



The Effect Of Lameness on Milk Yield in Dairy Cows

Bahareh Ahmadi Torkamani 1*, Marzieh Faezi 2, Ahmadreza Mohamadnia 3

1. DVM, Faculty of veterinary medicine, Ferdowsi University of Mashhad, Mashhad, Iran.
2. PhD candidate of epidemiology, Faculty of veterinary medicine, Tehran University, Tehran, Iran.
3. Department of clinical science, Faculty of veterinary medicine, Ferdowsi University of Mashhad, Mashhad, Iran.

* bahareh.ahmadi.t@gmail.com

Lameness is a recurrent and under-reported health and welfare issue, which causes economic losses to the dairy industry by decreasing cow performance and profitability. The objective of the current study was to evaluate the association between lameness and milk yield indices in dairy cows. The research was conducted on a dairy farm in Mashhad with 600 dairy cows, annual production of 39 liters and free stall system. Data about milk production indices including total milking days, total milk production and corrected 305-day milk production were extracted for all first-lactation cows with 0 – 200 days in milk (DIM). The selected cows (n=48) were divided into two groups lame cows (exposed) and non-lame cows (non-exposed) based on their locomotion score (five-point Sprecher system). In the first plan, the 37 cows with locomotion scores 1,2, and 3 selected as non lame group, while the lame group consisted of 11 cows with 4 and 5 scores. In the second plan, cows with locomotion scores 1 and 2 were considered as non-lame (n=32) and cows with locomotion scores 3, 4 and 5 were considered as lame (n=16). The effect of lameness on milk production indices was statistically analyzed for each group using the t-test (SPSS, version 26). In the first plan, the mean total milking days in the lame group was 357 ± 79 days, versus 381 ± 88 days in the non lame group. Total milk production in the lame group recorded as 13760 ± 3399 liters, whereas corrected 305-day milk production was 12121 ± 1894 liters; these values were higher in the non-lame group (14946 ± 399 liters, and 12224



± 1760 liters, respectively). Based on a t-test analysis, it was found that although the mean amount of total milking days, total milk production, and corrected 305-day milk production of the non-lame group were greater than the lame group, the difference was not significant ($P > 0.05$). According to the t-test analysis, the results for the second plan were similar as well. Even though this study was conducted in a herd with full hoof and welfare care, the results showed a decrease in milk production of lame cows and an increase in lactation period of non-lame cows, which should be considered in lameness control programs.

Key words: lameness, dairy cow, milk production

References

1. Mellado M, Saavedra E, Gaytán L, et al. The effect of lameness-causing lesions on milk yield and fertility of primiparous Holstein cows in a hot environment. *Livestock Science*. 2018/11/01/ 2018;217:8-14. doi:<https://doi.org/10.1016/j.livsci.2018.09.008>
2. Puerto MA, Shepley E, Cue RI, Warner D, Dubuc J, Vasseur E. The hidden cost of disease: II. Impact of the first incidence of lameness on production and economic indicators of primiparous dairy cows. *Journal of Dairy Science*. 2021/07/01/ 2021;104(7):7944-7955. doi:<https://doi.org/10.3168/jds.2020-19585>

Evaluation of The Effect of High Locomotion Score on Culling Rate in Cows

Reyhane Sangtarash 1*, Marzie Faezi 2, Ahmadreza Mohamadnia 3

1.DVM graduated from Ferdowsi University of Mashhad

2.DVM graduated from Ferdowsi university of mashhad, Board certified from Tehran university

3.Associate Professor, Department of Clinical Sciences, Faculty of Veterinary Medicine Ferdowsi University of Mashhad

Lameness is defined as clinical manifestation of painful disorders, mainly related to the locomotor system, resulting in impaired move-