

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## OMEGA 6: OMEGA 3 RATIO IN DAIRY COWS MILK FED WITH SUGARCANE BAGASSE AS A SOLE SOURCE OF ROUGHAGE

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The objective of this study was to evaluate the relationship between omega 6 and omega 3 fatty acids (FA) in the milk of dairy cows fed with sugarcane bagasse as an alternative roughage source in substitution of spineless cactus in the northeastern Brazilian semi-arid. Ten Girolando multiparous cows were assigned in a 5 x 5 Latin square design. Treatments were a control diet composed of spineless cactus and sugarcane bagasse as roughage sources [40 and 30% of the dry matter (DM), respectively] and four other diets containing different proportions of sugarcane bagasse (30, 38, 46 and 54% of DM). The experimental diets were isonitrogenated and the concentrate contained ground corn, soybean meal, urea, mineral salt and sodium bicarbonate. During the experimental period, individual milk samples were collected to determine the milk FA profile. The analyzes were performed by gas chromatography using a chromatograph equipped with a fused silica capillary column and flame ionization detector. Based on the milk FA profile, the relationship between omega 6 and omega 3 ( $\omega$ -6:  $\omega$ -3) was calculated to indicate the nutritional quality of the milk fat. A regression analysis was performed with the obtained data. The observed values for the milk of cows fed with the control diet or diets containing 30, 38, 46, and 54% of sugarcane bagasse were 8.22, 12.44, 11.38, 10.33 and 8.80, respectively. The  $\omega$ -6:  $\omega$ -3 ratio was linearly reduced ( $P < 0.05$ ) with the inclusion of sugarcane bagasse in the diets. This reduction can be explained by the decrease in concentration of C18: 2 n-6 and C18: 3 n-3 FA, which are the main  $\omega$ -6 and  $\omega$ -3 FA found in milk fat. Thus, the control diet and the diet with 54% sugarcane bagasse were presented the best results, due to their  $\omega$ -6:  $\omega$ -3 ratio was within the recommended proportions (less than 10.0) for human diet, once their consumption reduces the risk of cardiovascular diseases.

**Keywords:** alternative roughage, fatty acids, human health, semi-arid

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