

EXPLORATORY ANALYSIS IN THE RELATIONSHIP OF PARITY AND LACTATION PERIOD ON MILK PRODUCTION

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Abstract

This study presents a comprehensive analysis of the effect of parity and lactation period on the milk yield of dairy cows. Data were collected from a dairy farm over a period of 32 days, which included daily milk yield, parity, days in milk, and lactation period. The data were preprocessed and analyzed using statistical software. An Analysis of Variance (ANOVA) test showed significant differences in milk yield between cows of different parities and lactation periods. Post-hoc testing further identified specific groups that differed significantly from each other. Correlation analysis revealed a subtle negative correlation between parity and average milk yield. Furthermore, a predictive model was developed using a linear regression approach, which estimated the average milk yield based on a cow's parity and lactation period. This model can serve as a valuable tool for farmers and dairy industry stakeholders to optimize milk production, especially in the respective dairy farm in the future. The findings underscore the importance of considering parity and lactation period in managing dairy cow milk yield.

Key words: dairy cows, parity, lactation period, milk yield