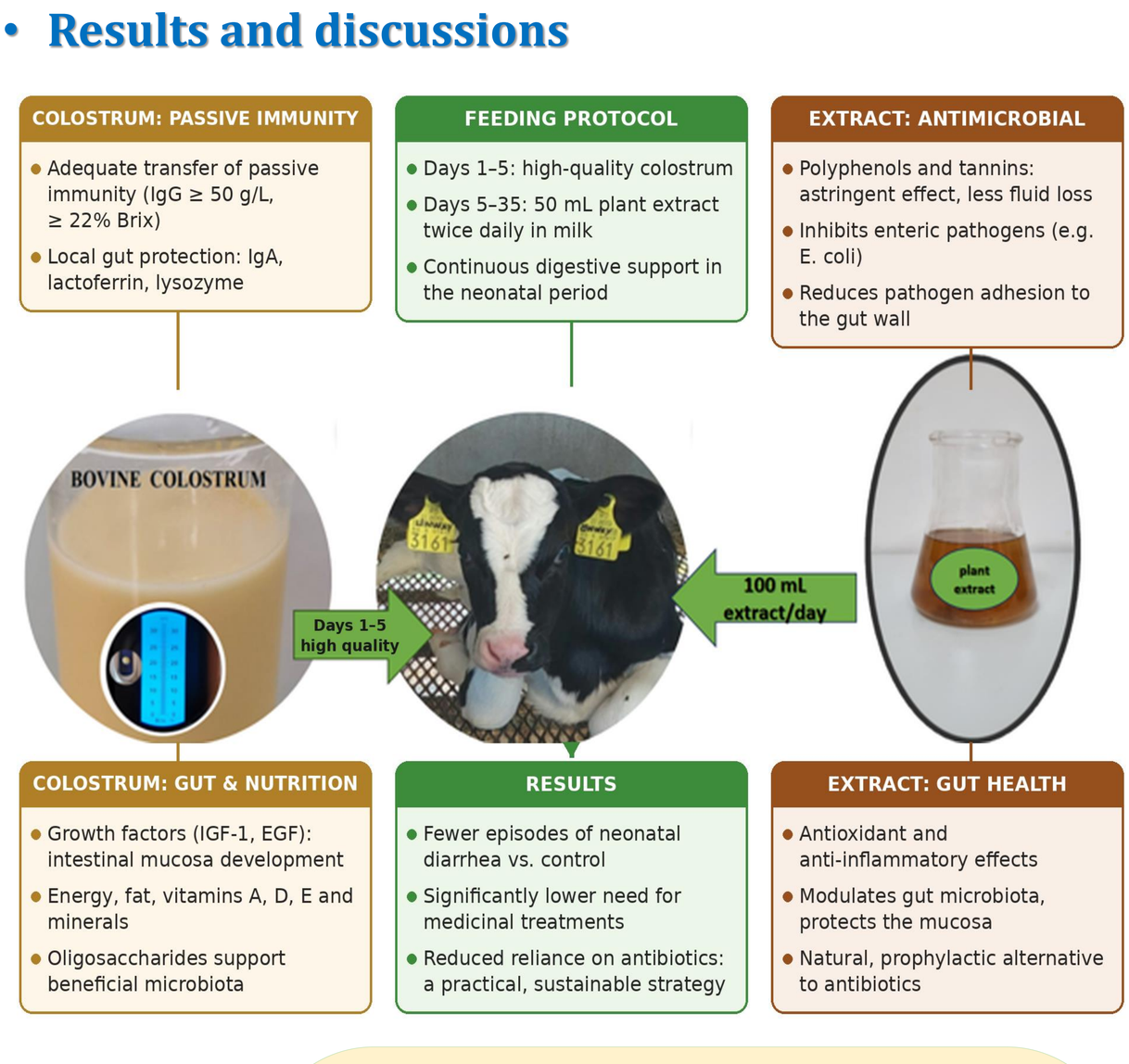
• Introduction

- Neonatal diarrhea is a leading cause of morbidity and mortality in calves during the first weeks of life and results in significant economic losses for cattle farms (Cho and Yoon, 2014).
- Calves are born without circulating antibodies, and their early protection relies on the passive transfer of immunity via high-quality colostrum administered as soon as possible after birth (Godden, 2008). Failure of passive transfer increases the risk of diarrhea and mortality (Raboisson et al., 2016). However, even with adequate passive transfer, the digestive tract remains vulnerable during the first month of life (Cho and Yoon, 2014).
- Concerns regarding antimicrobial use in calf rearing have heightened interest in natural, preventive alternatives (Constable, 2004). Aqueous extracts from medicinal plants are rich in bioactive compounds with antimicrobial, anti-inflammatory, and astringent properties, which makes them a promising option (Ayrle et al., 2016).
- This study evaluated whether administering high-quality colostrum, followed by supplementation with an aqueous plant extract during the first 30 days of life, could reduce the incidence of neonatal diarrhea in calves.

• Material and methods



• Results and discussions



Conclusions

- High-quality colostrum followed by aqueous plant extract supplementation reduced neonatal diarrhea in calves.
- Supplemented calves needed fewer medicinal treatments, including antibiotics.
- Correct colostrum management in the first days of life remains the foundation of calf health and of any preventive strategy.