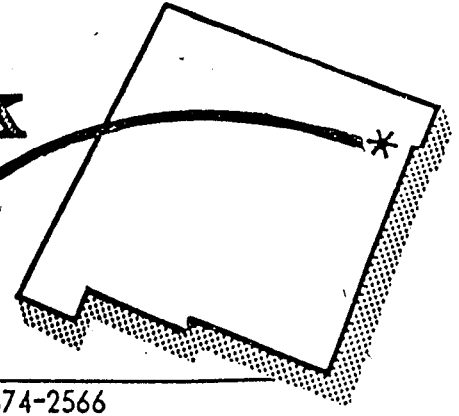




# Clayton Livestock Research Center

## PROGRESS REPORT



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### THE INFLUENCE OF MASS MEDICATION ON THE INCIDENCE OF BOVINE RESPIRATORY DISEASE IN NEWLY WEANED NATIVE CALVES

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Mass medication of southern calves with oxytetracycline and sulfadimethoxine has proven effective in reducing the number of calves requiring treatment for bovine respiratory disease complex (BRD) during a 4-week receiving period (Progress Reports Nos. 15 and 20). In most cases with southern calves the majority of first pulls for treatment for BRD have occurred during the first week and therefore mass medication on the day of processing on the day following arrival reduces the incidence of BRD. With newly weaned native calves, however, it is the common observation that the onset of BRD symptoms occurs later than with long-haul southern calves. Under these conditions mass medication at the time of processing may not be effective in reducing BRD, since the blood levels of the drugs may have dropped below therapeutic levels at the time BRD usually occurs. Therefore, a study was conducted to compare the effects of mass medicating newly received native calves on day 1 or on day 8 following weaning and transporting.

One hundred and eighty-seven native calves weighing approximately 425 pounds were obtained from one ranch near Folsom, New Mexico. The cows and calves were gathered in the morning, the calves separated from the cows, sorted and transported by truck approximately 55 miles to the Research Center, arriving in mid afternoon. The following morning all calves were processed with one-third of the calves receiving no

mass medication and one-third receiving long acting oxytetracycline (LA 200®) at 9 mg per pound body weight and 25g sustained release sulfadimethoxine (Albon SR®). The remaining one-third received the medication on day 8 following arrival. Half the calves in each medication group were fed a receiving feed of long-stem native grass hay for 4 weeks and the other half received a 75% concentrate milled feed for 4 weeks plus native grass hay limited to the first week. All calves were observed each morning for visual symptoms of BRD and calves diagnosed as sick were brought to the working area and started on a treatment program.

The accompanying table shows the number of first pulls by treatment group and day of initial treatment. No pulls were made until 5 days following arrival, at which time 5 calves showed symptoms sufficiently severe to require treatment. All of these calves were from groups having received no mass medication at processing. On the following day (6 days following arrival) 6 more new pulls were made with all coming from the non-medicated groups. Eleven new pulls were made on day 7 with 10 of these being from non-medicated groups. Following mass medication of the day 8 groups no further new pulls were made from either the day 1 or day 8 groups, while 5 new pulls were made from the control groups on days 8 through 11. No further new pulls were made following the eleventh day.

NUMBER OF FIRST PULLS each day

| Receiving feed  | Mass medication | Total no. of calves | Day following arrival |   |   |   |   |   |    |   |   |    |    |    |    |    | Totals |
|---|-----------------|---------------------|-----------------------|---|---|---|---|---|----|---|---|----|----|----|----|----|--------|
|   |                 |                     | 1                     | 2 | 3 | 4 | 5 | 6 | 7  | 8 | 9 | 10 | 11 | 12 | 13 | 14 |        |
| Native hay only fed for 4 weeks                             | None            | 32                  |                       |   |   |   | 1 | 2 | 1  |   |   |    |    |    |    |    | 4      |
|   | Day 1           | 30                  |                       |   |   |   |   |   |    |   |   |    |    |    |    |    |        |
|   | Day 8           | 31                  |                       |   |   |   | 1 | 2 |    |   |   |    |    |    |    |    | 3      |
|   | Total           | 93                  |                       |   |   |   | 1 | 1 | 2  | 2 |   | 1  |    |    |    |    | 7      |
| 75% conc. fed for 4 weeks plus native hay for 1st week only | None            | 32                  |                       |   |   |   | 2 | 3 | 4  | 1 |   | 1  |    |    |    |    | 11     |
|   | Day 1           | 30                  |                       |   |   |   |   |   | 1  |   |   |    |    |    |    |    | 1      |
|   | Day 8           | 32                  |                       |   |   |   | 2 | 2 | 4  |   |   |    |    |    |    |    | 8      |
|   | Total           | 94                  |                       |   |   |   | 4 | 5 | 9  |   | 1 |    | 1  |    |    |    | 20     |
| Total   | None            | 64                  |                       |   |   |   | 2 | 4 | 4  | 2 | 1 | 1  | 1  |    |    |    | 15     |
|   | Day 1           | 60                  |                       |   |   |   |   |   | 1  |   |   |    |    |    |    |    | 1      |
|   | Day 8           | 63                  |                       |   |   |   | 3 | 2 | 6  |   |   |    |    |    |    |    | 11     |
|   | Total           | 187                 |                       |   |   |   | 5 | 6 | 11 | 2 | 1 | 1  | 1  |    |    |    | 27     |

It is interesting that even though LA 200 and Albon SR are reported to maintain therapeutic blood levels for 3 to 4 days, there was only 1 calf treated in the group which was mass medicated on day 1, and this pull was made on day 7 while pulls began in the non-medicated groups 2 days earlier. A total of 27 calves were treated for BRD symptoms, with 26 of these being from non-medicated groups (11 from the day 8 group before they were mass medicated). Even though BRD symptoms did not appear in these native calves until 5 days following arrival, apparently mass medication on day 1 was effective during the 4 days of incubation prior to the appearance of visual symptoms in the non-medicated calves.

Of the 93 calves fed only native hay for the entire 4 weeks 7 head required treatment, while 20 head required treatment of the 94 calves receiving the higher energy receiving feed. This confirms the observation made at this Center that morbidity generally increases in newly received calves as energy concentration increases in the receiving feed. Note, however, that mass medication modified this since only 1 calf in the mass medicated high energy group required treatment.

The results of this study indicate that mass medication of native calves on the day of processing may be effective in reducing morbidity as it does in southern calves.

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