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Effects of micro-seaweed DHA supplementation on growth, carcass and meat qualities of Goat Kids

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A large number of products enriched with polyunsaturated fatty acids omega-3 are being developing because the recommendations launched from the major health agencies worldwide. Thus, meat products have been one of the main foods that have been tested this fortification, based on the fact that the composition of dietary fatty acids will be a factor in the fatty acid composition of muscle and fatty tissues of pre-ruminant animals. There is also evidence that consumption of polyunsaturated fatty acids by the kids, improves growth and carcass quality and meat. Thus, the following experiment was conducted in which 30 kids were divided into three groups based on their diets: one group was fed with a commercial milk replacer, and the two other groups were fed with milk replacer with the addition of a product rich in DHA (DHA-gold), in two different concentrations: low concentration (9 g/l) and high concentration (18 g/l). Growth, conformation and carcass and meat qualities, with special interest on the fatty acid profiles measured on intramuscular, perirenal, pelvic, subcutaneous and intermuscular fat depots. A one-way ANOVA was performed to evaluate carcass and meat measurements; a PROC MIXED procedure factorial ANOVA was performed to evaluate the effects of the treatments on growth using the SAS program package. Although a difference in tissue distribution related to the amount of subcutaneous fat was detected, finding a greater quantity for the supplemented diets, no other significant differences were found for any of the measured parameters, except the fatty acid profiles, in which the addition of the exogenous source of DHA clearly affected the amount of this fatty acid in the different analyzed fat depots. Additionally, the quantity of the DHA supplied with the diet also had an important influence on the final amount, with a higher quantity found in the tissue when DHA was supplied in the diet at a higher concentration. These results lead us to conclude that the addition of polyunsaturated fatty acids omega-3 is justified as a way to improve fatty acid profiles, but not for the other parameters.