

EVALUATION OF THE CARCASS DRESSING OF FOUR GENETIC GROUPS OF BEEF CATTLE MAINTAINED TO PASTURE, SUBMITTED TO SUPPLEMENTATION WITH ADDICTIVE AND WITHOUT ADDICTIVE, SLAUGHTERED AT 24 MONTHS

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Background

Brazil is a privileged country, that, for aptitude it possesses great chances of turning the largest producing of meats of the world. It has vast portion of arable lands, favorable climate for the agricultural development, however it presents index bass of productivity for area and for animal when compared with other producing countries and with smaller herds. However, a participation is observed, still, very small, just contributing with 13% of the total of the exports of the bovine meat what means 11% of all production (ANUALPEC, 2002). The production of precocious steers allows the reduction in the medium age for discount, that it is higher to 36 months observed in the traditional livestock, for 24 to 26 months, with carcasses well finished slaughtered with 16 old measure of weight (@). But for that they are necessary adjustments in the Brazilian animal productivity, because the herd is considered as Brahman cattle crossbred animals, mainly in Brasil Central that is responsible for 34% of the herd (BARBOSA, 1999). The addictive use in the supplementation, with leaven or probiotics, tends to improve the use of forages of low quality for the ruminant ones for favoring the digestion of the fibrous components of the foods (NEWBOLD et al., 1995). Actually a world tendency exists in the search for a food of healthy animal origin, free from chemical residues, and that the laws are respected of well to be animal. In that context Brazil is perfectly fit, because with a herd of 165 million heads, practically in extensive system of pasture, ally to the possibility of meat production with smaller tenors of saturated fat, and without growth promoters' use, it can be obtained a product of high quality, and mainly, at competitive prices.

Objectives

This work had as objective evaluates the best combinations of breeds that will result in the production of precocious steers, submitted to two supplementation types, with and without addictive, and their effects in the carcass dressing of the different genetic groups of beef cattle used.

Methods

The experiment was realized in an area of 18 hectare is belonging to the Federal University of Goiás (UFG), Campus II Samambaia, Goiânia-GO, during the period of December of 2001 to January of 2003. The area is divided with electric fence, formed by 18 pickets with predominance of *Brachiaria brizantha* cv. Marandu, with 1 hectare is each, on average. Were used 48 bovine males no castrated, contemporary, being 12 Nellore (NE), 12 Threecross ($\frac{1}{2}$ Santa Gertrudes x $\frac{1}{4}$ Angus x $\frac{1}{4}$ Nellore - TR), 12 $\frac{1}{2}$ Bonsmara x $\frac{1}{2}$ Nellore (BN) and 12 $\frac{5}{8}$ Nellore x $\frac{1}{8}$ Simmental x $\frac{1}{4}$ Belmont Red (MN), with medium age of 12 months and weights medium initials of 200 kg. The animals were distributed in two groups, being six animals of each genetic group, characterized in Treatment 1 and Treatment 2 (T1 - supplement with addictive and T2 - supplement without addictive). The prior-experiment period had duration of thirty days with the objective of adapting the animals to the new atmosphere, to the other animals and the feeding. The supplement adopted had as objective takes the animals to the discount weight, approximately of 16 @, with 24 months of age, on average. The experiment was divided in five periods according to the combinations of bulky food (on graze and pricked cane) and the supplementation. In January of 2003, the animals reached the medium weight of 430 kg and they were sent to the slaughterhouse Centro-Oeste. The carcasses were weighed being obtained the weight of the hot carcass (WHC). With permanence of 18 hours in the cold camera began the evaluations of carcass length (CL), weigh of the forequarter (FORE), hindquarter (HIND) and spare ribs yield (SPARE).

Results and discussion

It happened significant effect of WHC on dressing (DRES), FORE, HIND and SPARE ($P < 0.01$). The genetic group (GG) it influenced DRES, SPARE, ($P < 0.01$) and HIND ($P < 0.05$) (Table 1). It didn't happen interaction between GG and type of appraised supplement. In experiment with Nellore, $\frac{3}{4}$ Nellore x Charolies, $\frac{3}{4}$ Nellore x Fleckvieh and $\frac{3}{4}$ Nellore x Chianina animals, EUCLIDES FILHO et al. (1997), they didn't find significant differences in any of the appraised parameters in the carcass in relation to the genetic groups. JORGE et al. (1999), studying characteristics of carcass of Brahman cattle animals (Gir, Guzerá, Nellore and Hornless Tabapuã), they verified there not to be effect of breeds as for the carcass dressing, portion of the forequarter, hindquarter, and spare ribs yield. Larger WHC influenced the dressing and hindquarter, in Angus x Nellore steers, according to experiment of FEIJÓ et al. (2001). The values of carcass dressing in relation to the alive weight presented in this experiment are in agreement with data of the literature, that, on average it is of 54% (PERÓN et al., 1993, MOLETTA and RESTLE, 1996, JORGE et al., 1997). The medium Nellores carcass dressing (56,5%), it can be considered satisfactory, because those animals present smaller volume gastrointestinal than *Bos Taurus* (RESTLE et al., 2000a). The evaluation carcasses of Angus-Nellore steers in different alimentary regimes in the dry periods presented dressing of 53,2; 56,0; 53,1; 55,3 and 55,7%, for the different treatments, according to FEIJÓ et al. (2001). The animals of this work presented carcass dressing among 52,13% to 54,15%. RESTLE et al. (1999), they found differences ($P < 0.05$) for spare ribs yield (14,8%) in $\frac{5}{6}$ Hereford x $\frac{3}{6}$ Nellore when compared to $\frac{1}{4}$ Hereford x $\frac{3}{4}$ Nellore animals (13,4%). The authors explained that that difference was due to the fat covering deposited on the spare ribs yield, where the $\frac{5}{8}$ Hereford x $\frac{3}{8}$ Nellore animals presented 5,02 fat millimetres against 3,53 millimetres of $\frac{3}{4}$ Nellores. The supplement type influenced in the portion of the forequarter (FORE) of the carcass (Illustration 1), what can be explained because those animals presented larger carcass weights.

Conclusions

The supplement with addictive improved the weight of the forequarter's carcass in relation to the supplement without addictive; animals Threecross presented smaller carcass dressing.

References

- ANUALPEC, 2002. Anuário da pecuária brasileira – FNP Consultoria & Comércio. NEHMI, J. M. D.; NEHMI FILHO, V. A.; FERRAZ, J. V. (Coord.). São Paulo: Argos, 2002, 400 p.
- BARBOSA, P. F. **Sistemas de cruzamento para produção de novilhos precoces**. São Carlos: EMBRAPA Pecuária Sudeste, 1999, 24 p. (EMBRAPA Pecuária Sudeste. Circular Técnica, 22).
- EUCLIDES FILHO, K.; EUCLIDES, V. P. B.; FIGUEIREDO, G. R.; CARVALHO, J. Avaliação de animais Nelore e de seus mestiços com Charolês, Fleckvieh e Chianina, em três dietas. 2. Características de carcaça. *Revista Brasileira de Zootecnia*, Viçosa, v. 26, n. 1, p. 73-79, 1997.
- FEIJÓ, G. L. D.; EUCLIDES FILHO, K.; EUCLIDES, V. P. B.; FIGUEIREDO, G. R. Avaliação das carcaças de novilhos F1 Angus-Nelore em pastagens de *Brachiaria decumbens* submetidos a diferentes regimes alimentares. *Revista Brasileira de Zootecnia*, v. 30, n. 3, p. 1015-1020, 2001. (Suplemento 1).
- JORGE, A. M.; FONTES, C. A. A.; FREITAS, J. A.; SOARES, J. E.; RODRIGUES, L. R. R.; RESENDE, F. D.; QUEIROZ, A. C. Rendimentos de carcaça e de cortes básicos de bovinos e bubalinos, abatidos em diferentes estágios de maturidade. *Revista da Sociedade Brasileira de Zootecnia*, Viçosa, v. 26, n. 5, p. 1048-1054, 1997.
- JORGE, A. M.; FONTES, C. A. A.; PAULINO, M. F.; GOMES JÚNIOR, P.; FERREIRA, J. N. Desempenho produtivo de animais de quatro raças zebuínas, abatidos em três estágios de maturidade. 2. Características da carcaça. *Revista Brasileira de Zootecnia*, Viçosa, v. 28, n. 1, p. 381-387, 1999.
- MOLETTA, J. L.; RESTLE, J. Características de carcaça de novilhos de diferentes grupos genéticos terminados em confinamento. *Revista da Sociedade Brasileira de Zootecnia*, Viçosa, v. 25, n. 5, p. 876-888, 1996.
- NEWBOLD, C. J.; WALLACE, R. J.; CHEN, X. B.; MATOSHI, F. M. Different strains of *Saccharomyces cerevisiae* differ in their effects on ruminal bacterial numbers in vitro and in sheep. *Journal Animal Science*, v. 73, p. 1811-1818, 1995.
- PERON, A. J.; FONTES, C. A. A.; LANA, R. P.; PAULINO, M. F.; QUEIROZ, A. C.; FREITAS, J. A. Rendimento da carcaça e de seus cortes básicos e área corporal de bovinos de cinco grupos genéticos, submetidos a alimentação restrita e "ad libitum". *Revista da Sociedade Brasileira de Zootecnia*, v. 22, n. 2, p. 238-247, 1993.
- RESTLE, J.; ALVES FILHO, P. C.; FATURI, C.; ROSA, J. R. P.; PASCOAL, L. L.; BERNARDES, R. A. C.; KUSS, F. Desempenho na fase de crescimento de machos bovinos inteiros ou castrados de diferentes grupos genéticos. *Revista Brasileira de Zootecnia*, Viçosa, v. 29, n. 4, p. 1036-1043, 2000.
- RESTLE, J.; VAZ, F. N.; QUADROS, A. R. B.; MÜLLER, L. Características de carcaças e da carne de novilhos de diferentes genótipos Hereford x Nelore. *Revista Brasileira de Zootecnia*, Viçosa, v. 28, n. 6, p. 1245-1251, 1999.

Data in the tables and figure:

Table 1 – Averages of the carcass traits of four genetic groups of beef cattle supplemented on graze

Carcass traits	Genetic groups			
	NE	TR	BN	MN
FW, kg	440,92	453,84	434,92	438,09
WCH, kg	249,27	241,06	242,78	241,60
DRES, %	56,51	53,5	55,37	55,59
FORE, kg	58,86	56,29	56,78	57,14
FORE, %	23,61	23,17	23,55	23,45
HIND, kg	49,54	46,34	49,42	49,01
HIND, %	19,87	19,22	20,36	20,29
SPARE, kg	15,07	15,83	13,84	13,82
SPARE, %	6,05	6,57	5,70	5,72

Averages, in the same line, following by different letters, differ for the test of Tukey to 5%.

NE – Nelore; TR – Threecross; BN – ½ Bonsmara x ½ Nelore; MN – 5/8 Nelore x 1/8 Simmental x ¼ Belmont Red;

FW – final weight; WCH – weight hot carcass; DRES – dressing; FORE – forequarter; HIND – hindquarter; SPARE – spare ribs yield; weight hot carcass, expressed in cm²/100 kg.

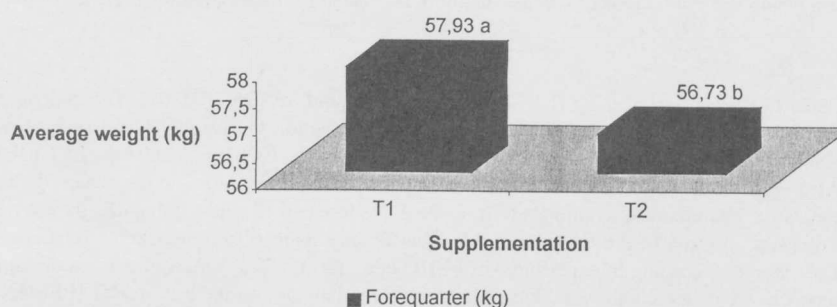


Figure 1 – Percentage of the medium weight of the forequarter's beef cattle on two supplementation types.

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