Agricultural Experiment Station U.S. Department of Agriculture

Clayton Livestock Research Center

PROGRESS REPORT

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COMPENSATORY GAINS OF NATIVE CALVES RECEIVED ON HAY ALONE FOR FOUR WEEKS

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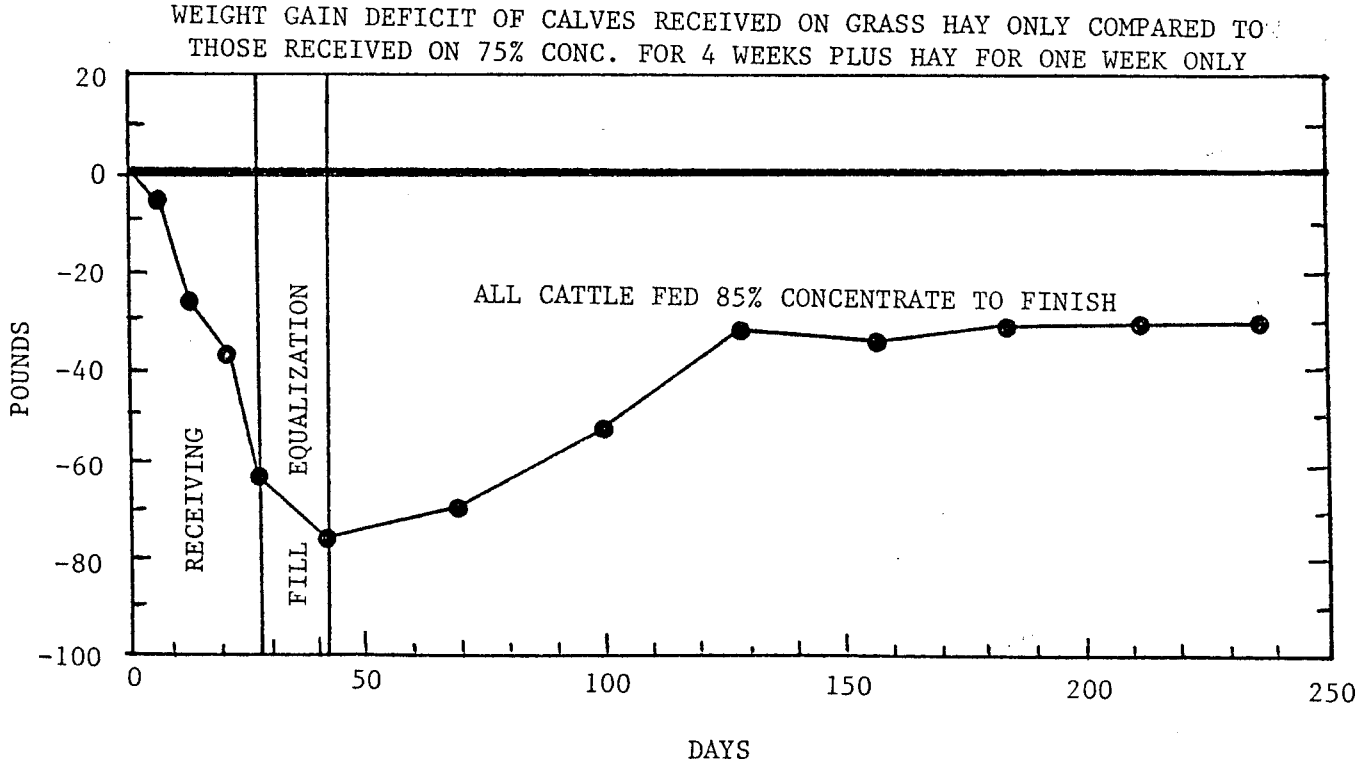
Previous work (Progress Reports 31 and 32) has shown that highly stressed calves should be received on a relatively high energy milled feed with grass hay fed free choice for the first week. Calves which have not been so highly stressed can be received on grass hay alone and will compensate fully for poor gains made during the receiving period.

The present study was designed to determine if newly weaned native calves hauled a short distance from the ranch will react as highly stressed calves or as those with low stress.

One hundred eighty-six calves were obtained from a ranch near Folsom, NM. Cattle were gathered one day, the calves separated from their dams, sorted and shipped to Clayton on



[1]Appreciation is expressed to Dr. T. H. Montogmery, WTSU, for collection of the carcass data.

the following day. They were held in a pen with free access to hay and water and were processed the following morning. Processing consisted of weighing, branding, implanting, worming, mass medication treatment and vaccination for IBR-PI$_3$ and blackleg. Following processing the calves were randomly divided into 12 pens with 15 or 16 calves per pen. One-half the calves were fed grass hay free choice for 4 weeks while the other half received a 75% concentrate milled feed for 4 weeks plus free choice grass hay limited to the first week. After the 28-day receiving period calves in both groups were fed a 50% concentrate feed for 14 days to equalize ruminal fill. Throughout the remainder of the trial all calves were fed an 85% concentrate finishing feed. The compensatory gain figure shows the hay calves gained approximately 80 pounds less than those received on the higher energy feed. Approximately half of this difference was regained mid-way through the finishing period. No further compensatory gains were made. It appears that local native calves react similarly to highly stressed southern calves in their inability to compensate fully for poor gains made during a 4 week receiving period on grass hay only.

The tabular data confirm the overall greater gains made by the cattle received on the higher energy feed. However, the management procedure one chooses will depend upon who owns the cattle and when a change in ownership is contemplated.

GAINS, COSTS AND RETURNS

	Receiving feed	
Item	Hay only for 4 weeks	75% conc. 4 weeks plus hay first wk
Number of calves	93	93
Purchase weight, lb.	420	419
Number of days fed	236	238
Daily feed intake, lb.[1]	16.52	16.98
Daily weight gain, lb.	2.35[a]	2.45[b]
Feed per pound gain, lb.	7.03	6.93
Carcass data:		
Final gross weight, lb.	1015[a]	1044[b]
Carcass weight, lb.[2]	616[a]	643[b]
Dressing percent	62.0	62.9
Fat cover over rib, in.	.47[a]	.54[b]
Rib eye area, sq. in.	12.1	12.4
Yield grade	2.5	2.7
Marbling score	4.8	4.9
Quality grade score	12.2	12.2
Costs and Returns:		
Purchase price, $	317.02	316.26
Total feed cost, $[3]	271.81	286.87
Total cost, $[4]	588.33	603.13
Selling price, $[5]	614.21	641.14
Net return, $	25.38	38.01

[a,b] Significantly different at 1% level.

[1] 4% shrink.

[2] 4% shrink on live wieght and 2% shrink on carcass weight.

[3] Ingredient cost + $19 per ton to cover labor, yardage, death loss, medication and insurance.

[4] Purchase price + marked up feed cost.

[5] Does not include interest. $99.71 per cwt. of carcass.

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