

STUDY OF THE CARCASSES OF CHAROLAIS AND NELORE (*Bos indicus*) CULL COWS .

MULLER L., PEROBELLI Z. V. and RESTLE J.

Departamento de Zootecnia Universidade Federal de Santa Maria, RS, Brasil.

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SUMMARY

The work was conducted aiming to compare the quality of carcasses from cull cows of Charolais (C) and Nelore (N) breeds. Forty-nine were used: 25 C and 24 N, that were raised and finished in native grass, same kind of management and slaughtered between 7 and 15 years of age. After chill for 24 h at 2°C, subjective and objective evaluations were performed. The right side was used for metric measurements and a section of the loin, 9-10-11 rib, to estimate the physical composition of the carcasses in muscle fat and bone. The left side was splitted into the three commercial cuts: rear, forequarter and side. C cows were heavier at slaughter but the carcass weight did not differ because the N presented higher dressing percentage (46.1 vs 49.6%). Conformation was better in C whilst the N displayed a better finish (1.5 vs 5.8mm). The C presented more carcass length, better thickness of cushion, arm perimeter and loin area whereas N had longer legs and arms. Higher proportion of rear quarter was obtained with C (51.1 vs 49.5%) and side in N. Physical composition showed that C had better muscle (67 vs 59%) and N higher fat percentage (13.4 vs 19.7).

INTRODUCTION

The consumption of cow meat in Brasil comprizes about 40% of total fresh beef consumed. This meat is sold in the supermarkets and butcher shops for the same price as meat come from steers, due to a lack of Beef Grading System.

In the southern portion of the Country where the work was conducted, european breeds are predominant, being Charolais right now the most important, raised as straight breed or in crossbreeding programs. On the other hand, in the rest of the Country, due to the tropical climate, Zebu (*Bos indicus*) is the main source of beef. Within the Zebu breeds, the most important for meat production is the Nelore.

Most of the work comparing the two types of cattle have been conducted with steers and have showed that *Bos indicus* produce less desirable carcasses than *Bos taurus*, Mariante et al. (1982), Muller et al. (1982) and Moletta et al. (1987). Restle et al. (1990) comparing Charolais with Nelore cows also found the same kind of results.

In the last few years, the University of Santa Maria, is conducting a work comparing the productivity and carcass quality of Charolais and Nelore breeds. The present paper shows just carcass data from cows of the two breeds.

MATERIAL AND METHODS

Forty-nine cows were used, 25 Charolais (C) and 24 Nelore (N) that were raised and finished in native grass and slaughtered between 7 and 15 years of age. After chill for 24 h at 2°C, subjective and objective evaluations were performed. The right side was used for metric measurements and a section of the loin, 9-10-11 rib, to estimate the physical composition of the carcass in muscle, fat and bone, following the procedure of Hankins and Howe (1946). The left side was splitted into the three commercial cut as used in Brasil: rear (8 ribs), forequarter (5 ribs) and side.

RESULTS AND DISCUSSION

The weight on the farm (obtained after 12h fasting) favoured C cows. Warm and cold carcass weight, however, did not show any significant difference due to the higher dressing percentage exhibited by N cows (49.58 vs 46.09) what is in agreement with work of Mattos et al. (1978) and Restle et al. (1990). The lower

chilling loss displayed by N can be explained by the better finish (table 2). C showed better conformation what could be expected since the muscling development is a characteristic of the breed. Both breeds presented similar physiological maturity evaluated by cartilage ossification, Müller (1987). Objective measurements of the carcasses are displayed on table 2.

C cows presented more length in the bodies, better thickness of cushion, arm perimeter and Longissimus area, parameters that, with the exception of the first, express the better muscle development of the breed. N on the other hand, had longer legs and arms and higher deposition of external fat (5.84 vs 1.54 mm). Similar results were also obtained by Moletta et al. (1982), Muller et al. (1982) and Restle et al. (1980).

The proportion of the major cuts and physical composition of the carcasses are presented in table 3.

C had a higher percentage in the reaquarter whilst N showed a larger proportion of side. No significant difference was observed in the forequarter. Results that agree with the present data were described by Mariante et al. (1982). Muller et al. (1984) obtained in Charolais and Devon cows 49.51; 35.88 and 14.40% in the rear, forequarter and side respectively.

With respect physical composition C cows presented a better proportion of muscle and N a higher percentage of fat. In the work of Restle et al. (1990) the following values were obtained for muscle and fat in C and N cows respectively (66.3 vs 59.1%) and (19.5 vs 25.7%). No significant difference was found for bone percentage. The relation of muscle/bone favoured C although non significantly.

CONCLUSIONS

Charolais cows were heavier, displayed a better muscling development and proportion in the rearquartes whilst Nelore evidenced a higher finish.

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