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Medication Programs for Newly Received Calves

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Summary

Three medication programs for newly purchased feeder calves were compared and found to be similar in effectiveness. There was considerable variation in cost between the three medication programs which indicates a potential cost saving opportunity. Twenty-three percent of the calves received were diagnosed as sick at least once during the 56-day trial.

Introduction

Stress associated with marketing and shipping often results in newly received calves requiring intensive animal health programs to reduce mortality and morbidity. In this trial, we compared the effectiveness and relative costs of three medication programs.

Procedures

A fifty-six day trial with 250 steer calves was conducted (October 13, 1983 to December 8, 1983) to evaluate three medication programs. Calves averaged 455 lbs when purchased from one auction in South Dakota and were received at KSU Beef Research Unit with an in-transit shrink of 4.2%.

Upon arrival, all calves had temperatures recorded, were ear tagged, wormed, vaccinated for IBR, PI₃, BVD, and clostridial (7-way), injected with Vitamin A & D, and poured with Warbex®. Calves were assigned randomly to either treatment schedule A, B, C or a non-treated control (Table 33.1). Each treatment represented a three day medication program to be administered after a calf was observed as sick and had a temperature of 104°F or above. Calves that did not respond to the initial treatment were placed on schedule D (Table 33.1) for three additional days. A control group of calves was not treated during the 14 day period following arrival and was not included in the comparative cost figures.

Results

Table 33.2 shows an economic comparison of processing and medication costs. Twenty-three percent of the calves received were diagnosed as sick at least once during the 56-day trial. Treatment schedule A was the most economical with schedule C being the most expensive. All three medication programs were considered effective when compared to untreated controls. Schedule A had a slightly higher number of treatment days per calf diagnosed as sick.

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Table 33.3 compares arrival temperature and its relationship to subsequent sickness. Although based on limited numbers of sick calves, there was a trend toward more sickness as body temperature at arrival increased. Arrival temperatures also were plotted against processing order. Temperature increased 1° F during the 5 hour processing period whether or not steers were sick. This agrees with other research, and supports the need to adjust the minimum temperature required for medication, depending on how long cattle have been held in the working area.

Table 33.1. Treatment Schedules (Medications were given at labeled dosages).

| <u>Schedule A</u> | <u>Schedule B</u> |
|--|---|
| Day 1 - Oxytetracycline (LA 200®) Triple sulfa boluses Dexamethasone B-complex vitamins | Day 1 - Tylan® Triple sulfa boluses Dexamethasone B-complex vitamins |
| Day 2 - Triple sulfa boluses | Day 2 - Tylan® |
| Day 3 - Triple sulfa boluses | Day 3 - Triple sulfa boluses |
| <u>Schedule C</u> | <u>Schedule D</u> |
| Day 1 - Amoxicillin Triple sulfa boluses Dexamethasone B-complex vitamins | Day 4 - Erythromycin |
| Day 2 - Amoxicillin Triple sulfa boluses | Day 5 - Erythromycin |
| Day 3 - Amoxicillin Triple sulfa boluses | Day 6 - Erythromycin |

Table 33.2. Cost Comparison of Three Medication Programs.¹

| Item | Treatment Schedule | | |
|---|--------------------|--------|--------|
| | A | B | C |
| No. steers treated | 9 | 10 | 14 |
| Daily medication cost/steer ² diagnosed as sick | \$1.63 | \$2.69 | \$3.02 |
| Days treated/steer ³ diagnosed as sick | 3.7 | 3.3 | 3.3 |

¹Product costs at processing were \$1.47 per steer.

²Costs based upon current local prices and subject to change.

³Schedule D was used for non responsive steers after the initial 3 day treatment.

Table 33.3. Relationship of Arrival Temperature and Incidence of Sickness.

| Item | Arrival Temperature | | | | | |
|--|---------------------|-------------------|-------------|-------------------|------------|-------------------|
| | <101°F | | 101-102.9°F | | >103°F | |
| | <u>No.</u> | <u>%</u> | <u>No.</u> | <u>%</u> | <u>No.</u> | <u>%</u> |
| Calves arriving within temperature range | 77 | 30.8 ¹ | 152 | 60.8 ¹ | 21 | 8.4 ¹ |
| Calves which became sick | 16 | 20.8 ² | 34 | 22. ² | 9 | 42.9 ² |

¹ Represents percentage of total steers purchased.

² Represents percentage of calves within that temperature range that became sick.

Nutrition and Management for New Cattle

No plan for handling newly arrived cattle is complete without adequate facilities and a good feeding program to get cattle off to a good start. Minimizing stress is critical, and includes working the cattle quietly and gently, and providing a good pen environment relatively free of dust or mud. Keep the receiving pens rather small, with plenty of bunk space and running water to encourage intake. Hold fresh cattle off water for 2 to 4 hours, however, and provide a familiar feed such as high quality grass hay so they will eat rather than tank up on water. Limit the amount of fermented feeds used until cattle become accustomed to them. Increase the ration energy level over the first week with grain and/or silage. Supplement the ration with ample amounts of protein, vitamins and minerals. An "all natural" protein source (no urea) works best. Recent research has also shown that potassium supplementation (1 to 1.5% of the ration dry matter) will increase performance and reduce sickness.
