Research Notes

Arm & Hammer Animal and Food Production

CELMANAX helps reduce the stress of weaning, resulting in improved growth rates of grain-fed veal calves.

STUDY OVERVIEW

- This commercial trial[1] was conducted to evaluate the influence of supplementing milk with CELMANAX™ SCP on veal calf performance.
- The trial was conducted with 80 Holstein bull calves ranging from 5 to 14 days of age.
- The trial was replicated three times for a total experimental group size of 240 calves (120 per treatment).
- Of the total 240 calves enrolled, 115 calves were sourced from local dairy farms, 79 calves were sourced from drover 1, and 46 calves were sourced from drover 2.
- Treatments fed were:
    - Control milk replacer
    - Control milk replacer containing 1 g CELMANAX SCP/head/day
- A common pelleted calf starter (20% CP) containing Deccox® was offered upon arrival until week 3 and corn and pellet ration with 2% straw (18% CP) containing Rumensin® for the remainder of the experimental period.
- Calves were housed individually until weaning (56 days following enrollment) followed by group housing (five calves/group) by treatment for about three weeks (78 days following enrollment).
- Calves were monitored for overall health, *Salmonella* shedding, average daily gain (ADG) and feed efficiency for the duration of the trial.
- Data was analyzed statistically accounting for variables at study initiation including source farm, starting body weight and passive transfer status.

RESULTS

- The CELMANAX group had higher ADG from arrival to 56 days (*P*=0.42) and from arrival to 78 days (*P*=0.05) (Table 1). Effect of CELMANAX differed depending on the source of the calves and their weight at arrival.
- Feed efficiency (feed/gain) was improved for the first 56 days (*P*=0.13) and 78 days (*P*=0.01) (Table 1).
- No statistical differences were found between the groups with respect to treatment for diarrhea, treatment for respiratory disease, days with an abnormal fecal score and mortality.
- All calves were negative for *Salmonella* at study initiation and at one week post-weaning.

TABLE 1. EFFECT OF TREATMENTS ON PERFORMANCE

PARAMETER	Control	CELMANAX	*P*-value
ADG lbs./d, Day 0 – 56	1.51	1.57	0.42
Feed/Gain, lbs. Day 0 – 56	2.73	2.24	0.13
ADG lbs./d, Day 0 – 78	1.90	2.03	0.05
Feed/Gain, lbs. Day 0 – 78	2.39	2.14	0.01

CONCLUSIONS

- CELMANAX™ supplementation improved performance of milk replacer and grain fed veal calves over a 78-day rearing period.
- Specifically, the CELMANAX group had higher ADG and improved feed efficiency (feed/gain) from arrival to 78 days.
- The improved growth rates of the CELMANAX group appears to be due to reduced stress at weaning (i.e., prior to day 56) as there was little difference in treatments prior to weaning.
- Economic analysis showed cost savings of $12.87/head when CELMANAX was supplemented in the milk replacer (Table 2).

TABLE 2. ECONOMICS OF USING CELMANAX AS A FEED ADDITIVE AT 1G/DAY IN PREWEANED CALVES

	Control	CELMANAX
Input cost[1]	$139.67	$138.52
BW gain 0 – 78 days	148.61 lbs.	158.91 lbs.
Cost/lbs. of gain[2]	$0.94	$0.87
Compensatory expense[3]	$8.53	—
Final cost/head	$148.20	$138.52
Difference/head	$9.68	—

[1]Routine cost – Includes milk replacer, calf starter, vaccines, medications and CELMANAX cost
[2]Routine cost + performance cost/lb of gain + compensatory expense
[3]Performance cost – Includes extra days of feed and yardage cost

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1. Data on file.