



Agrociencia

ISSN: 1405-3195

agrocien@colpos.mx

Colegio de Postgraduados

México

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MODELO ESTOCÁSTICO PARA ESTIMACIÓN DE VALORES ECONÓMICOS DE RASGOS
PRODUCTIVOS Y FUNCIONALES EN BOVINOS LECHEROS
Agrociencia, vol. 43, núm. 8, noviembre-diciembre, 2009, pp. 881-893
Colegio de Postgraduados
Texcoco, México

Available in: <http://www.redalyc.org/articulo.oa?id=30215547010>

Abstract

In genetic improvement programs it is necessary to have estimators of the economic value of the traits that are to be selected. The objective of the present study was to construct a stochastic model to calculate the economic values of productive and functional traits in dairy cattle. The model uses distributions of probability and mathematical functions to simulate the productive-reproductive cycle of a dairy herd. The output parameters of the model are related to biological and economic efficiency, at the cow and herd level, per calendar year. The economic values were estimated as partial regression coefficients in an analysis of multiple regression, with productive and functional traits as prediction variables and the gross margin as dependent variable. The significant ($p < 0.05$) economic values (USD cow-1 year-1) of positive magnitude were: 39.3 (kg, peak milk production), 2.8 (days, length of lactation), 105.9 %, milk protein), 91.5 (% , milk fat), 33.4 (years, productive life), 0.07 (first day of mastitis), 0.28 (% , voluntary culling rate in heifers), 1.62 (% , dressing percentage). The significant economic values of negative magnitude were: -3.31 (days open), -8.21 %, involuntary culling rate in cows), -1.75 (% , involuntary culling rate in heifers), -6.69 (% , cow mortality) and -0.66 (% , clinical mastitis).

Keywords

stochastic model, functional trait, productive trait, economic value

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