



Impacts of Oxidative Stress on Cattle Physiology

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Message from the Guest Editors

The field of oxidative stress in ruminant medicine is still in its early developmental stages. Although oxidative stress has been linked to various conditions, much remains to be uncovered about its role in ruminant health and production. Determining whether oxidative stress is a primary cause of pathologic changes or a consequence of disease processes is still a matter of investigation. Dairy cattle undergo significant physiological changes during their one-year life cycle after reaching adulthood. The considerable oxygen requirements during periods of increased metabolic demand lead to an augmented production of reactive oxygen species (ROS). An imbalance between increased ROS production and the availability of antioxidant defenses may expose cows to heightened oxidative stress.

The goal of this Special Issue is to provide new advances connecting alterations in the pattern of antioxidants and scavenger compounds, mitochondrial dysfunction, imbalance of energy metabolism, and oxidative stress with onset and/or progression of cattle production systems, also taking into consideration the impact of environmental conditions on cattle welfare in the context of a changing climate.





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Message from the Editor-in-Chief

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