



EFFECTS OF INCORPORATING CLINOPTILOLITE IN COLOSTRUM ON THE IMMUNITY AND DIARRHEA IN NEWBORN CALVES

**Ariton Adina-Mirela,^{1*} Neculai-Văleanu Andra-Sabina,¹
Poroşnicu Ioana¹, Ungureanu Elena²**

¹Research and Development Station for Cattle Breeding Dancu, Iaşi, Romania
²"Ion Ionescu de la Brad" Iaşi University of Life Sciences, Romania

Abstract: Clinoptilolite, a naturally occurring zeolite present in sedimentary rock, has significant potential as an essential component for the removal of toxins inside the gastrointestinal system. Its detoxifying, antioxidant, hemostatic, anti-diarrheic, growth-promoting, and immunostimulant characteristics render it very applicable in animal biotechnology and veterinary medicine. In recent years, clinoptilolite has become more popular in animal nutrition, particularly for its ability to enhance performance and promote overall health. Diarrhea in neonates is a very widespread ailment that leads to significant mortality rates and cost ramifications. Bovine colostrum plays a crucial role in the early feeding of calves, and the incorporation of clinoptilolite into colostrum has been shown to reduce the likelihood of diarrhea syndrome. Clinoptilolite-based products are being used more often in the fields of veterinary and human medicine due to their beneficial features, such as their capacity to facilitate ion exchange and adsorption. The objective of the study was to examine the characteristics of clinoptilolite included into colostrum in neonatal calves, specifically focusing on its impact on immunity and the occurrence of diarrhea.

Introduction

- Clinoptilolite is used in veterinary medicine for its antiviral, antimicrobial and antidiarrheal properties (Grce and Pavlic, 2005; Sadeghi and Shawrang, 2008);
- Clinoptilolite of volcanic or sedimentary origin can be added to cow feed according to the European Commission Regulation, 2001;
- The newborn calves receive their immunoglobulins from colostrum through immunity transfer. Colostrum is the all important first feed for the dairy calf that allows the calf to be healthy.
- Colostrum provides needed nutrients, particularly those that cross the placenta in limited quantities, and most importantly, maternal antibodies that protect calves from disease.

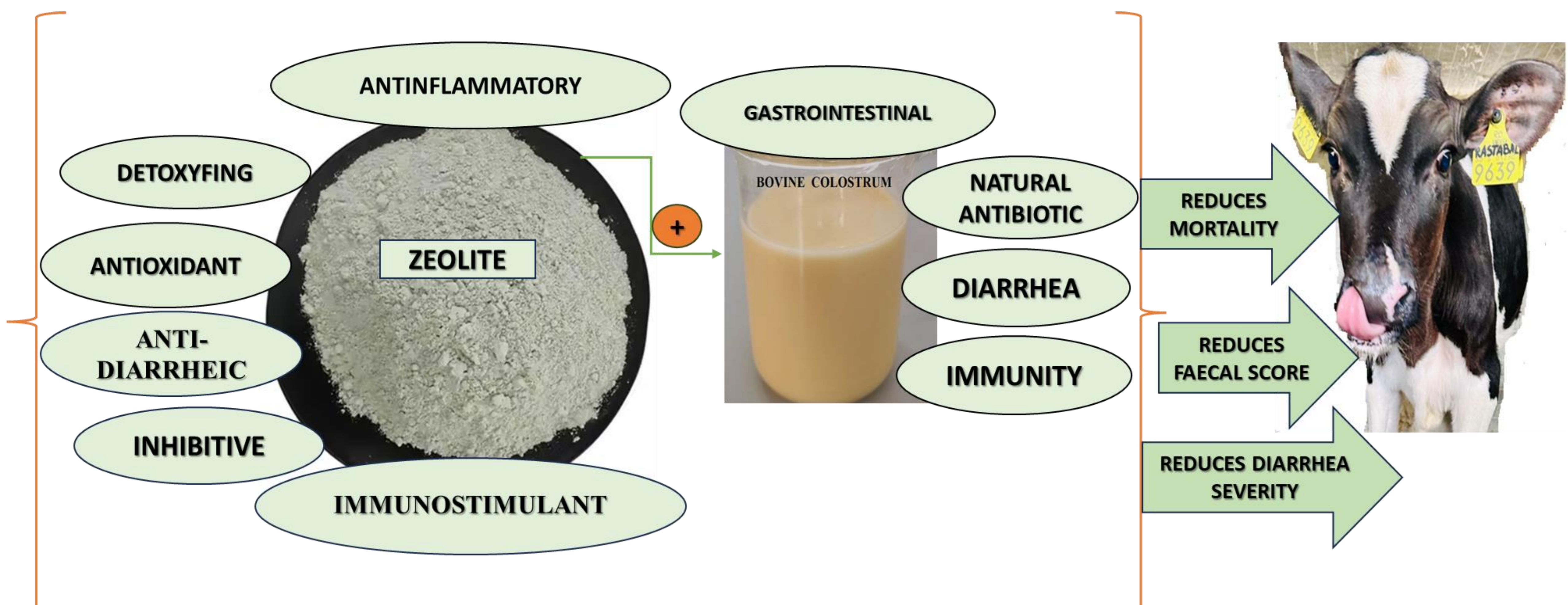
Results and discussions

- ✓ The addition of clinoptilolite in colostrum or milk reduce fecal score and its severity.
- ✓ Clinoptilolite retarding effect on intestinal passage rate and their water adsorption property leads to the appearance of drier and more compact feces (A.A. Sadeghi et al., 2008).

Conclusions

- ✓ Research shows that the of added clinoptilolite in the appropriate amount in bovine colostrum reduces the incidence, severity and duration of diarrhea in newborns.

Material and method



The benefits of administering zeolite and bovine colostrum in feeding newborn calves