**Section:** Breeding and Genetics
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# W38

**Selection effect for growth traits on energy requirements in reproduction females of three production cycles.**

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The objective was to evaluate the effect of selection for growth traits on energy requirements in reproductive females from 3 production cycles (C). Records of weights from Nellore cows were used to calculate the average weights in the reproductive stage (after 730 d). The average number of days that females remain in each category (pregnant lactating, non-pregnant lactating, pregnant nonlactating and empty and dry) for the period of one year considering the average calving interval of 365 (C1), 450 (C2) and 550 (C3) days were calculated as well. The energy requirement was measured by total net energy (T.N.E.) which was obtained by the sum of net energy for maintenance, activity, pregnancy and lactation. The prediction equations of NRC were used. The selection effect was analyzed using the estimates of coefficients of regression which were obtained from a previous analysis (not shown) of genetic parameters from birth to mature ages of cows. A selection intensity of 1.76 u.d.p was used. The following selection criteria were used: weights of 120, 210, 365, 450, 550 and 730 d and the weights gains between these phases. The increase of N.E. was not significant when different selection criteria were used, however the increase was observed between the production cycles. There is a tendency of increase in T.N.E. from C1 (4,864–5,070 Mcal) to C2 (4,935–5,148 Mcal), however the C3 (4,503–4,700 Mcal) was relatively inferior compared with the others. As expected, the nutritional requirements, on an annual basis, decreases with an increasing calving interval, as part of the T.N.E. is assigned to less productive classes (or nonproductive in the case of C3) and therefore less demanding. However, when considering the production of calves, the cost-effectiveness is impaired. In general, considering the genetic parameters used in this study, we conclude that the selection criteria used did not interfere in the females energy requirements regardless of their reproductive efficiency.

**Key Words:** beef cattle, net energy

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