

# MASS MEDICATION OF NEWLY ARRIVED STOCKER CATTLE TO IMPROVE HEALTH AND PERFORMANCE

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## Story in Brief

The effectiveness of long acting oxytetracycline (LAO) and sustained release sulfadimethoxine (SRS) as a form of mass medication was studied in three hundred and twelve newly received steer, bull and heifer calves. Upon arrival calves were divided into two groups by alternately processing calves with either routine processing (control), or routine processing plus LAO and SRS. Morbidity was reduced from 5.13% in controls to .64% in calves receiving mass medication. Daily gains were improved 28% by mass medication (.82 vs .64 lb/head) during the 28 day trial.

(Key Words: Mass Medication, Newly Received Cattle, Shipping Fever.)

## Introduction

Numerous cattle are shipped into the state of Oklahoma each year from all over the country. The stress related with transportation leads to high rates of morbidity and mortality, resulting primarily from shipping fever-bovine respiratory disease complex (BRD). Cattlemen receiving stressed cattle realize that preventing BRD is more economical than treating animals after they become ill. Administration of intramuscular oxytetracycline for three consecutive days to stressed calves entering the feedlot has been shown to reduce the incidence of BRD, but this treatment has the economic disadvantage of increased labor (Addis et al., 1976; Lofgreen, 1983). However, administration of long-acting antibiotics and sustained release drugs at processing could help prevent BRD from occurring and eliminate the need for daily drug treatments without the need for increased labor.

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## Materials and Methods

Three truck loads of cattle originating in Florida arrived concurrently at the research station in Pawhuska, OK. Two trucks contained steer and bull calves while the third contained heifers for a total of 312 calves weighing an average of 452 lbs. After unloading, calves were individually weighed, identified and processed. All calves were routinely processed as follows: vaccinated with IBR-PI3 (modified live virus; i.m.) and 7 way clostridial bacterin and injected with ivermectin. Routine processing was considered to be the control, while the mass medication treatment consisted of routine processing plus long acting oxytetracycline (LAO) and sustained release sulfadimethazine (SRS) to alternating calves.

All calves were maintained in drylot pastures for 28 days while being adapted to a grain and long-stem prairie hay diet with ad libitum access to water. Calves were monitored daily for sickness (rectal temperature  $>104^{\circ}\text{F}$ , or visually depressed). Sick animals were treated daily with antibiotics until rectal temperature was  $<104^{\circ}\text{F}$  for two consecutive days and visual signs disappeared. At the end of the 28-day study, cattle were held overnight without feed or water and weighed.

## Results and Discussion

The effects of mass medication on animal health and performance are illustrated in Table 1. Calves medicated with LAO and SRS at the time of first processing had 28% ( $P < .01$ ) greater daily gains (.82 vs .64 lb/head) than the routinely processed cattle during the 28-day trial. This increase in daily gains is similar to the findings of Gill et al. (1986). This increase in daily gains may have resulted from a decrease in the incidence of BRD complex in mass medicated cattle, allowing cattle to increase feed consumption faster.

Mass medication decreased ( $P < .01$ ) the percentage of sick cattle from 5.13% in the controls to .64%. These data are consistent with the findings of Lofgreen (1983) and Gill et al. (1986) where significant decreases in morbidity were obtained with mass medication of LAO alone or in combination with SRS at processing.

Mass medication at processing can decrease the extensive labor cost of identification, separation, and treatment of sick calves. In addition, the improvement in daily gains from mass medication of cattle in receiving lots shall benefit them as they enter the next stage of production.



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| Animals, No.   | 106                               | 101                               | 105                               | 156                               | 156                               |
| Sex            | Male                              | Female                            | Male                              |                                   |                                   |
| Arrival wt, lb | 454                               | 457                               | 446                               | 451                               | 454                               |
| Morbidity, %   | 477 <sup>a</sup> .94 <sup>b</sup> | 471 <sup>a</sup> .99 <sup>b</sup> | 471 <sup>a</sup> .01 <sup>b</sup> | 469 <sup>a</sup> .13 <sup>b</sup> | 477 <sup>a</sup> .07 <sup>b</sup> |

<sup>a</sup>Expressed as least squares means.

<sup>b,c</sup>Treatment means on same line with different superscripts differ  $P < .01$ .

<sup>d,e</sup>Pasture means on same line with different superscripts differ  $P < .01$ .

### Literature Cited

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