

Effect of Systematic Factors on Gestation Length in Simmental Cows

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Abstract: The effect of systematic environmental factors on gestation length in Simmental cows was evaluated by calculating the least squares mean (LSM) and its error (SE_{LSM}), by analysis of variance and by calculating the coefficient of determination (R^2). The study involved Simmental cows reared at three locations, including the Zlatiborski Suvati farm ($n=578$), the Dobričevo farm ($n=964$) and individual private farms at the Voćar Farming Cooperative in Kotraž (n=1263). The analysis included gestation length in Simmental cows as affected by continuous systematic factors (age at first conception) and discontinuous factors such as farm, calving season, birth season, parity group, calf sex, type of birth and the interaction of these factors. The effect of age at first conception was statistically significant ($P<0.05$). The discontinuous factors had a very high significant ($P<0.001$) effect on gestation length. The coefficient of determination was as low as 0.086 (8.6%), undoubtedly suggesting the small effect of the non-genetic factors on gestation length, given the fact that the trait is biologically determined and that it shows low variability.

Key words: Simmental breed, systematic factors, gestation length, coefficient of determination.

