

A. Steinwigger, L. Gruber, T. Guggenberger, J. Gasteiner, A. Schauer, G. Maierhofer, J. Häusler (2006): ***Influence of protein and energy intake on performance of Simmental bulls. 1st comm.: Fattening performance*** (in German). Züchtungskunde, 78, (2), 136-152.

Abstract

In a two-factorial experiment 120 Simmental bulls were fed with different amounts of energy and crude protein during the fattening period of 158 to 648 kg of LW. The supply of energy differed in three levels (E1, E2, E3) varying by different amounts of concentrate (E1 1.3 kg DM; E2 2.5 kg DM, E3 increasing amount during fattening period of 2.6 to 3.9 kg DM). The roughage consisted of about 92 % corn silage and 8 % hay. The supply of crude protein differed in four levels (P1–P4) depending on the protein/energy-ratio. In P1 the protein/energy-ratio was 8.9. In group P2, P3 and P4 the protein/energy-ratio decreased during fattening period (P2 from 12.4 to 10.4; P3 from 16.0 to 12.0; P4 from 19.5 to 13.5). The average daily gains raised significantly with increasing energy supply from 1214 g (E1) to 1345 g (E2) and further only slightly to 1385 g (E3). At the same time the mean daily feed intake increased from 7.03 kg DM to 7.61 kg DM (E2) and 7.67 kg DM (E3) and the mean daily energy intake from 75.5 MJ ME (E1) to 84.2 MJ ME (E2) and 86.7 MJ ME (E3) per bull. The increasing CP intake improved the average daily gains from 1149 g (P1) significantly to 1313 g (P2), 1378 g (P3) and 1414 g (P4), respectively. The average daily feed and energy intake differed significantly only between P1 (7.02 kg DM; 77.5 MJ ME) on the one hand and P2 to P4 on the other hand (7.6 kg DM; 84 MJ ME). The influence of the different crude protein and energy levels on the fattening performance was most pronounced at the beginning of the fattening period. In comparison with the feeding recommendations of GFE (1995) the data of the present experiment showed differences especially at the beginning of the fattening period – higher crude protein and energy levels are recommended by the GFE (1995).

Keywords: beef cattle, growth, energy and protein supply

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