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Book of Abstracts

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Abstract 043

Title: An observational study in the seasonal variation of colostrum' total solids concentration of dairy cows housed with an evaporative cooling system

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Key words: Brix, Heat Stress, THI

Abstract: Colostrogensis can be affected by climatic conditions, especially in high environmental conditions. The detrimental effect of heat stress on colostrum composition and volume is well known. Well-conceived climatization systems in the barn can help reduce heat stress, like evaporative cooling. We aimed to study the seasonal variation of colostrum's total solids concentration of dairy cows housed with an evaporative cooling system. In this study, the Brix of 647 colostrum samples was measured between January to September 2020 on a dairy farm in Alentejo, Portugal. Dry cows were kept in the pasture from day 220 until day 259 of gestation. Then, cows were moved to a barn equipped with an evaporative cooling system until calving (approximately 21 days). The evaporative cooling system consisted of fans and sprinklers activated according to THI threshold. The minimum, maximum and mean THI registered outside were 48.20, 79.04 and 68.38. THI values recorded during summer can indicate moderated heat stress (> 72 THI). Brix values ranged from 11.00 to 42.00%, with a mean value of 24.91%. In this study, we found no association between THI and Brix (P=0.150), indicating the possible effect of the evaporative cooling system in maintaining the colostrum quality throughout the months in all seasons.

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