

EFFECTS OF DIET AND AMAFERM®, COMPARED TO *SACCHAROMYCES CEREVISIAE*, ON GROWTH AND CARCASS CHARACTERISTICS OF LAMBS AND STEERS FED TO MEET THE NATURAL MARKET REQUIREMENTS

H. N. Zerby, J. L. Bard, S. C. Loerch, P. S. Kuber, A. E. Radunz and F. L. Fluharty

Lambs and steers fed AMAFERM showed significantly improved feed efficiency.

SUMMARY

DOSE OF AMAFERM USED

Lamb trial: 1 g/h/d
Beef trial: 3 g/h/d

For lambs, AMAFERM supplementation throughout the finishing period at 1 g/h/d, improved G:F by 4.9%, with no change in feed intake. For steers, supplementation with 3 g/h/d AMAFERM throughout the finishing period, in diets containing dry, whole shelled corn, resulted in a 7.2% G:F improvement. There was no improvement in the carcass characteristics or growth performance of feedlot steers fed a 0.5 g/h/d yeast product (Levucell SB) with a high-concentrate, corn-based diet.

VALUE

The development of natural markets which do not allow antibiotics or ionophores is driving a need for non-antibiotic products to improve feed efficiency. AMAFERM-fed animals gained more and their intake was not affected.

PROTOCOL

Type of Animals/Experimental Units

- Lamb trial: Dorset x Hampshire lambs
- Beef trial: crossbred beef steers

PROTOCOL (CONTINUED)

Number of Animals/Experimental Units

- Lamb trial: 48 lambs – pen of 4 lambs as experimental unit
- Beef trial: 168 steers – pen of 7 steers as experimental unit

Trial Design

- Lamb trial: randomized complete block design
- Beef trial: completely randomized design

Treatments

- Lamb trial: Control or 1 g/h/d AMAFERM
- Beef trial: High-moisture corn Control (HMC); HMC with 3 g AMAFERM; HMC with yeast (Levucell); Dry whole-shelled corn Control (DWSC); DWSC with 3 g AMAFERM; DWSC with yeast

Diet Information

- Lamb trial (DM basis): 68.79% ground corn, 9.6% soybean hulls, 7.57% soybean meal, 6.87% corn gluten meal, 4.75% dried ground alfalfa
- Beef trial (DM basis): 76% corn (either high-moisture or whole-shelled); 10% corn silage; 7.42% soybean meal, 3% soybean oil; 1.4% limestone

Data Collection

- Body weight, average daily gain, DMI, G:F, days to reach slaughter weight, carcass characteristics

DISCUSSION OF RESULTS

- Lambs supplemented with AMAFERM had a numerical increase in ADG (8.8%, $P = 0.12$) and a 4.9% increase in G:F ratio ($P = 0.07$). AMAFERM did not affect DMI, the number of days to reach market BW, or the carcass characteristics measured in this study (Table 1)
- Cattle supplemented with AMAFERM had a 7.2% improvement in G:F (0.208 vs. 0.194, $P < 0.05$) when DWSC was fed but not when HMC was fed, indicating that the effect of AMAFERM was dependent on corn type
- The added performance from AMAFERM supplementation had no effect on carcass composition
- Feeding HMC to feedlot cattle increased ADG ($P = 0.09$) while decreasing DMI by 2.4% ($P = 0.03$) vs. feeding DWSC, and thus showed improved feed efficiency (Table 2)

DISCUSSION OF RESULTS (CONTINUED)

- Supplementation of a yeast product (Levucell SB) to feedlot cattle on a corn-based, high-concentrate diet had no affect on their carcass characteristics nor was the G:F ratio affected by a yeast product when either DWSC or HMC was the major energy source

<i>Table 1</i> Main effect of AMAFERM supplementation on lamb performance	Treatment			
	Item	Control	AMAFERM	SEM
Initial BW, kg	29.5	29.4	0.13	0.58
Final BW, kg	54.8	54.8	0.52	0.96
DMI, kg/d	1.41	1.41	0.02	0.82
ADG, kg	0.34	0.37	0.01	0.12
G:F, kg/kg	0.245	0.257	0.004	0.07
Days on feed	73	70	1.84	0.22

<i>Table 2</i> Main effects of energy source and AMAFERM supplement on steer performance	Energy Source				Treatment			
	Item	DWSC	HMC	SEM	P-value	Control	AMAFERM	SEM
Initial BW, kg	300	300	0.68	0.75	300	300	0.8	0.58
Final BW, kg	551	558	4.6	0.31	554	557	5.6	0.93
DMI, kg/d	8.4	8.2	0.06	0.03	8.4	8.2	0.2	0.3
ADG, kg	1.69	1.73	0.04	0.09	1.71	1.71	0.05	0.99
G:F, kg/kg	0.202	0.212	0.002	0.002	0.205	0.209	0.002	0.61
Days on feed	150	150	3.9	1.0	149	150	4.8	0.97

BIOZYME INCORPORATED

6010 Stockyards Expy | St. Joseph, MO 64504 USA

Tel: 816-238-3326 | Fax: 816-238-7549

support@biozymeinc.com | www.biozymeinc.com

