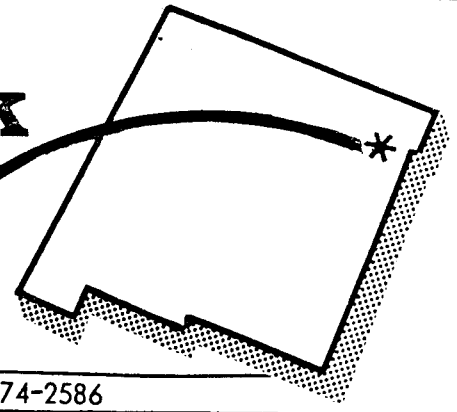




Clayton Livestock Research Center

PROGRESS REPORT



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Progress Report No. 37 (August 1984)

CONTINUED STUDIES ON THE USE OF IVERMECTIN IN PROCESSING NEWLY RECEIVED CALVES

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One load (148 head) of medium and large frame, no. 1 and 2 calves having an average purchase weight of 314 lb. was transported by truck from Florida to this Center and used in a trial to study possible stressful effects of using ivermectin at time of processing for control of internal and external parasites. All calves were held overnight with free access to water and native grass hay and were processed the following morning. Thirty-seven calves were wormed with oral Tramisol® but not dipped at processing. Thirty-seven calves were dipped (Co-Ral®) but not wormed at processing. Thirty-seven calves were dipped and wormed at processing and 36 calves were given ivermectin injections at processing. Calves not dipped or wormed at processing received the delayed treatment 29 days after arrival. All other processing and nutritional procedures were uniform for all calves.

Health data are shown in table 1. Particularly noteworthy is the greater number of calves treated for respiratory problems in the group dipped at processing but not wormed. Since no worm or egg counts were made one cannot determine the exact cause of the increased sickness level in calves in which worming was delayed. Dipping and worming at the time of processing had no adverse effect on health although it is commonly recommended that they not be done at the same time. The use of ivermectin had no detrimental effect on health.

Performance of the four groups of calves is presented in table 2. In general, feed consumption and weight gains coincide with health data with the group in which worming was delayed eating less feed and gaining less than the other groups. When wormed the beginning of the group second 28-day period, the delayed wormer group continued to eat less

Table 1. Health Data

Item	Processing treatment			
	Wormed, delayed dip	Dipped, delayed worming	Dipped and wormed	Ivermectin
Number of calves	38	37	37	36
Number treated	3	10	2	1
Total treatment days	12	37	6	3
Treatment days/sick calf	4.0	3.7	3.0	3.0
Morbidity rate ^a	.32	1.00	.16	.08
Deads	1	1	0	0

^a Treatment days/total calves in group.

feed and gain less than the other calves, while dipping at this time did not adversely affect either feed intake or weight gains. During the entire 56 days, ivermectin treated calves ate slightly less feed than the delayed dip group or the group dipped and wormed at processing. However, the slightly lower rate of gain was not significantly different than the gains of the other two groups and was greater than the delayed wormer group. None of the differences in efficiency of

feed conversion was statistically significant at 56 days, although the poorest conversion was achieved by calves in which worming was delayed. This study confirms the results of the trial in Progress Report No. 36 showing that the performance of calves given ivermectin at time of processing does not appear to be significantly different from that of those dipped and wormed. Delaying dipping for 28 days had no measurable effect on health or performance while delaying worming appeared to be detrimental to both.

Table 2. Performance by 28-day period

Item	Processing treatment			Ivermectin
	Wormed, delayed dip	Dipped delayed worming	Dipped and wormed	
<u>Arrival to 28 days:</u>				
Daily feed intake, lb.	9.43 ^b	8.36 ^a	9.73 ^b	9.07 ^{ab}
Daily gain from purchase, lb.	1.14 ^b	.56 ^a	1.25 ^b	.79 ^a
Feed per pound gain, lb.	8.27 ^a	14.93 ^b	7.78 ^a	11.48 ^{ab}
<u>28 to 56 days:</u>				
Daily feed intake, lb.	13.52 ^c	11.95 ^a	13.66 ^c	12.74 ^b
Daily gain, lb.	3.23 ^b	2.74 ^a	3.07 ^b	3.12 ^b
Feed per pound gain, lb.	4.19	4.36	4.45	4.08
<u>Entire 56 days:</u>				
Daily feed intake, lb.	11.48 ^c	10.16 ^a	11.70 ^c	10.91 ^b
Daily gain from purchase, lb.	2.19 ^b	1.65 ^a	2.16 ^b	1.96 ^b
Feed per pound gain, lb.	5.24	6.16	5.42	5.57

^{abc} Means within a criterion of measurement in the same period having different superscripts differ at a probability of 19 to 1.

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