SUBSTITUTION EFFECT FROM CORN TO BLACK OATS ON THE QUALITY MEAT OF MODIFIED CALVES OF JERSEY BREED

30° Zootec, 1ª edição, de 10/05/2021 a 14/05/2021
ISBN dos Anais: 978-65-89908-12-8

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RESUMO

Calf meat in Brazil, due to its particular characteristics, has a low acceptance by the consumer market. In this sense, the purpose of the Modified Calf is to provide a meat with characteristics closer to what the consumer is used to, especially with regard to the color of the meat. The use of high grain diets is an important tool on early animals production because the high grain diets have a high energy density, a great value factor that favors weight gain. However, in some situations, this feeding profile can change some meat characteristics, especially on its quality. So that, this work objective is to evaluate the effect of replacing corn (*Zea mays* L.) to black oats (*Avena strigosa* Schred) in the high grain diet of Modified Calves, especially meat characteristics quality. This experiment was approved by Use of Animals Committee Ethics (CEUA) of Federal Technological Paraná University (UTFPR), by protocol number 2018-09. For this experiment, 20 castrated male calves were used, with initial average age of 5 ± 2 months and initial average weight of 96 ± 5 Kg. The experimental diets were composed of different levels of substitution: 0, 38, 73 and 100% from corn to black oats. The animals were slaughtered in a commercial slaughterhouse with a final average weight of 332 ± 2 Kg. From the half carcasses, on Longissimus Dorsi muscle surface, a cut was made between the 11th and 12th ribs to determine marbling, color and texture meat. In order to evaluate freezing and cooking loss, some meat samples were collected on Longissimus Dorsi muscle surface between the 9th and 11th ribs. These samples were frozen and, after 30 days, subjected to thawing and, subsequently, cooking. After cooking the meat, tenderness, shear force (in the Warner-Bratzler Shear appliance) and palatability were determined. The experimental design used was completely randomized by four treatments and five replications. Regarding all evaluated characteristics of meat quality (color, marbling, tenderness, shear force, texture, juiciness, palatability, loss on thawing and on cooking), no statistically significant differences were observed between treatments ($P < 0.05$). For meat coloring characteristic, the average between treatments was 3.52 points, and it was classified as “slightly dark red” meat tending to “red”. When the focus is texture meat, the average between treatments was 4.73 points, so the meat was classified as "thin" tending to "very thin". In this way, it can be concluded that the replacement from corn to black oats in the high grain diet of Modified Calves does not alter the meat quality.

PALAVRAS-CHAVE: Nutrition and production of ruminants, Black oat, Quality meat, Corn, Modified calves

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