

Effect of exercise ground at night on milk performance and cows locomotion score of early lactation Holstein dairy under hot season ⁽¹⁾

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Abstract

The purpose of this study was to evaluate the effects of exercise ground at night on locomotion score and milking performance of Holstein lactating cows under high temperature-humidity environment. A total of 16 Holstein lactating cows were assigned into two groups according to their milk yield, parity, days in milk, and body weight. This experiment is divided into control group (indoor housing all day) and treatment group (indoor housing during the day and exercise ground at night) for 120 days. The environmental parameters of the cowshed (temperature, humidity), locomotion score, feed intake, body temperature, respiratory times and lactation performance (milk production and milk composition) were measured. The results showed that during the same period (16:00 to 04:00 the next day), the ventilation tunnel barn's average temperature and humidity index was 74.2 ± 2.4 units, while the average temperature and humidity index of the night exercise was 74.9 ± 2.5 . Providing exercise at night for 120 days tended to retard locomotion scores (2.44 vs. 2.19). After 30 to 90 days of exercise at night, the cattle's dry matter intake and milk production tended to decrease, and their body temperature and respiratory rate increased. However, there was no significant difference after 120 days. Milk composition and blood properties were not significantly affected by treatment. From the above results, it is trendy to exercise ground at night under a high temperature-humidity environment, which could help improve cow's hoof health. However, whether lactating cows were kept in exercise at night during the hot season must also consider the local climate conditions and whether the exercise provides fans and sprays. Cooling facilities were provided to provide a more comfortable feeding environment for cattle.

Key words: Holstein lactating cows, Milking performance, Locomotion score, Temperature Humidity Index (THI).

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