

Effects of different feed additives on feedlot performance of Nelore cattle

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This study was developed to evaluate the effects of different food additives on the performance of feedlot finished Nelore cattle. Forty-eight young bulls (373 ± 32 kg and 24 months) were divided in four treatments in a randomized block design according to the initial weight, containing 85% concentrate and 15% roughage. The treatments were monensin (24.4 mg.kg^{-1}) + virginiamycin (19.5 mg.kg^{-1} ; MV), monensin (24.4 mg.kg^{-1}) + organic additive (584.8 mg.kg^{-1} ; MOA), organic additive (584.8 mg.kg^{-1} ; OA) and organic additive (584.8 mg.kg^{-1}) + compound of amylolytic enzyme (974.9 mg.kg^{-1} ; OAE). The commercial product used as source of organic additive was Fator-P® (Manufaturação de Produtos para Alimentação Animal Premix Ltda, Patrocinio Paulista, SP, Brazil) and of amylolytic enzyme was Amaize® (Alltech do Brasil Agroindustrial Ltda, Araucária, PR, Brazil). Animals were housed in 4 collective pens equipped with electronic gates (Calan Gates) that allowed individual control of food intake. Animals were adapted to the diets and to the facilities for 21 days, and fed for 88 days. Feeding was offered twice a day (7 and 16h) and orts collected every two days. The live weight (LW) was determined every 28 days and the average daily gain (ADG) was calculated by regression of all weighs across time on feed. The dry matter intake (DMI), dry matter intake as a percentage of body weight (DMI%) and feed efficiency (G:F) also were calculated. The treatments did not affect any performance trait. The averages values for treatments MV, MOA, OA and OAE were: final LW ($495.2 \times 494.6 \times 492.8 \times 485.7$ kg, respectively; $P = 0.9588$), ADG ($1.372 \times 1.312 \times 1.401 \times 1.305$ kg.d^{-1} , respectively; $P=0.8712$), DMI ($9.8 \times 9.8 \times 10.7 \times 10.1$ kg.d^{-1} , respectively; $P=0.5115$), DMI% ($2.28 \times 2.25 \times 2.49 \times 2.36\%$ of BW, respectively; $P=0.1455$), G:F ($139.2 \times 130.2 \times 130.4 \times 127.9$ g.kg^{-1} , respectively; $P=0.6998$). The use of different feed additives does not affect feedlot performance, which shows the possibility of replacing antimicrobial additives like monensin and virginiamycin by alternative ones without decreasing the production efficiency. However, additional studies are necessary to evaluate the effects of these additives in other group of animals and under different feed regimens.

Keywords: organic additive; amylolytic enzyme, feed efficiency