Study of Non-Genetic Factors Affecting Dairy Cow's Milk Production and the Development of Correction Factors for Selection of FH Cattle in Indonesia

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Abstract	The purpose of this study is to identify the non-genetic variables that have a substantial impact on the milk output per lactation of FH dairy cows at BBPTUHPT Baturraden and to construct variables' correction factors. The National Dairy Cow and Forage Breeding Center (BBPTUHPT) of Baturraden provided the secondary data for the study, which included 1,942 unique records of the amount of milk produced per lactation by 1,015 FH dairy cows born between 2000 and 2014 (a total of 1,015 lactation records). Milk output per lactation, the number of milking days (100ÃƒÂ¢Ã¢Â‚Â¬Ã¢Â€Âœ600), the age at calving (575ÃƒÂ¢Ã¢Â‚Â¬Ã¢Â€Âœ2,993 days), the lactation phase (lactation 1-6), and the season of birth were among the studied variables. The F test was used to examine the impact of non-genetic factors on the amount of milk cows produce per lactation (ANOVA). The impact of season on milk output per lactation was examined using a student t-test. Utilizing the multivariate least squares method, correction factors were created. Age at calving, which ranges from 1750 to 2000 days, milking days, which range from 300 to 350, and the dry season serve as the primary benchmarks for constructing correction factors. The R program was used to generate and run statistical tests and graphic representation. The findings indicated that the age of calving and lactation period had a very strong correlation (r= 0.94). The number of milking days, age at calving, and season at birth all significantly affected milk output per lactation, with the variance contributing 84.16 percent to the overall variation, according to the results of multivariate analysis (P < 0.01). Actual milk production had a mean (standard deviation) of 3710.55 kg, while adjusted milk production had a mean (standard deviation) of 5167.91 kg. The adjustment parameters can lower the variation in milk production each lactation by 57.92%. (43.00 percent vs 18.09 percent). Conclusion: Non-genetic variability was successfully reduced by correcting milk production data on the number of days of milking, age at calving, and season at birth.
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