

209 Appropriation of feedlot rations' nutrient levels of imported cattle in central region of Turkey.

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An experiment was conducted to determine the nutrient contents of concentrated feed and Total Mixed Ration (TMR) samples taken from 6 feedlot farms in Kirikkale province and their compensation of bulls' requirements. In the province, 6 farms active in the feedlot business were identified, and their manufactured feed and TMR samples were taken at 15-day intervals, starting from cattle received either from Europe or South America. For all periods, in each sample, crude fat (EE), crude protein (CP), crude ash (CA), crude cellulose (CS), dry matter (DM), acid detergent fiber (ADF) and neutral detergent fiber (NDF) levels were determined based on Association of Official Analytical Chemists (AOAC) methods. Metabolizable Energy levels of Total Mixed Rations (TMR) and concentrate part of feeds were calculated based on Turkish Standard Institute (TSE) method. The determined values were evaluated according to animal numbers (herd size) in feedlot and fattening periods. It was determined whether the size of the feedlot farm has an effect on TMR preparation and the nutrients in TMR are matching with the beef cattle requirements during the fattening period. Data was analyzed by using one-way ANOVA and means were separated by using LSD. Results showed that CP levels of the TMRs were significantly higher than the requirements listed in Nutrient Requirements of Beef Cattle published by National Research Council (NRC) in both cattle receiving fattening periods (0–45 days and 45–90 days) ($P < 0,05$). Additionally, cattle feeders fed their cattle with similar protein levels independent from the size of feedlot ($P > 0,05$), unexpectedly. Although it was compared with requirements, energy levels were similar in all feedlots ($P > 0,05$). All determined nutrients levels of concentrate parts of TMRs in large and small herds were similar ($P > 0,05$). In conclusion, considering that this situation absolutely increases cost of fattening and may cause metabolic diseases.

Keywords: Nutrients, Fattening periods, Forage, Concentrate feed, Ration, Nutrients

183 A blend of plant extracts (Actifor Pro) potentially reduced methane production in a dual-flow continuous culture system fed bermudagrass hay with or without corn gluten feed.

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Twelve dual-flow continuous culture fermenters (1.95 L) were used to evaluate the effect of a phytogetic feed additive (Actifor Pro, Delacon, Engerwitzdorf, Austria; ACT) on ruminal fermentation and methane production when fed high fiber diets, comprised of bermudagrass hay (BGH) with or without corn gluten feed (CGF). Fermenters were utilized in a generalized randomized block design with a 2×2 factorial arrangement of treatments ($n = 6$): 1) diet (with or without CGF at 22% of diet DM) and 2) additive (with or without ACT at 1.0 g/L ACT). Two 10-d periods were conducted. Overall, comparing to no CGF, supplementation with CGF resulted in lower dry matter, organic matter, crude protein digestibility, microbial efficiency of nitrogen utilization, and methane production (mL of CH_4 /mol of total VFA), but increased neutral detergent fiber digestibility (all $P \leq 0.05$). Diet $\times$ additive interactions were observed for molar proportion of acetate and propionate, and acetate-to-propionate ratio (A:P, all interactions $P < 0.05$), where inclusion of ACT increased acetate molar proportion and A:P (both $P < 0.05$), and decreased propionate molar proportion in diets with CGF ($P = 0.05$). A diet $\times$ additive interaction was also observed for methane production (mL of CH_4 /mol of total VFA; $P = 0.08$), where ACT decreased CH_4 production per mol of VFA by 42% ($P = 0.04$), when only BGH was fed to the fermenters. In conclusion, CGF supplementation in BGH diets reduced methane production and improved fiber digestibility. The decrease in methane production per mol of VFA observed with ACT in the BGH without CGF diet warrants further investigation.

Keywords: supplementation strategies, dual-flow continuous culture, Actifor Pro