COUNTRY: BRAZIL

SESSION: ANIMAL GROWTH AND DEVELOPMENT

CARCASS GAIN YIELD OF PUREBRED AND CROSSBRED NELLORE BULLS1

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ABSTRACT

Nellore (NE) and crossbred Canchim x Nellore (CN), Angus x Nellore (AN) and Simental x Nellore (SN) young bulls (68 animals), out of Nellore or high grade Nellore cows, with initial empty body weight of 294.8 ± 42.8 kg were fed for 92-161 days to the same degree of finishing (at least 225kg carcass and 6mm backfat thickness by ultrasound). Diet had 60% corn silage: 40% concentrate, 13.8% CP and 71.5% TDN on a DM basis. Initial carcass weight was estimated from a similar group of 14 animals slaughtered before the start of the trial. Empty body gains (kg/day) were 1.34a (AN), 1.12b (CN), 1.39a (SN) and 1.03b (NE). Final carcass weights (kg) were 305.7b (AN), 293.4b (CN), 324.8a (SN) and 245.1c (NE). Crossbreeding improved carcass daily weight gain (kg/day) for AN (0.96a) and SN (0.94a) as compared to NE (0.66c) and CN (0.84b). There were no differences among the yield of carcass as related to shrunk weight (67,8 ± 3,4 %BWG). Carcass yield as related to empty body weight gain (%EBWG) was highest for Canchin (75.8a) and lowest for Nellore (65.1b) while Angus and Simental were intermediary (71.4ab and 67.8b). Carcass gain and yield at similar end points are excellent 'output' parameters to evaluate feedlot. Crossbreeding improves carcass production from Nellore cows, however changes in feed intake (inputs) have to be taken in account.

KEYWORDS

Body Composition, Nellore crossbred, Tissue deposition rates

INTRODUCTION

Brazil has one of the world's largest cattle herd with about 160 million heads and an annual slaughter of about 33 million. Of these, about 80% are composed by animals of Nellore breed (http://www.agricultura.gov.br). Of Indian origin, the cattle were brought to Brazil in the last half of 19th century and quickly multiplied, adapting easily to the Brazilian climatic conditions and detached as the best breed to produce meat in a tropical environment. In the last decade Brazilian producers tried to increase their productive efficiency through crossing Nellore with Bos taurus breeds. On the other hand the efficiency of meat production in integrated systems of pasture and feedlot should consider that the carcass gain, product of larger obtained value, varies along the productive chain. In Brazilian conditions the animals enter the feedlot with approximately 350-380 kg. In this weight range the

carcass yield is of 50%. At the end of the feedlot these animals will weigh from 480 to 530 kg and they will have carcass yields from 54 to 56%. To increase the carcass yield significantly in this short feedlot period the carcass gain yield should be high. This experiment had as the main objectives the determination of carcass gain yield of pure Nellore and crossbreeds young bulls.

MATERIALS AND METHODS

Nellore (NE) purebred and crossbred Canchim x Nellore (CN), Angus x Nellore (AN) and Simental x Nellore (SN) young bulls with initial empty body weight of 294.3 kg were fed for 92-161 days. They were confined in pairs of the same crossbreed and similar weight at the Southeast-Cattle Research Center, in São Carlos, Brazil. The diet had 60% corn silage and 40% concentrate, 13.8% CP and 71.5% TDN on a dry matter basis. To obtain initial empty body weight and carcass yield, 14 animals of the same group were slaughtered before feedlot . During the feedlot period the animals were slaughtered when estimated hot carcass weight was greater than 225 kg and ultrasound backfat thickness over 4 mm. Data were analysed by GLM proceeding of SAS (SAS, 2001).

RESULTS AND DISCUSSION

Results are presented on table 1.

There were no significant differences ($P<0.05$) among breeds in feedlot time to obtain 225 kg of hot carcass weight and 4 mm backfat thickness, minimum point determined for slaughter.

There was a tendency of the SN group to delay more time to reach the slaughter point. Even presenting the largest weight gains (1.39 kg/day, Cruz et al. 2001), the largest final carcass weight (324.8 kg, Cruz et al. 2000) and the largest eye loin area (99.9 cm2, Cruz et al., 2000) the group SN presented the smallest backfat thickness (5,8 mm). Such effects were expected due to the larger muscle characteristics of Simental breed.

CONCLUSION

Carcass gain and yield at similar end point is an excellent ‘output’ parameter to evaluate feedlot. Crossbreeding improves the potential for carcass production from Nellore cows, however calves have increased net protein and energy requirements and changes in feed intake (inputs) that have to be taken into account.

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