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CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

ODD- AND BRANCHED- CHAIN FATTY ACIDS IN MILK OF DAIRYCOWS FED SUGARCANE BAGASSE AS THE SOLE SOURCE OF ROUGHAGE

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This study aimed to evaluate the total concentration of odd- and branched-chain 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 semiarid. 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, it was perfomed the sum of the following FA: C5:0, C7:0, C9:0, C11:0, (C12:1 *cis*-9 + C13:0), C15:0 *iso*, C15:0 *anteiso*, C15:0, (C16:1 *trans*-9 + C17:0 *iso*), (C16:1 *cis*-9 + C17:0 *anteiso*), C17:0, C17:1 *cis*-9, (C18:1 *cis*-15 + C19:0), C21:0, C23:0, C14:0 *iso*, C16:0 *iso*, and C18:0 *iso*, in order to estimate the total concentration of odd- and branched-chain FA. A regression analysis was performed with the obtained data. The values obtained for total concentration of odd- and branched-chain FA were 7.85, 5.83, 5.99, 6.36 and 6.80, for the milk of cows fed with the control diet, 30, 38, 46 and 54% of sugarcane bagasse, respectively. The total concentration of these FA was linearly reduced (P<0.05) with the inclusion of sugarcane bagasse in the diets. As these FA are constituents of the lipid membranes of ruminal bacteria, the linear increase of this total concentration of FA in milk indicates greater activity of cellulolytic microorganisms with the increase of the proportion of sugarcane bagasse in the diets. Thus, the increase in the proportion of sugarcane bagasse in the diets resulted in increased total concentration of odd- and branched-chain FA.

Keywords: alternative roughage, fatty acids**,** rumen microbiota, semiarid

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