

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## **DIGESTIBILITY OF GRAIN CORN IN DIFFERENT ZEBU-TAURUS CROSSBREDS CATTLE SUBMITTED TO HIGH-GRAIN DIETS**

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The use of high-energy diets, such as high-grain diets, has been growing in Brazil in order to improve feedlot systems, reduce costs and improve the cattle performance. However, the loss of whole grain, or partially digested grain, in the excrements is always a question, due to the lack of information on the actual utilization of these grains. Thus, the present study aims to evaluate the influence of the different zebu-taurus crossbred cattles on the efficiency of the use of whole grain corn. We used twenty-seven uncastrated steers with 240 kg initial body weight of Pure Nellore cattle (100% *Bos indicus*) and Nellore X Canchim (68.8% *Bos indicus*) and Nellore X Aberdeen-Angus (50% *Bos indicus*), nine of each genetic grouping. The experiment was carried out at the State University of Mato Grosso do Sul (UEMS) in Aquidauana / MS and the animals were confined for 98 days, in individualized stalls, in a masonry shed. The whole-grain diets were supplied twice a day and were made with 85% whole corn grain and 15% of a pelleted protein core, containing soybean meal, minerals, vitamins, alkalizing and ionophore. Data were collected at intervals of 28 days, with the separation of the corn grains from the diet offered and the leftovers, carried out in a 5 mm sieve, followed by subsequent weighing and drying in an oven to determine the dry matter content (MS). The faeces, excreted during the 24 hour period, were washed in running water and sieved, being the grains collected, also submitted to the same drying process. Then, the corn grain utilization was calculated by the equation:  $((\text{Consumed Grain (kg / MS)} - \text{Grain excreted in the faeces (kg / MS)}) / \text{Consumed Grain (kg / MS)}) \times 100$ . The design was randomized blocks, with three genetic groups, nine repetitions and three replicates (interval of 28 days). Statistical analyzes were performed using the software R (R Core Team, 2017), with the compared averages using the Tukey test at the 5% probability level. We verified that utilization rate of the whole corn grain in high-grain diet were statistically different between Nellore (100% zebu) and Aberdeen-Angus (50% zebu), with averages of 97.71 and 99.12%, respectively. The Canchim crossbred (68.8% zebu) showed similarity to the other groups.

**Keywords:** breeds, energy, performance, starch

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