

higher during the compensatory growth in the two groups than during fattening of CG ($P < 0.01$). Plasma alpha amino nitrogen concentration was higher (70.4 and 70.0 vs 58.6 mg N/l, $P < 0.05$) and plasma urea was lower (103.0 and 96.4 vs 118.0 mg N/l) in the groups which exhibited compensatory growth. The plasma concentrations in T3, T4, IGF-I and GH were higher in the restricted groups while insulin was lower (5.5 and 5.1 vs 9.9 mU/ml, $P < 0.05$).

Poster PhN2.29

Compensatory growth in double muscled Belgian Blue bulls after feed restriction either indoors or at pasture: animal performance, carcass and meat characteristics.

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Fourteen double muscled Belgian Blue bulls fattened on a concentrate diet based on sugar beet pulp (control group, CG) were compared with animals previously submitted at a period of low growth and then offered the concentrate diet as the control animals (compensatory growth group, CGG). In CGG, 30 bulls were offered indoors a restricted amount of straw based diet, while 16 others were grazed at 6 or 10 bulls/ha. Animals were slaughtered according to similar fattening state. During the compensatory growth, the average daily gain was 1.47 kg/d in CGG as opposed to 1.31 kg/d in CG ($P < 0.05$). The corresponding feed intake were 10.98 vs 9.69 kg/d ($P < 0.01$). The proportion of muscle in the carcass was reduced ($P < 0.10$) and that of adipose tissue was increased ($P < 0.1$). The meat in the CGG had larger cooking losses ($P < 0.01$) and higher tenderness ($P < 0.05$). The fat content of meat was reduced ($P < 0.05$) and that of protein increased ($P < 0.01$). There was higher polyunsaturated fatty acids content ($P < 0.2$) in the fat of the CGG. Low growth period indoors reduced the economic profit (3500 vs 5662 BF). By contrast, a grazing period allowed a larger profit (7497 BF) at a stocking rate of 6 bulls but only 1784 BF at 10 bulls/ha.