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Assessing Level of Pregnancy Rate and Milk Yield in Indian Murrah Buffaloes

Authors : V. Jamuna, A. K. Chakravarty, C. S. Patil, Vijay Kumar, M. A. Mir, Rakesh Kumar

Abstract : Intense selection of buffaloes for milk production at organized herds of the country without giving due attention to fertility traits viz. pregnancy rate has lead to deterioration in their performances. Aim of study is to develop an optimum model for predicting pregnancy rate and to assess the level of pregnancy rate with respect to milk production Murrah buffaloes. Data pertaining to 1224 lactation records of Murrah buffaloes spread over a period 21 years were analyzed and it was observed that pregnancy rate depicted negative phenotypic association with lactation milk yield (-0.08 ± 0.04). For developing optimum model for pregnancy rate in Murrah buffaloes seven simple and multiple regression models were developed. Among the seven models, model II having only Service period as an independent reproduction variable, was found to be the best prediction model, based on the four statistical criterions (high coefficient of determination (R 2), low mean sum of squares due to error (MSSe), conceptual predictive (CP) value, and Bayesian information criterion (BIC). For standardizing the level of fertility with milk production, pregnancy rate was classified into seven classes with the increment of 10% in all parities, life time and their corresponding average pregnancy rate in relation to the average lactation milk yield (MY).It was observed that to achieve around 2000 kg MY which can be considered optimum for Indian Murrah buffaloes, level of pregnancy rate should be in between 30-50%.

Keywords : life time, pregnancy rate, production, service period, standardization
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