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**The Thesis Submitted for the Degree of Doctor of
professionals (In the field of Veterinary)**

Risk factors for high somatic cell count in Binalud dairy farm- Neyshabur

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Abstract

Milk somatic cell count (SCC) is a common index in the evaluation of udder health status in dairy herds and also a determining factor for milk quality. Knowing the effective factors in the occurrence of high SCC in dairy farms can help in the control and management of mastitis. The aim of the present study is to investigate the underlying factors of upper milk SCC in the first post-partum record in dairy cows of Binalud Farm in Neishabur town. For this purpose, the SCC data obtained from the analysis of the first postpartum records of 44 cows were used. The effect of independent variables including parity, BCS at calving time, lactation day, SCC of the previous parity, calf sex, BCS on sampling time and milk production rate, milk fat level and milk protein level on the occurrence of SCC above 200,000 cells/ml using regression test. Univariate and multivariate logistic were calculated. In this study, among the 44 cows examined in this research, intramammary infection ($SCC < 200,000$) observed in 8 cows (18.2%) in the first record after calving. And among these 8 cows, 10 cases had intramammary infection before the drying and the treatments during the drying were not successful in their case, and 3 cases were new infections. The failure rate in the treatment of intramammary infection during the dry period was 12.5% (10 cases out of 80 cases). Based on the results of this study, the underlying factors of high SCC in the first post-calving record in the studied cows included dystocia, high milk production, high milk fat and high milk protein in the first post-calving record. Also, the birth of a male calf was the only factor underlying the persistence of intramammary infection in the studied cows. This study showed that many factors have an effect on the SCC of milk and requires appropriate control and preventive acts.

Keywords: somatic cells, SCC, mastitis, Neishabur, Binalud, Milk, Cow