

A comparative study between the impact of two feed additives on productive and reproductive performances of dairy cows under heat-stress

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A comparative study was conducted to detect the potency of two feed additives namely *Saccharomyces cerevisiae* (SC) and Cr Propionate (Cr Pr) as well as their combination to ameliorate heat stress in Holstein dairy cows during transition to early lactation periods under hot summer Egyptian climatic condition. A total of 36 multiparous cows were randomly assigned into four dietary treatments (each of 9 cows), the control group was fed on the total mixed basal diet (BD), the 2nd group was fed on BD + SC (10g/h/d), the 3rd group was fed BD + Cr Pr (0.125 g/h/d), and the 4th group was fed on BD + a combination of SC+CrPr (10&0.125g/h/d). Atmospheric temperature, relative humidity, temperature humidity index, body surface temperature indices, rectal temperature and respiration rate were recorded throughout the experimental period (4wk prepartum and 8wk postpartum). Moreover, body weight, body condition score, milk yield, milk composition, some blood biochemical parameters, as well as some reproductive parameters were determined at different weeks throughout the experimental period. Generally, the environmental data results revealed that during the Egyptian summer months, the heat stress condition showed a trend to increase body surface temperature indices at all points, rectal temperature, respiration rate, milk somatic cell count and to decrease milk yield, FCM, milk fat, milk protein, blood glucose and reproductive parameters traits. The SC and CrPr supplementations had significantly ($P<0.05$) decreased rectal temperature values, sustained better milk yield, FCM, and milk somatic cell count values. The SC supplementation significantly ($P<0.05$) increased blood glucose and decreased rumen blood NEFA and blood SOD as compared to the BD and the SC+CrPr groups. In conclusion, both feed additives could be successfully added solely not in combination to the ration of high producing dairy cows to ameliorate the adverse effects of heat stress on the performance and productivity under the Egyptian hot summer environmental conditions.

Biography

Maha M. Hady has completed her Ph.D at the age of 27 years from Faculty of Veterinary Medicine, Cairo University and has a postdoctoral fellowship from Cornell University, College of Agriculture and Life Science in 1990. She is the Head of Department of Nutrition and Clinical Nutrition, Cairo University since 2011. She has a wide interest in agriculture, nutrition, health and immunity particularly in improving the Linkage of food production and human health and wellbeing. She has published 39 papers in reputed journals, local and international conferences and serving as an editorial board member of many repute journals.

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