

LC008-Oral

Association Between Digital Disorders and Reproduction Indices in Dairy Cows;
Study on Farm Level

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This study was conducted in a dairy cow operation in the vicinity of Tehran; due to the presence of prerequisites such as high prevalence of lameness, well-recorded reproductive data and tendency of farm manager. It appears without saying that lameness is one of the main problems of dairy cow rearing industry, having undesired impacts on the other organs of the body. The main negative effects may be on the reproductive and productive systems. The objective of this study was to find an association between lameness and low fertility of such cows in this farm.

This prospective longitudinal study was carried out on 225 postpartum Holstein cows. Digital disorders were classified based on the 5-points lameness scoring system. Reproductive indices of such lame cows were also drawn from the reproductive data and were recorded in a pre-established questionnaire for later comparison with those of the healthy cows. Data were analyzed using Chi Square and Student "t" tests. The relative risk "R.R." for each of the indices was calculated considering 95% confidence interval.

Seventy six out of 225 cows were diagnosed as lame during 30 months period. Digital dermatitis (28.9%) and Sole ulcer (21.2%) were the most prevalent lesions. Reproductive indices including Days Open (193.94 vs. 115.28 days), Days to 1st Service (113.57 vs. 81.52 days), Calving Interval (464.73 vs. 392.25 days), Days in Milk (370.66 vs. 328.39 days), Services per Pregnancy for all cows (3.18 vs. 1.81) and for pregnant cows (2.28 vs. 1.71), First Service (33.8% vs. 52.35%) and Overall Conception Rates (31.43% vs. 55.16%) were found significantly different between the lame and healthy cows, respectively ($P < 0.0005$). The relative risk of negative rates of reproductive indices in lame cows were significantly higher than control group.

It was concluded that pain and stress due to digital lesions play a key role in suppressing observable behavioral estrus which may render the cow into infertility. Pain may also makes the cow reluctant to be mounted by other cows and suppresses feed intake, leading to negative energy balance and a low BCS, specifically in postpartum cows. Thus, in order to mitigate the undesired effects of lameness on fertility and reproductive performance, early diagnosis and treatment of digital lesions is needed to be established.

key words: Digital Disorder, Reproductive Indices, Dairy Cow



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