World Academy of Science, Engineering and Technology
International Journal of Animal and Veterinary Sciences
Vol:13, No:06, 2019

Effects of Live Yeast Supplementation to Reduce Oxidative Stress and Increase Lactation Performance of Dairy Cattle during the Summer Season

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Abstract : The objective of this study was to evaluate the effects of live yeast supplementation on oxidative stress biomarker and antioxidant vitamin levels as well as lactation performance in Holstein Friesian cows during the summer season in Fukuoka prefecture. Sixteen lactating cows weighing 707.50 ± 13.09 kg (Mean ± SE) were used and randomly assigned to either supplemented (n = 8) or control (n = 8) group. The cows in supplemented group were administered with live yeast product at 10 g/d per cow from middle of July to middle of September for eight weeks. In treatment group, serum levels of derivatives of reactive oxygen metabolites (d-ROMs) were lower at week six. In addition, serum levels of glucose and retinol were higher at week eight and those of α-tocopherol were higher at week 2 in treatment group. During study period daily average milk yield decreased in both groups. Daily average milk yield 63 days after the onset of supplementation in treatment and control groups were 23.5 and 22.2 kg, respectively. The reduction rate of milk yield in treatment group tended to be lower (17.6 vs. 20.0%). These results suggest that live yeast supplementation may reduce oxidative stress and improve energy metabolism in lactating dairy cows during the summer season.

Keywords : cow, live yeast, milk, oxidative stress, summer season
Conference Title : ICASRANRD 2019 : International Conference on Animal Science, Ruminant Animal Nutrition and Recent Developments
Conference Location : Toronto, Canada
Conference Dates : June 17-18, 2019