World Academy of Science, Engineering and Technology
International Journal of Animal and Veterinary Sciences
Vol:8, No:12, 2014

Genetic and Environmental Variation in Reproductive and Lactational Performance of Holstein Cattle

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Abstract : Effect of calving interval on 305 day milk yield for first three lactations was studied in order to increase efficiency of selection schemes and to more efficiently manage Holstein cows that have been raised on small farms in Libya. Results obtained by processing data of 1476 cows, managed in 935 small scale farms, pointed out that current calving interval significantly affects on milk production for first three lactations ($p<0.05$). Preceding calving interval affected 305 day milk yield ($p<0.05$) in second lactation only. Linear regression model accounted for 20-25 % of the total variance of 305 day milk yield. Extension of calving interval over 420, 430, 450 days for first, second and third lactations respectively, did not increase milk production when converted to 305 day lactation. Stochastic relations between calving interval and calving age and month are moderated. Values of Pierson's correlation coefficients ranged 0.38 to 0.69. Adjustment of milk production in order to reduce effect of calving interval on total phenotypic variance of milk yield is valid for first lactation only. Adjustment of 305 day milk yield for second and third lactations in order to reduce effects of factors "calving age and month" brings about, at the same time, elimination of calving interval effect.

Keywords : milk yield, Holstien, non genetic, calving
Conference Title : ICASVM 2014 : International Conference on Animal Science and Veterinary Medicine
Conference Location : Bangkok, Thailand
Conference Dates : December 18-19, 2014