Research Notes B-77

Arm & Hammer Animal and Food Production

Supplementation with CELMANAX aided in improved performance and reduced medical costs in beef heifers.

STUDY OVERVIEW

- This trial[1] was conducted to evaluate the effect of CELMANAX™ on cattle performance and instances of Bovine Respiratory Disease (BRD) morbidity in newly received beef heifers.
- The study included two truckloads of beef heifers fed 65% concentrate receiving diets containing 0.01% Rumensin® and treated as follows:
  - CELMANAX diet: receiving diet with the addition of CELMANAX SCP 1.8 g and 12.2 g/head/day corn germ meal carrier
  - Control diet: receiving diet with the addition of 14 g/head/day of corn germ meal carrier only
- One-half of heifers pulled for antibiotic treatment were also given a 28 mL dose of CELMANAX Liquid, irrespective of treatment.

RESULTS

- Average daily gain (ADG) for days 0 to 14 (P=0.052) and for the overall 35-day period (P=0.078) trended greater for heifers receiving CELMANAX than for the control (Fig. 1).
- Dry matter intake of the receiving diet was greater ($P \leq 0.025$) for CELMANAX heifers than for control heifers for all measurement periods (Fig. 2), though feed conversion did not differ ($P > 0.175$).

FIGURE 1: Overall effects of CELMANAX on ADG

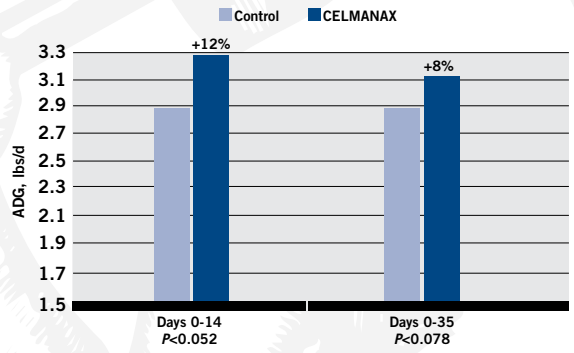
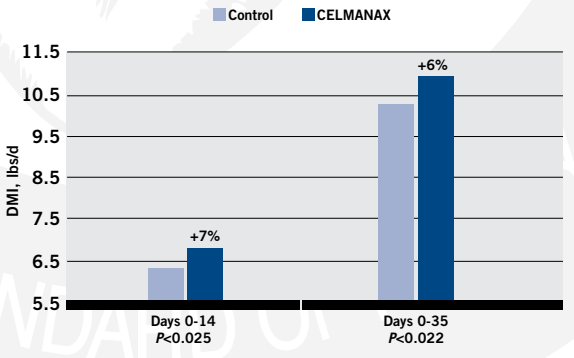


FIGURE 2: Overall effects of CELMANAX on DMI



- Under heat stress conditions, the CELMANAX™ heifers showed a numeric advantage over the control group for ADG (Fig. 3) and dry matter intake (Fig. 4).

FIGURE 3: Effects of CELMANAX on ADG during two heat stress periods

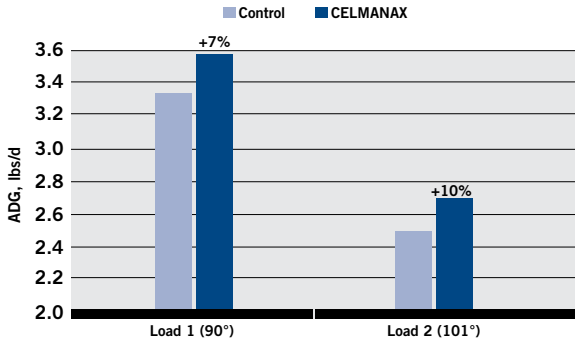
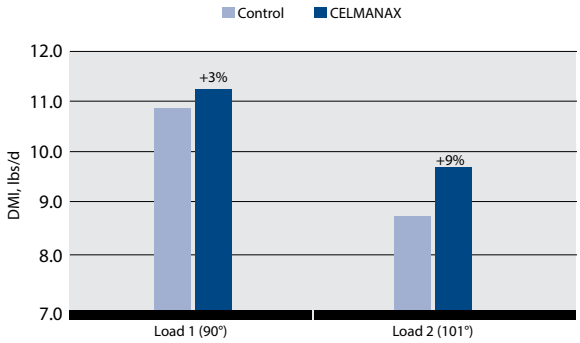
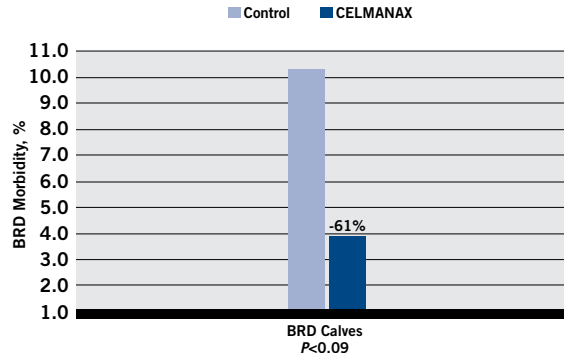


FIGURE 4: Effects of CELMANAX on DMI during two heat stress periods



- A greater proportion (*P*=0.094) of control heifers tended to be treated for BRD (Fig. 5) compared to those treated with CELMANAX.
- The heifers receiving an additional 28 mL of CELMANAX Liquid along with antibiotic treatment demonstrated 1.81 lbs./day ADG compared to 1.59 lbs./day in heifers not receiving this treatment, but not enough animals were involved to conduct a statistical analysis.

FIGURE 5: Effect of CELMANAX on BRD morbidity



- There was a $9.90/head advantage to using CELMANAX™ over the 35-day receiving period.

ECONOMIC BENEFIT WORKSHEET			
STUDY DATES		**START**	**FINISH**
	Load 1	5/6/2011	6/17/2011
	Load 2	6/10/2011	7/22/2011
		35	35
Avg. Days of Study		35	
No. Cattle/TMT		110	
Beef Price, $/lb		$1.25	
Performance		**Control**	**CELMANAX**
Initial Wt, lbs.		422.2	420.2
35 d Wt, lbs.		519.8	524.9
Gain, lbs.		97.6	104.7
	Difference, lbs.		**7.1**
Animal Health		**Control**	**CELMANAX**
Morbidity, %		10.54	4.13
Pulled Once (Resflor)		16	6
Pulled > Excede®		4	0
Resflor TMT (25.8 mL), $/hd		$18.83	$18.83
Excede TMT (6.5 mL), $/hd		$11.72	
Total Restflor, Cost $		$301.28	$112.98
Total Excede, Cost $		$46.88	
Total Medical Cost $		$348.16	$112.98
35 d Medical Cost, $/hd		$3.17	$1.03
Health Profit, $/hd			**$2.14**
Profit			
Performance Profit, $/hd			$8.88
Health Profit, $/hd			$2.14
Gross Profit, $/hd			**$11.02**
Cost			
CELMANAX $/hd/d			0.032
35 d CELMANAX Cost $/hd/d			$1.12
		Net Profit, $/hd	**$9.90**
		ROI	**8.8 TO 1**

CONCLUSIONS

- Treatment with CELMANAX in the first 30 – 45 days of the receiving period contributed to improved performance and a reduction in medical costs.

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[1]Adapted from the data of: Ponce CH, Schutz JS, Elrod CC, Anele UY, Galyean ML. Effects of Dietary Supplementation of a Yeast Product on Performance and Morbidity of Newly Received Beef Heifers. *Prof Anim Sci* 2013;28:618-622.