

121. Effects of supplementation in Belgian-Blue bulls finished at grass: animal performance, carcass and meat characteristics.

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In Belgium, beef meat is traditionally produced with growing fattening bulls kept indoors and given concentrate. It has been shown recently that the finishing of young Belgian-Blue bulls at grass did not provide carcasses with the required qualities and therefore resulted in a large reduction in the profit. The supplementation at grass has been suggested as an alternative. A total of 21 bulls was divided into three groups. Seven animals were fattened indoors on a concentrate diet (control group (CG)). Seven other bulls were grazed during 5 months and were slaughtered directly when they were taken from the pasture (PG). The third group was also grazed but was offered a concentrate made of 500 g/kg sugar-beet pulp and 500 g/kg rolled barley (PSG). The amount of concentrate was calculated to provide about half of the intake estimated on a live-weight basis. The average daily gains were 1.56 (s.e. 0.030), 1.21 (s.e. 0.196) and 1.02 (s.e. 0.221) kg/day ($P < 0.01$). The carcass weights were 413.4 (s.e. 24.48), 363.7 (s.e. 21.59) and 344.7 (s.e. 38.20) kg ($P < 0.01$). The corresponding killing-out proportions were 632.7 (s.e. 19.21), 616.6 (s.e. 7.38) and 603.0 (s.e. 44.90) g/kg ($P < 0.10$). The carcass composition was characterized by a lower proportion of muscles and a higher proportion of connective tissues in CG as compared with the bulls grazed and slaughtered from pasture ($P < 0.05$). Although higher in CG at day 2, brightness, a* and b* values were quite similar in the three groups at day 9 after slaughter. There were no differences either in water losses expressed in terms of cooking losses (average of 269.3 g/kg) and drip (average of 49.2 g/kg) or in the shear force (average of 35.0 N). By contrast, significant differences ($P < 0.01$ or 0.05) were found between CG and the groups which were grazed in the chemical composition of the *longissimus dorsi*: increase in dry matter (242.7 (s.e. 10.1) v. 229.2 (s.e. 4.2) and 235.2 (s.e. 5.9) g/kg), reduction for protein (907.7 (s.e. 20.4) v. 933.3 (s.e. 9.3) and 925.9 (s.e. 14.8) g/kg) and increase for fat (36.0 (s.e. 11.8) v. 18.1 (s.e. 3.0) and 19.9 (s.e. 5.4) g/kg). From the present trial, it appeared thus that it was difficult to finish Belgian-Blue bulls at grass even when they were offered large amounts of concentrate.