

Observations on Preconditioned and Preweaned Calves

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Story in Brief

Calves were immunized against several diseases before weaning, and taught to eat concentrates during a 12 day post-weaning period before shipment to market or a feedlot. These practices: (1) Did not result in any appreciable gain during the 12 day post-weaning period, (2) Did not prevent a typical 5 percent shrink during marketing, and (3) Did not prevent the large shrink often observed after arrival of calves in the feedlot.

Introduction

There has been much interest in the cattle industry about various aspects of preconditioning calves due to the high death loss and large shrink of feeder cattle after entering the feedlot. Various management and/or disease prevention techniques are being explored in an effort to decrease losses and improve early feedlot performance. Therefore, the data in this report are being presented even though only a limited number of cattle is represented.

Procedure

A total of 110 Angus and Hereford calves, both steers and heifers, were included in the trial. They were out of 2, 3, and 4-year-old cows, and were dropped in March, April and May.

All calves were weighed monthly to yield data for another experiment. At the time they were in the corral for monthly weighing they were treated against grubs by spraying with the systematic insecticide CoRal on August 1 and September 1, and immunized against bovine viral diarrhea (BVD) on September 1, infectious bovine rhinotracheitis (IBR) on September 1, *Leptospira pomona* on October 1 and *Clostridium fescerium* (blackleg) on October 1. In addition, a mixed culture of inactivated parainfluenza-3 virus and *Pasteurella bactrin*, *multocida* and *hemolytica*, (Bar-3)¹ was administered on August 1 and October 1.

The assistance of Herb Sneed in caring for the cattle is gratefully acknowledged.

¹ Elanco Products Company, Division of Eli Lilly Company, Indianapolis, Indiana, generously provided the Bar-3 vaccine used in this trial.

Calves were weaned and weighed (unshrunk) October 26 and placed in three traps, each approximately 1 acre in size. Weights (unshrunk) were obtained again on November 7, and 36 of the calves were hauled to Stillwater (15 miles) to the experimental feedlot. The remaining 74 calves were continued on feed and water until the morning of November 9 at which time they were hauled to Oklahoma City (approximately 75 miles) and sold through the auction market.

Water and hay (prairie and alfalfa) were available at all times. In addition, a concentrate mixture of the following composition was fed (percent): milo, 50; dehydrated alfalfa pellets, 20; cottonseed hulls, 17.5; cottonseed meal, 11.5; salt, .5; and dicalcium phosphate, .5.

Results and Discussion

Weight changes during the 12 day postweaning period are shown in Table 1. The average gain was only 3 lb. per head, with little apparent difference between steers and heifers. Average daily feed intake was 10.5 lb. hay (5.75 lb. prairie hay and 4.75 lb. alfalfa hay) and 2.33 lb. concentrate mix.

A greater weight gain than observed in this trial is necessary in order to make preweaning attractive to the feeder calf producer. This might have been accomplished with a longer period between weaning and marketing, or by a greater intake of energy. Weaned calves grazing native or improved pastures in the fall occasionally make greater gains than observed in this trial with calves in drylot. It is possible that

Table 1. Weight Changes of Preconditioned Calves

Classification	No. Calves	Weight, Per Head		Weight Change, Per Head
		Weaning 10-26-67	11-7-67	
		lb.	lb.	lb.
Sex				
Steers	47	425	427	+2
Heifers	63	389	393	+4
Total	110	405	408	+3
Breed and sex				
Angus				
Steers	31	452	454	+2
Heifers	29	407	421	+14
Total	60	431	438	+7
Hereford				
Steers	16	390	388	-2
Heifers	34	373	374	+1
Total	50	378	378	0

greater gains could have been stimulated with an increased intake of a more palatable concentrate mix, perhaps further facilitated by limiting the intake of hay. Producers in the field have reported a high intake of concentrates and good gains during a short postweaning period, particularly with calves which had received at least small quantities of grain previously. The calves in this trial had received no grain prior to weaning. The health of the calves was good throughout the 12 day postweaning period.

Feeders have frequently observed that Angus calves start eating more rapidly than Hereford calves. Although differences are not large, comparative postweaning gains in Table 1 indicate that their observations may be correct.

Marketing shrink is shown in Table 2. A weight loss of 19 lbs. per head was observed from the prehauling weight to sale weight. This 5 percent shrink is as large as normally observed with newly weaned calves shipped directly to market from our experimental range. It has not been possible to obtain follow-up information on the subsequent performance of the marketed calves to determine the value of the preweaning immunizations and postweaning treatment which they received.

The performance of the 36 calves taken to the feedlot 12 days after weaning is indicated in Table 3. Note the very large shrink of 56 lb. per

Table 2. Marketing Shrink of Preconditioned and Prewaned Calves

No. Calves	Weight, Per Head			Shrink, Per Head
	Weaning 10-26-67	11-7-67 ¹	Sale 11-9-67	
74	lb. 373	lb. 376	lb. 357	lb. 19

¹ Hauled 75 miles to market on 11-9-67.

Table 3. Early Feedlot Gain of Preconditioned and Prewaned Calves

No. Calves	Weight, Per Head			Feedlot 12-14-67 ²
	Weaning 10-26-67 ¹	11-7-67 ¹	11-16-67 ²	
36	lb. 468	lb. 470	lb. 414	lb. 468

¹ Unshrunk weights.

² Weight obtained after 16 hour shrink without feed and water.

³ Weight obtained after 16 hour shrink without water.

head (12 percent) during the first 9 days in the feedlot after a haul of only 15 miles. Only a part of the weight loss can be explained by a difference in weighing conditions (unshrunk to shrunk weight). During the subsequent 28 days sufficient gain was made to only return the calves to their weaning weight. During the first 9 days in the feedlot, the calves were gradually shifted from the concentrate mix which they had received after weaning to a high concentrate ration containing 83 percent milo. Although this was a rather abrupt shift, the health and appearance of the calves remained good; only a few minor respiratory infections occurred during the first 6 weeks of the feeding period.

Summary

The value of the immunizations could not be properly assessed in this trial because the calves were not challenged by disease situations during the period of observation. It should be recognized that immunizations are not likely to be of any value in the absence of disease, and should not be used haphazardly and routinely with the expectation of benefit in weight gains. It has also been suggested that certain immunizations might be of greater benefit after weaning than before weaning.

The calves in this trial were young (mostly 6-7 mo. old) and light in weight (about 400 lb. average), and the results which were obtained are probably most typical for this kind of calf. It is obvious that simply "preconditioning" and "preweaning" calves will not automatically insure desirable weight changes during shipment and the early feedlot phase. If undesirable weight changes can be prevented in young, light weight calves, conditions different from those used in this trial must be provided.
