



## DIGESTIBILITY OF DIETS WITH GLYCERIN FOR NELLORE HEIFERS IN FEEDLOT<sup>1</sup>

### DIGESTIBILIDADE DE DIETAS CONTENDO GLICERINA PARA NOVILHAS NELLORE CONFINADAS

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The research for not pollutants and renewable sources of energy, made the biodiesel is reused. But, its production generates the "Glycerin" (10% of biodiesel volume). This production is increasing and accumulating year by year, like other industrious by-products. With no law about discarding, scientists started to feed animals in different species with it. Rich in glycerol, it gives energy for animals and doesn't have other nutrients. It improves the alimentary conversion and does not change ruminal ambient or carcass production. For ruminants is used glycerin originated just from vegetables. This experiment aimed to discover what glycerin's level can be used on diet. Made at the Unesp University of Campus of Jaboticabal, were used 24 heifers of Nellore in feedlot, weight of  $\pm 265$  kg in individuals stalls for 112 days. Were used three crossbreed cattle (Angus x Nellore) castrated and cannulated, with  $\pm 400$  kg of weight for incubation. The "blond glycerin" used has 83% of glycerol. The proportion of Forage: Concentrate was 30:70. Corn silage was the forage. The concentrate was composed of: soy hulls, sunflower meal, urea and corn or corn more glycerin. All treatments had same percentages of protein and energy and were identified as "without glycerin" (G0), "with 10% of glycerin" (G10) and "20% of glycerin inclusion" (G20) in the dry matter of diet. Samples of food, leavings and excrements were collected. The collections of excrements were made at the superior part of them, without contact with the floor, at the moment of defecation for three consecutive days. Leavings and food were collected just before feeding. Bromatologics analyses were made according AOAC (1995), VAN SOEST and WINE (1967), HENDRIX (1993) and the digestion was made in autoclave (0,5 Kgf/cm<sup>2</sup>, 111°C for 50 minutes), proceeding adapted of PELL and SCHOFIELD (1992). ADF<sub>i</sub> was used as indicator. Incubation was made according to CASALI *et al.* (2008) for 240 hours and new bromatologics analyses were made. The dry matter, organic matter, fat, starch, crude protein and ADF do not suffered any alteration. The digestibility's coefficients of dry matter and organic matter are similar, so the embers do not changed the digestion of the three diets. The neutral detergent fiber (NDF) had a reduction of its digestibility from 62,47 to 52,14% for (reduction of 16,5%). The hemicellulose (HEM) suffered reduction of 12,56%, from 71,14 to 62,20%, both percentages when diet G0 and G20 are compared D'AUREA (2010) obtains similar data using NDF<sub>i</sub>. The growing utilization of sunflower meal that contains lignified fibers may have contributed to these results. The inclusion until 10% of "blond glycerin" in the dry matter of a diet does not affect the digestibility's coefficients at these conditions. With 20% of inclusion it had a reduction at it's the digestibility of NDF and HEM. The glycerin can be utilized on diets as a part of the concentrate, been the energy part of diets to Nellore heifers.

Key words: digestibility, glycerin, heifers, by-products.