

THE RESPONSE OF STRESSED STOCKER CATTLE TO AS-700, DECOQUINATE, LASALOCID PLUS VITAMINS AND SELENIUM, OR LASALOCID SUPPLEMENTS

V.S. Hays¹, D.R. Gill², R.A. Smith³, and R.L. Ball⁴

Story in Brief

Four loads of calves consisting of 342 newly received steer, bull, and heifer calves averaging 339 pounds were used to compare the effects of Decoquinatone, Lasalocid and Lasalocid plus vitamins and selenium to AS-700 on health and performance during a 28 day receiving period. All cattle had ad libitum access to a commercial receiving diet supplemented with one of four treatments: (1) AS-700 (350 mg chlortetracycline, 350 mg sulfamethazine in 8 lb of receiving diet), (2) Decoquinatone (80 mg decoquinatone in 8 lbs.), (3) Lasalocid (120 mg lasalocid in 8 lbs), and (4) Lasalocid plus 400 IU vitamin E, 600 mg Niacin, 200 mg Thiamin, 750 mg Choline plus selenium (added to 0.1 ppm). Rates of gain were highest for cattle fed Lasalocid Plus (1.67 lb/day), followed by Lasalocid (1.58 lb/day), Decoquinatone (1.43 lb/day), and control (1.31 lb/day). Feed intake tended to be highest for cattle fed Lasalocid (11.19 lb/day) and lowest for Decoquinatone (10.67 lb/day). Gain:feed ratios tended to be best for Lasalocid (.15 lb/day) and poorest for the control fed cattle (.12 lb/day). No effects of treatment on number of sickdays or morbidity were detected. During the 28 day period 287 head became sick and were treated for shipping fever. Within the sick cattle, weight gains were .53 lb/day for AS-700 and averaged 1.39 lb/day for other treatments. Sick pen days were lowest for AS-700 (6.49 days), followed by Lasalocid (7.03 days), Decoquinatone (7.58 days) and Lasalocid Plus (8.06 days).

(Key Words: AS 700, Decoquinatone, Lasalocid, Vitamins, Selenium, Stressed Cattle.)

Introduction

Coccidiostats, ionophores, antibiotics and vitamins are commonly added to diets to treat or prevent shipping fever and other problems in stressed, newly received stocker cattle. The objective of this research was to compare AS-700 with Decoquinatone, Lasalocid and Lasalocid plus vitamin E and B vitamins and selenium in a complete commercial receiving ration on the health and performance of stressed stocker cattle.

Material and Methods

Four truck loads of cattle (designated as trials), were assembled by order buyers and shipped to Pawhuska, Oklahoma between July and Oct-

¹Graduate Assistant ²Regents Professor ³Associate Professor, Veterinary Medicine and Surgery ⁴Herdsmen II

ober, 1985. The origin, arrival date and weight, number of head, and transit shrink for each load is summarized in Table 1.

The procedure followed in this experiment are described elsewhere in this publication (Hays et al., 1987) with the exception of the diets fed. Table 2 summarizes the complete commercial receiving ration fed ad libitum throughout the 28 day receiving period.

Table 1. Origin, arrival date, number of head, arrival weight, and transit shrink for each load of cattle.

	Origin	Arrival Date	Number of Head	Arrival Wt Lb	% Shrink
Trial 1	MO	07-17-1985	72	325	1.1
Trial 2	MO	07-21-1985	75	330	4.7
Trial 3	AR	09-08-1985	127	346	NA
Trial 7	MO	10-13-1985	126	357	NA

NA = not available.

Table 2. Composition of commercial receiving ration.

Ingredient	% As Fed
Crude protein	14.0
Crude fiber	18.0
Fat	1.0
Calcium	0.5
Non-protein nitrogen	2.0
Vitamin A, 5000 IU/lb Premix ^a	

^aTo provide: (1) 44 mg chlortetracycline, 44 mg sulfamethazine/lb), (2) 10 mg decoquinatate/lb), (3) 15 mg lasalocid/lb), or (5) 15 mg lasalocid, 500 IU vitamin D, 50 IU vitamin E, 75 mg Niacin, 25 mg Thiamin, 94 mg Choline/lb and 0.1 ppm Selenium.

Results and Discussion

Effects of the various diets on performance are shown in Table 3. Although there were no significant differences among responses to treatment, gains in the 28 day receiving period tended to be highest for calves fed Lasalocid plus vitamin and mineral, followed by those fed Lasalocid, Decoquinatate and control. Number of sickdays tended to be lowest for the calves fed the control diet and highest for the Lasalocid Plus group (5.55 vs 6.86 days). Morbidity tended to be lower in the Lasalocid group (79.4%) and higher in the Decoquinatate fed group (89.2%). No trend in feed intake, gain:feed ratio or mortality between groups was apparent.

The largest differences among treatments were found within the cattle that became sick during the 28 day period. Overall mortality across all treatments was 83.92% (287 head). Table 4 summarizes the

Table 3. Effect of diets on daily gains, feed intake, gain:feed ratio, sickdays, morbidity, and mortality in newly received cattle.

Treatment	Control	Lasalocid	Lasalocid Plus	Decoquinatate
Number of head	85	86	86	85
Arrival wt., lb	344	340	338	343
Daily gain, lb*	1.31	1.58	1.67	1.43
Feed intake, lb*	10.79	10.72	11.19	10.67
Gain:feed, lb*	.12	.15	.15	.13
Sickdays*	5.55	5.62	6.86	6.71
Morbidity, %*	86.3	79.4	83.5	89.2
Mortality, %	4.74	0	1.2	0

*Expressed as least square means.

Table 4. Effect of diets on weight gains, sickdays, and pulls among sick cattle.

Treatment	Control	Lasalocid	Lasalocid Plus	Decoquinatate
Number of head sick	73	68	72	74
Weight gains, lb/day*	0.53 ^a	1.43 ^b	1.35 ^b	1.39 ^b
Sickdays, days*	6.49 ^a	7.03 ^{ab}	8.06 ^c	7.58 ^{bc}
Pulls*	1.30	1.31	1.32	1.29

*Least square means

^a^b^c Means with different superscripts differ $P < .05$.

weight gains, sickdays, and pulls of the cattle treated for shipping fever. Among the sick cattle, weight gains were lowest ($P < .02$) for controls with no significant difference between other treatments. There were no differences in the average number of pulls between treatments. Sick pen days were lowest for cattle fed the control diet (6.49), followed by Lasalocid (7.03), Decoquinatate (7.58), and Lasalocid Plus group (8.06).

Statistical interactions between truck loads were apparent for weight gains and sickdays. High variability between loads suggests extensive replication is required before drawing conclusions.

Literature Cited

- Hays, V.S., et al. 1987. The value of Romet, Decoquinatate, AS 700 or Lasalocid in the diet of newly received stocker cattle. Elsewhere in this publication.