



276 Research paper

Interrelationships between the content of oxidative markers, antioxidative status, and somatic cell count in cow's milk

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2016 Czech Journal of Animal Science 61: 407-413

In Significant Impact Groups:

Pathogen management \ Managing sick animals Diagnostics

Species targeted: Dairy;

Age: Adult;

Summary:

Bovine mastitis is a major disease affecting dairy cattle worldwide. The milk collected from cows with different type of inflammation, including mastitis, is characterized by an increased number of somatic cells (SCC). The aim of this study was to evaluate the antioxidant/oxidant status in normal cow's milk and in subclinical mastitis milk using three parameters: total antioxidant status (TAS); levels of malondialdehyde (MDA); and levels of proteins (DNPH). Subclinical mastitis was diagnosed using an electrical conductivity method and by SCC in milk. Comparative analysis of TAS showed this parameter was on average significantly lower for mastitis milk samples. The results describing the antioxidant status were correlated with those on lipid and protein oxidative degradation. The average level of MDA in mastitis milk was higher compared with normal milk. The levels of SCC, MDA, and DNPH were significantly higher in subclinical mastitis milk compared to milk from healthy cows.

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Where to find the original material:

https://www.agriculturejournals.cz/web/cjas.htm?type=article&id=70_2015-CJAS;

<https://doi.org/10.17221/70/2015-CJAS>

Country: RO