

INFLUENCE OF THE HERBAGE LEAF PERCENTAGE IN THE MILK PRODUCTION OF CROSSBRED COWS UNDER ROTACIONAL GRAZING

LIMA, M.L.P.; BERCHIELLI, T.T.; LEME, P.R.; NOGUEIRA, J. R. AND PINHEIRO M.G.

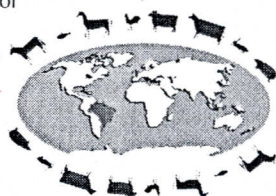
The experiment was performed at the Instituto de Zootecnia (Animal Science Institute) of Ribeirão Preto, SP, Brazil. Forage production, stem, leaf and dead material, on dry matter basis (DM), and milk production from crossbred cows were evaluated in elephant and Tanzania grass. The information was collected in two consecutive rainy season, during four grazing cycles. Some correlations and regressions had been established. The herbage allowance forage on offer was from 5.3 and 6 kg green herbage dry matter/100 kg live weight. No difference was observed for milk production between grasses. The average milk production, per cow was 10.7 e 10.6 kg/day on elephant grass and 10.8 e 10.1/kg/day on Tanzania grass, per year respectively. The linear regressions between milk production and leaf percentage in the herbage mass and between milk production and leaf percentage in residual herbage mass were established. For elephant grass, the milk production increased 0.045 kg per cow, per day for each one percent of leaves increased in the forage mass, with a determination coefficient of 0.63. For Tanzania grass, the milk production increased 0.0325 kg per cow, per day for each one percentage of leaves is increased in the forage mass, with a determination coefficient of 0.88. Using the leaves percentage in residual herbage mass, the milk production increased 0.078 kg/cow/day for each one percentage of leaves increased in the residual forage mass, with a determination coefficient of 0.53, with for elephant grass and 0.0557 for Tanzania grass, with a determination coefficient of 0.88.

A MODELING MILK YIELD IN CANCHIM AND NELLORE COWS

ESPASANDIN, A.C. AND ALENCAR, M.M.

UNESP/Jaboticabal, SP/Brazil - UDELAR/Uruguay, EMBRAPA - Southeast-Cattle Research Center, São Carlos, SP/Brazil.

Lactation curves were fitted for Nelore (n=417 cows) and Canchim cows (n=586) using linear, quadratic, quadratic-quadratic and a non linear model $yn = n/a.ckn$, where y = milk yield, n = week postcalving, and a and k = lactation curve parameters. Milk yield was estimated during 1983 to 1985 and 1989 with the weight-suckle-weight method. Milk yield was adjusted for the fixed effects of year of calving, sex of calf and cow weight as a covariate. Linear models showed low coefficients of determination equal to 0.21, 0.21 and 0.22 in Nelore cows, and 0.34, 0.34 and 0.35 in Canchim cows, for linear, quadratic and quadratic-quadratic models, respectively. The non linear model adjusted milk yield much better, showing coefficients of determination equal to 0.89 (Canchim) and 0.95 (Nelore). Milk yield peak was reached at 11.2 weeks postcalving in Canchim cows with 5.93 kg/day, and at the 12.5th week in Nelore cows with 4.08 kg/day. Results obtained in this study showed higher milk production for the Canchim breed. On the basis of the regression coefficients, the non-linear model had better adjustment than the linear ones. (Financial support: Embrapa).



ESTIMATES OF GENETIC PARAMETERS USING RANDOM REGRESSION MODELS FOR WEIGHTS FROM BIRTH TO SELECTION (378 DAYS) OF NELLORE MALES

CYRILLO, J.N.S.G.¹; ALENCAR, M.M.²; RAZOOK, A.¹; MERCADANTE, M.É.Z.¹ AND FIGUEIREDO, L.A.¹

¹ APTAVIZ, SP/Brazil.

² EMBRAPA-CPPSE, SP/Brazil.

Estimates of variance and covariance components of random regression coefficients for additive direct effect, permanent environmental effect due to animal, and maternal permanent environmental effect were obtained by restricted maximum likelihood method, using 17,942 records of 2,582 Nelore males. Legendre Polynomials for additive direct(kA), permanent environmental due to the animal(kC) and maternal permanent environmental(kQ) effects of orders $k=6,5,3$ and $k=6,6,4$ ($k=kAkCkQ$) were used, with residual variances modeled with four (R4) or eight (R8) classes. Estimates of heritability varied in different points along the growth trajectory: decreasing from 0.44 and 0.29 at 35 days to 0.22 and 0.21 at 210 days, increasing again to 0.40 and 0.39 at 378 days of age, for models $k=6,5,3R4$ and $k=6,6,4R8$, respectively. Maternal permanent environmental effect was responsible for 29% of the phenotypic variance at 91 days ($k=6,6,4R8$). In general, genetic correlations were high, with values of 0.88 and 0.83 between weight at 120 days and weights at 210 and 378 days of age, respectively, and of 0.90 for body weights at 210 and 378 days of age, for $k=6,5,3R4$. Estimates of variance components for random regression models for additive direct and maternal permanent environmental effects changed along growth curve up 378 days of age. Responses to selection could be effective, mainly if the weights considered are close to 378 days of age.

ESTIMATION OF GENETIC PARAMETERS FOR DAILY MILK YIELD OF GUZERA COWS BY RANDOM REGRESSION TEST DAY MODELS

TEODORO, R.L.; VERNEQUE, R.S.; PENNA, V.M.; SILVA, M.V.G.B. AND COBUCI, J.A.

The objective of the study was to estimate genetic parameters of the lactation curve and lactation persistency measures through random regression model, using daily milk yield records (PLDC) in dairy Guzera herds. Registrations of 12,912 PLDCs of 964 cows were used, with production until the third calving, and necessarily, with production at first one. The parameters of the model, as well as the components of (co)variance were estimated using an animal model and the REML method. In the random regression a polynomial was used characterized by an exponential function, being admitted random, genetic additive and permanent environment effects, animal variables and constant residual variance. The parameters were estimated by using data of the considered total sample and two sub-samples, one of them just containing the information to the first calving and another sub-sample containing only the data to the second and third ones. The estimates of heritability of the three samples presented behavior linear curve along the lactation, being higher in data of the first lactation. The estimates of genetic correlation among PLDCs to different stadiums of the lactation were high, in general, tending to decrease with the increase of the period among pairs of milking controls. Estimates of heritability of the lactation persistency were of low to moderate magnitude and the genetic correlations with the milk yield at 305 days were low.