

Inflammation and the Mammary Gland



The teat is a principal point of entry for invading pathogens into the mammary gland and milk is an excellent medium for pathogen growth. Therefore, mammary epithelial integrity is of paramount importance to mammals. Feeding Zinpro Performance Minerals® has repeatedly been shown to decrease somatic cell count (an indicator of mammary inflammation) in both cows (Figure 1) and sows. These improvements in mammary health may be a result of increased teat keratin production, which protects the mammary gland from invading pathogens. Increased keratin production is also observed when Zinpro Performance Minerals are fed (data not shown).

Leakage of lactose from milk to plasma is indicative of tight junction deterioration and a lack of mammary epithelial integrity. Feeding zinc from ZINPRO® zinc methionine has been shown to decrease leakage of lactose from milk to plasma during times of heat stress ($P = 0.11$), indicating an improvement in epithelial integrity (Figure 2).

CONCLUSIONS

Feeding Zinpro Performance Minerals®

- Consistently decreases somatic cell count
- Increases teat keratin production in the mammary gland
- Decreases leakage of lactose from milk to plasma

Figure 1. The Impact of Zinpro Performance Minerals on Somatic Cell Count

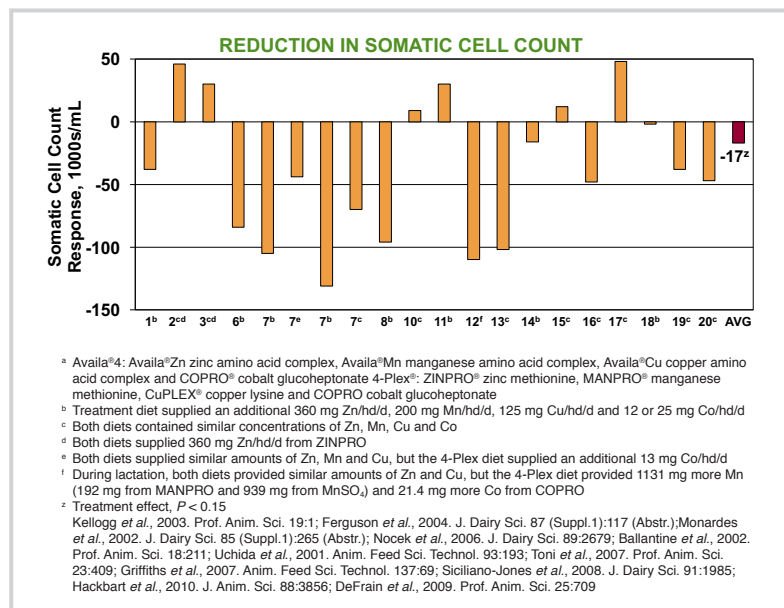


Figure 2. ZINPRO Zn^a Improves Mammary Tight Junction Integrity in Heat Stressed Cows^b

