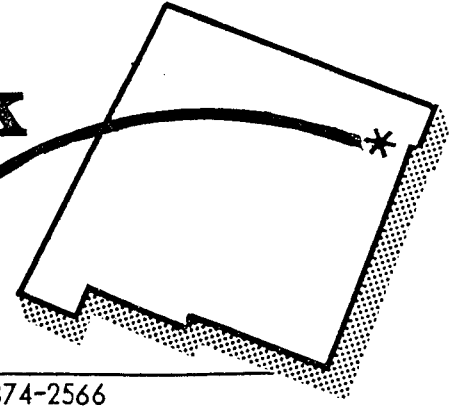




Clayton Livestock Research Center

PROGRESS REPORT



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A COMPARISON OF THE STRESS OF DIPPING AND WORMING VS THE USE OF IVERMECTIN IN PROCESSING CALVES

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In the processing of newly received cattle it is a common practice to use anthelmintics for the control of internal parasites and a parasiticide (dips or pour ons) for control of external parasites. A new drug developed by Merck and Co. (ivermectin®) is now available and is effective in the control of both internal and external parasites. Although much work has been done to establish the effectiveness of ivermectin, information is needed comparing the stress of using ivermectin at time of processing with the stress of using an anthelmintic together with a dip. The purpose of the trial described herein was to compare the use of ivermectin with the administration of an anthelmintic and dipping for internal and external parasite control.

One load (126 head) of medium and large frame no. 1 and 2 male calves with a mean purchase weight of 373 lb was shipped by truck from Florida to Clayton, New Mexico. The calves were in transit 37 hours and shrunk 9.5% from purchase to arrival. Free access to water and grass hay was allowed overnight and the calves were processed the following morning. Processing for all calves included the administration of LA200® at 9 mg per pound and 25 g of Albon SR® as preventive medication, castration and dehorning as necessary, branding, vaccination with nasal IBR-P13 and 4-way blackleg, injection of 500,000 units of vitamin A, implanting with Synovex-S®, ear tagging and weighing. Additionally, 43 calves were given oral tramisol solution but were not dipped, 43 calves were given oral tramisol and dipped (Co-Ral®) while 40 were

given ivermectin injections. The calves given tramisol but not dipped at the time of processing were dipped 4 weeks after processing. All groups were fed a 75% concentrate milled feed for 4 weeks plus free choice native grass hay limited to the first week. After 4 weeks, the ration was changed to 85% concentrates and continued for another 4 weeks.

The results of the 56-day trial are shown in table 1. During the first 2 weeks, calves which were dipped on the day of processing ate less feed and gained less than those not dipped or those receiving ivermectin. Apparently dipping at the time of processing is somewhat stressful since those receiving all processing procedures except dipping ate more feed and gained more than the dipped calves. During the following 2 weeks, however, the dipped calves compensated and at the end of 4 weeks both groups had gained 49 lb. The calves given ivermectin at processing gained 57 lb in the same period. After 56 days, the total gains were 128, 125 and 132 lb for the delayed dip, dipped at processing and the ivermectin calves, respectively. None of these differences was statistically significant. Although dipped at time of processing appeared to be slightly stressful, when performed at 28 days there appeared to be no stress as the calves dipped on the 28th day actually gained slightly more than the other 2 groups during the next 28 days. Sickness was low in all groups (table 2) with only 7 calves of 126 requiring treatment for respiratory disease. Although the differences were not statistically significant, the lowest

morbidity rate (treatment days per calf purchased) occurred in the group given ivermectin.

In this study the feed intake and weight gains of calves given an ivermectin

injection at processing were comparable to calves dipped and wormed at processing and dipped 28 days later. Except for the first 2 weeks following arrival, the stress of the three procedures appears to be about equal.

Table 1. Performance by 2-week periods

Treatment	Daily feed intake	Daily gain from purchase	Feed per pound gain
	lb	lb	lb
	<u>0 to 14 days</u>		
Dipping delayed 28 days	6.83	.48	14.23
Dipped at processing	6.17	.06	102.83
Ivermectin at processing	6.37	.37	17.22
	<u>14 to 28 days</u>		
Dipping delayed 28 days	11.17	3.00	3.72
Dipped at processing	12.19	3.42	3.56
Ivermectin at processing	12.25	3.67	3.34
	<u>28 to 56 days</u>		
Dipping delayed 28 days	12.56	2.84	4.42
Dipped at processing	12.48	2.74	4.55
Ivermectin at processing	12.59	2.70	4.66
	<u>0 to 56 days</u>		
Dipping delayed 28 days	10.78	2.29	4.71
Dipped at processing	10.83	2.24	4.83
Ivermectin at processing	10.95	2.36	4.64

Table 2. Health data

Item	Wormed Delayed dip	Dipped & wormed	Ivermectin
Number of calves	43	43	40
Number requiring treatment	2	2	1
Treatment days per sick calf	3.5	3.0	3.0
Treatment days per calf purchased	0.16	0.28	0.08
Death loss	0	0	0

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