Grass-based or maize-based TMR for young bulls have similar effects on growth and carcass quality but different effects on health

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Two differently composed TMRs were simultaneously compared in an on-farm trial with young bulls slaughtered at 10 months of age. A grass-based TMR (G) with grass silage as the main forage part was compared with a maize-based TMR (M) with snaplage as the main forage source. The two TMRs were prepared fresh daily and fed once daily at a 4.5 m feedbunk area in front of each pen. M consisted of 40% snaplage, G consisted of 28 to 35% 1st and 2nd cut grass silage. The TMRs also included barley, rye, sugar beet pellets and vitamins and mineral mixtures. Based on bi-weekly feed analyses, DM (%), CP, starch, NDF, ash (all g/kg DM), net Energy (SFU/kg DM) were 63, 143, 367, 247, 56 and 1.05 for M and 67, 147, 357, 255, 59, and 1.04 for G. Total feed allowance were recorded for each TMR daily. A total of 2 x 180 male calves, 1/3 Holstein and 2/3 Belgian Blue x Holstein calves were enrolled. Mean age and live weight at start was 130 d and 183 kg for G and 132 d and 182 kg for M. Calves were housed in mixed order in 12 adjacent pens in a straw-bedded finishing barn. Data was analyzed using linear mixed models in R with pen as the statistical unit. DMI was 7.7 and 7.6 kg DM/d, ADG 1.44 and 1.39 kg/d, and FCR 5.66 and 5.62 SFU/kg ADG for M and G, respectively. No statistical differences were found regarding performance data. At the mean age of 315 d, calves were slaughtered pen-wise. Mean carcass weight (234 kg), carcass gain (681 g/d), and EUROP conformation (5.6) did not differ between TMRs. However, more carcasses from G (21%) reached EUROP fatness of 3 compared with M (8%). Furthermore, slaughter remarks related to lungs, liver and total remarks were significantly lower for G than M. The relatively low liver abscess frequency (6.5 and 4.8% for M and G, respectively) suggests that both TMRs produced a similar rumen health. Based on this trial, it is possible to include grass silage instead of the commonly used snaplage in a TMR for fast growing bull calves and obtain similar performance and carcass quality.

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