

Grazing lucerne improves the nutritional value of meat from yearling bulls



Blanco M., Panea, B., Casasús I., Joy M.

Centro de Investigación y Tecnología Agroalimentaria
Avda. Montañana 930, 50059 Zaragoza, SPAIN

European consumers are demanding healthier meat produced in environmentally friendly and sustainable production systems. In Southern Europe calves are usually fed concentrates until slaughter, but grazing lucerne, a high-protein forage, could be an interesting alternative. However, feeding forages to yearling bulls could change the fatty acid profile and the sensory attributes of beef.

Objective: determine the effect of fattening strategies on fatty acid profile and sensory attributes of beef

Material and Methods

21 Parda de Montaña calves (227 kg, 6 months) fattened until 450 kg

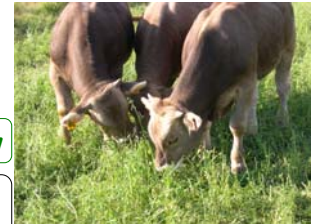


Three fattening strategies:

CON: fed ad libitum concentrates + straw

LUC: rotationally grazed lucerne + 1.8 kg/d barley + straw

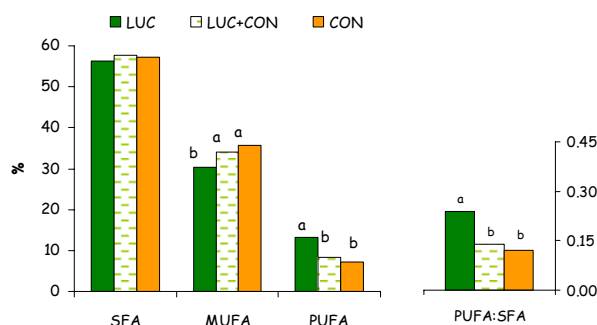
LUC+CON: rotationally grazed lucerne + 1.8 kg/d barley + straw and finished on concentrates for 2 months



- 1 steak for fatty acid (FA) profile determination by gas chromatography
 - ↳ Saturated FA (SFA), Mono-unsaturated FA (MUFA), Poly-unsaturated FA (PUFA), n-6 FA, n-3 FA
- 1 steak aged 6 days and cooked in a grill (200 °C) evaluated by an 8-member panel test. Scores on a 10-point scale
 - ↳ tenderness, juiciness, odours, flavours

Results

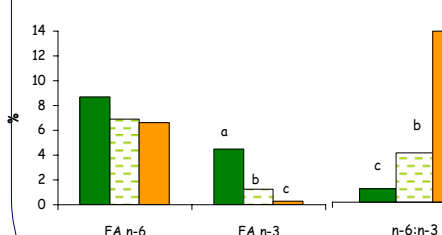
Fatty acid profile of LUC calves differed from that of CON and LUC+CON calves, which were similar:
LUC calves had lower MUFA and higher PUFA than CON and LUC+CON calves



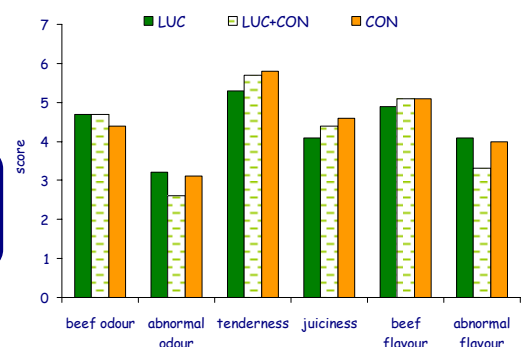
PUFA:SFA ratio
LUC: most favourable

No differences in the panel test!

Similar n-6 FA but LUC calves had the greatest n-3 FA



n-6:n-3 ratio
LUC: most favourable
LUC+CON: intermediate



Conclusions

- Lucerne grazing is an interesting alternative as it improved beef nutritional value without affecting sensory attributes.
- Finishing calves for 2 months diluted most of the differences found between lucerne and concentrate diets, except for n6:n3 ratio.