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Effect of dietary cation-anion balance on the growth and development of young bulls during individual evaluation

S u m m a r y

The studies were carried out on 42 young bulls (Hereford - 22 animals, Limousine - 20 animals). The bulls were fattened since the 7th till the 14th month of life. Within each breed, the animals were divided into two sub-groups fed the individual rates where the basic feed consisted of maize silage or grass silage, supplemented with the concentrate, adjusted to roughage. On the ground of mineral composition of feeds, specified in norms NRC [6], the content of mineral components in silages, concentrates and then, in whole rations was established and cation-anion balance of feeds (DCAB) was calculated for mean rates during the whole fattening period. During the studies, monthly production results of the bulls were determined and analysed within the breed and totally from two breeds for the rates with maize silage or grass silages. The calculated DCAB for grass silage was three times higher (+460.00 mEq/l kg DM) as compared to value, calculated for maize silage (+140.56 mEq/l kg DM). In case of the mean rate with maize silage, DCAB was equal to +120.93 mEq/l kg DM whereas for the rate with grass silage amounted to +270,00 mEq/l kg DM. Analysis of indices of animal growth and development did not reveal any differences between the both analysed feeding groups. Higher intake of DM and consumption of protein per 1 kg of gain was found in case of grass silage feeding as basic feed. In case of Limousine bulls, and totally for both breeds, differences in dry matter intake and PDIN was significant.