Harper Adams University

Beef Unit Trial Results – 2006 (b)

Effect of feeding a compound feed with high or low starch content on the performance of intensively fed Holstein bulls

Objective: The objective of this experiment was to determine the effect of feeding rations containing either a high or low level of starch to intensively fed Holstein bulls weighing 195kg. A proprietary beef nut with 33% starch 'as fed' (Wynnstay Primebeef Premium) was compared to a beef nut manufactured by Wynnstay containing 8% starch 'as fed'. The rations were formulated to be iso-nitrogenous (15% CP as fed) and iso-energetic (12.9 ME MJ/kg DM)

Rations: The principal raw materials in the High Starch beef nuts were wheat, barley, rapeseed meal, maize germ, palm kernel, molasses and sunflower. The Low Starch beef nut was principally formulated from sugar beet pulp, wheatfeed, palm kernel, sunflower, molasses and rapeseed meal. Both rations were fed *ad lib* with straw offered from racks.

Results: Animal Performance (kg/head)

Starch content	Low	High	Sig
Slaughter wt (kg)	513	548	*
Days to slaughter	241	229	NS
DLWG (kg)	1.33	1.55	**
Carcase wt (kg)	261	284	**
Kill out (%)	50.8	51.8	***
Carcase DG (kg)	0.71	0.85	NS
Carcase grade	-O3	-O/O+3	NS
Total feed intake (kg/bull)	2,457	2,215	
FCR (kg feed: kg gain)	7.67	6.26	

NS = not significant, * = $P<0.05$, ** = $P< 0.01$, *** = $P<0.001$

Conclusions:

- The bulls fed the proprietary beef nut with the high starch content recorded significantly higher slaughter weights, DLWG's and carcase weights. There was also a reduction in the number of days to reach slaughter and an improvement in FCR and conformation score.
- Based on the costs prevailing at the time of the study, gross margins were increased by £96 per head with feeding the high starch ration.

Reference:
Marsh, S.P. and Brown, S.T. 2007 Effect of feeding a compound feed with a reduced starch content on the performance of intensively fed beef cattle *Proceedings of the British Society of Animal Science.* Paper 127

Simon Marsh, Harper Adams University, Newport, Shropshire TF10 8NB

August 2012