

Effect of Aureomycin® and Injectable Long-Acting Oxytetracycline on Health and Performance in Lightweight Holstein Calves in a Commercial Feedlot

Introduction

In an effort to decrease morbidity of bovine respiratory disease (BRD) in feedlot cattle, it has become popular to mass medicate calves on arrival with antibiotics, usually injectables. After evaluation by the Food and Drug Administration's Drug Efficacy Study Implementation (DESI) program, Aureomycin was approved for the treatment of bacterial pneumonia caused by *Pasteurella multocida* organisms susceptible to chlortetracycline when fed at the rate of 10 mg/lb body weight for not more than 5 days.

Aureomycin fed at 10 mg/lb body weight results in concentrations of Aureomycin in blood and lung not achievable with previous indications for use. This technical bulletin describes a study which compares the effects of feeding Aureomycin at 10 mg/lb BW, and administering Liquamycin® LA-200® (oxytetracycline HCl injection) to newly arrived feedlot calves on health and performance parameters.

Materials and Methods

Four-hundred seventy-five male Holstein calves from California calf ranches were assembled at a southern California feedlot. Average weight on arrival was 280.5 lb. Calves were processed on arrival according to standard feedyard procedures, individually weighed, and randomized to two treatment groups: (1) two-hundred thirty-seven head received 4.5 mL/cwt (9 mg/lb) of long-acting oxytetracycline (LA-200) IM; and (2) two-hundred thirty-eight head were fed Aureomycin at 10 mg/lb BW for 5 days starting on day of arrival. Aureomycin crumbles (4 g chlortetracycline/lb) were administered once daily as a top dress on the morning feeding. The injectable antibiotics used in treatment of BRD were Nuflo® (florfenicol) on days 1 and 3, followed by Naxcel® (ceftiofur) for 3 days, if needed. The study was conducted for an average of 55 days.

Results

While BRD morbidity was low in both treatment groups, the Aureomycin group experienced less morbidity (5% vs 8.4%) than the LA-200 group (Table 1). Day to first pull was 0 for Aureomycin calves and 1 for the LA-200 treatment. Average days to first pull was 19 and 16 for the Aureomycin and LA-200 groups, respectively. Average rectal temperature for all Aureomycin pulls was 105.5°F, and 83% responded to first therapy; average rectal temperature was 105.7°F for the LA-200 group and response to first therapy was 95%. Neither group experienced death loss.

Average daily gain was similar in both treatment groups (2.52 lb for Aureomycin vs 2.51 lb for LA-200). Dry matter feed efficiency was also similar (3.63 for Aureomycin and 3.69 for LA-200). Cost of gain (feed, medicine and processing) was \$0.452 for calves fed Aureomycin and \$0.466 for calves receiving LA-200.

TABLE 1. Effects of Aureomycin and LA-200 on health and subsequent 55-day performance parameters in calves.*

Parameter	LA-200	Aureomycin
BRD morbidity (%)	8.4	5.0
ADG (lb)	2.51	2.52
Feed/gain	3.69	3.63
Cost/lb of gain	\$0.466	\$0.452

*Ration contained Rumensin® (monensin)/Tylan® (tylosin).

Conclusions

Numerically, calves medicated with Aureomycin experienced less sickness due to BRD, performed as well as those calves receiving LA-200, and experienced a lower cost of gain for the duration of the study.

The use of Aureomycin offers advantages over injectable antibiotics beyond performance and health. When administered on arrival, or at any point in the feeding period, Aureomycin does not present negative quality assurance aspects, such as injection site soreness or carcass blemishes, which may occur with injectable antibiotics.

When considering mass medication of cattle for BRD with either Aureomycin or LA-200, Aureomycin fed at 10 mg/lb body weight for 5 days can be an effective option.



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