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The effect of dietary supplementation with β -hydroxy- β -methylbutyrate (HMB) on the carcass and meat quality characteristics of goat kids*

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Abstract

The experiment was performed on 20 male Alpine goat kids that were weaned at 30±3 days of age, and were divided into a control group (C, n=10) and an experimental group (E, n=10). During a 60-day rearing period, all animals were fed identical diets composed of milk replacer, supplementary feed mix and haylage. The diet for group E was supplemented with β -hydroxy- β -methylbutyrate (HMB) in the amount of 50 mg/kg body weight. The kids were slaughtered at 90±3 days of age. Carcass quality was evaluated, and the chemical composition, physicochemical parameters, and sensory attributes of the quadriceps femoris muscle (*musculus quadriceps femoris*) were determined. It was found that group E animals were characterized by higher ($p \leq 0.05$) values of live weight at slaughter, warm carcass weight, weights of the neck, middle neck, and flank with ribs, as well as higher ($p \leq 0.05$) values of leg length, loin eye height and area. An analysis of meat quality revealed that meat from kids administered HMB was characterized by lower ($p \leq 0.05$) water-holding capacity, and lower ($p \leq 0.05$) juiciness and tenderness, as confirmed by shear force values. In comparison with group C, the intramuscular fat of group E kids had a lower ($p \leq 0.05$) content of linolenic acid and a higher ($p \leq 0.05$) content of eicosapentaenoic acid. The results of this study indicate that HMB dietary supplementation has a positive effect on increasing the body weight and thus the carcass weight, and that it improves some carcass quality indicators of goat kids.

Keywords: goat kids, β -hydroxy- β -methylbutyrate (HMB), carcass quality

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