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The Performance of Finishing Bulls Offered an all Concentrate Diet With or Without Yeasacc[1026]

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Introduction

Restriction in the use of in-feed antibiotics for growth promotional purposes has generated renewed interest in non-antibiotic growth enhancers such as yeast cultures. Microbial feed additives, cultures of *saccharomyces cerevisiae,* are included in the diet of high producing ruminants due to the capacity of yeast culture to enhance rumen fermentation. The objective of this study was to determine the effects of the inclusion of YeaSacc[1026] at 1.25 kg/tonne in rolled barley (825 g/kg) and soyabean meal (150 g/kg) diet offered *ad libitum* on the productivity of young finishing bulls.

Methods

Fifty, 6-month-old Holstein/Friesian bulls were allocated following a 3-month pre-experimental acclimatisation period to the following treatments:
1.Concentrate ration (150 g crude protein/kg DM) (C)

2. Concentrate ration plus 1.25 kgYeaSacc[1026]/tonne (Y).

The composition and chemical analysis of the concentrate ration is presented in Table 1.

The bulls were accommodated on concrete slats (3 pens of 6 and 1 pen of 7 bulls) with a pen area allowance of 2.5 m^2/animal and with *ad libitum* access to barley straw and water throughout the 196-day experimental period (25 animals per treatment).

Table 1. Composition and chemical analysis of the diets (g/kg)

Composition (g/kg) :	
Rolled barley	825
Soya bean meal	150
Minerals and vitamins	25
Chemical analysis (g/kg):	
Dry matter	857
Crude protein	150
Crude fibre	49
Ash	54

Statistics

The data for liveweight gain and feed intake were analysed using Analyses of Variance and the "t" test was used for comparisons of treatments. Data on animals that died at any stage from the experiment were excluded.

RESULTS

Feed intake

Feed intake of the bull calves offered YeaSacc[1026] was greater than that of the control throughout (Table 2). The overall liveweight gain response was 130 gms/day to the inclusion of YeaSacc[1026] in the diet was significant and amounted to 25.7 kg and this was reflected with a 15 kg increase in carcass weight. The inclusion of YeaSacc[1026] to the diet improved killing-out percent and carcass conformation (Table 2).

Table 2. Concentrate DM intake (kg/d), liveweight performance and feed conversion efficacy of finishing bulls offered concentrates *ad libitum* with and without YeaSacc[1026] (1.25 kg/tonne or 1.75 x 10^8 CFU/kg of complete feeding-stuff)

	Treatment			
	Control	YeaSacc	SEM	Sign
Initial weight (kg)	217	212	7.0	NS
Final weight	449	471	12.1	NS
Liveweight gain (kg/d)				
1-84 d	1.30	1.38	0.036	P<0.10
85-196 d	1.04	1.24	0.070	*
1-196 d	1.19	1.32	0.041	*
Carcass characteristics				
Carcass weight (kg)	230	245	6.5	P<0.10
Carcass gain (g/d)	620	709	24	*
Killing out %	51.0	52.2	0.31	**
Kidney and channel fat (kg)	7.7	8.2	0.39	NS
Conformation	1.77	2.05	0.07	**
Fat score	2.76	3.00	0.12	NS
Concentrate intake (kg DM/day)				
1 - 84 d	6.34	6.50		
85 - 196 d	7.06	7.47		
1 - 196 d	6.75	7.05		
Feed conversion efficiency kg DM/kg gain				
1 - 84 d	4.87	4.71		
85 - 196 d	6.78	6.02		
1 - 196 d	5.87	5.42		

Conclusion

The inclusion of YeaSacc[1026] in the diet improved feed conversion efficiency. The overall gain to feed ratio was 5.86 for the control and 5.42 for the yeast culture treatments, respectively. The inclusion of 1.25 kg YeaSacc[1026] per tonne of concentrate feed increased liveweight gain by 25.4 kg during the 196 day experimental period when the finishing bulls had *ad libitum* access to the concentrate ration.