

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

BLOOD PARAMETERS OF DAIRY MALES FED WITH CORN OR PEARL MILLET, WHOLE OR GROUND

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Diets with high levels of concentrate are being used increasingly in the feeding of cattle in confinement, to stimulate high productive performance. However, these diets represent a challenge for ruminants because they have evolved to digest and metabolize fibrous diets. In this sense, the evaluation of the blood parameters of the animals can be adopted as tool to evaluate the balance between what is consumed, excreted and the metabolization of the nutrients in the animal tissue. The objective of study was evaluate the blood parameters of dairy males (Holstein-Gyr) fed with corn or pearl millet, whole or ground. Twenty-eight bulls were fed with 85% of grains and 15% of pellet commercial and were evaluated two types of grains (corn x pearl millet) and two forms of grain processing (ground x whole), for 70 days. At the end of the experiment, blood samples were collected from each animal using vacuum tubes and been determined the plasma levels of triglycerides, total cholesterol, urea, creatinine, alkaline phosphatase (ALP), albumin, aspartate aminotransferase (AST) and the serum levels of glucose using commercial kits. Tukey's test was used with 5% significance for comparison between the means when the interaction in the studied factors was not significant ($P>0,05$). The glucose ($127,54 \text{ mg dL}^{-1}$), total cholesterol ($116,70 \text{ mg dL}^{-1}$) and urea ($27,19 \text{ mg dL}^{-1}$) concentrations were not influenced by the studied factors ($P>0,05$). But, the glucose and urea levels were above the reference range for bovine specie, probably because the diets were rich in non-fibrous carbohydrates. The creatinine and albumin concentrations were altered by the type of grain ($P<0,05$), with higher averages for the animals that consumed pearl millet ($1,64$ vs. $1,31 \text{ mg dL}^{-1}$; $3,28$ vs. $2,75 \text{ g dL}^{-1}$, respectively). The creatinine, albumin and AST concentrations were altered by grain processing, with the creatinine dosage being higher in animals receiving ground grains ($P<0,05$) ($1,53$ vs. $1,49 \text{ mg dL}^{-1}$) and higher albumin and AST dosages for animals which received whole grains ($P<0,05$) ($3,18$ vs. $2,85 \text{ g dL}^{-1}$; $96,39$ vs. $75,65 \text{ U L}^{-1}$, respectively). The triglycerides and ALP concentrations were modified by the interaction between the studied factors ($P<0,05$), with lower mean for the animals that received whole corn ($18,50$ vs. $28,93 \text{ mg dL}^{-1}$) and whole pearl millet ($208,57$ vs. $360,43 \text{ U L}^{-1}$), respectively. The types and the forms of processing of the grains did not promote metabolic disturbances in the animals, despite the high energy density of the diets.

Keywords: feedlot, high-grain diet, particle size

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