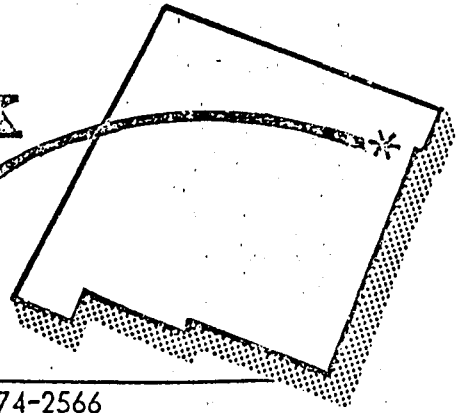




Clayton Livestock Research Center

PROGRESS REPORT



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Progress Report No. 9 (July, 1979)

COMPARISON OF MILLET AND ALFALFA HAYS ALONE AND IN COMBINATION WITH A HIGH ENERGY DIET FOR RECEIVING STRESSED CALVES

Glen P. Lofgreen

Progress Report No. 7 (January, 1979) presented preliminary results comparing millet and alfalfa hays alone and in combination with a 75% concentrate ration for receiving new calves. These studies have been completed and the results are reported herein.

The study involved 704 calves with a mean purchase weight of 377 pounds. Two hundred calves were purchased from a local ranch and the remaining 504 were obtained through an order buyer in Florida. The results are presented in Tables 1 and 2. Although the differences among rations were not statistically significant there were more calves treated on the 75% concentrate, those treated required more days to return to normal

and there were more returns than on the two hays fed alone. This resulted in larger medication cost per head. However, the medication cost per pound of gain was lower on all rations containing the 75% concentrate compared to either millet or alfalfa hay alone. The only statistically significant difference in death loss was between the two hays fed alone. Most of the increased death loss on the alfalfa was due to bloat as the calves began to eat well. The unusually high total death loss was due to the loss of 40 head from one load of Florida calves which arrived during a cold, windy period with minimum chill factors between -10 and -35F for 15 days. Most of the 40 calves merely froze before starting to eat well.

Table 1. Health records

Item	Millet hay alone	Alfalfa hay alone	75% conc. alone	75% concentrate plus:		
				Millet hay	Alfalfa hay	
					4 weeks	2 weeks
Number of calves	117	117	118	117	117	118
Percent of calves treated	54	55	63	62	59	55
Days treated	3.7	4.1	4.3	4.5	4.2	4.4
Percent returns	6.3	6.3	9.5	6.9	4.4	4.7
Percent death loss	2.6 ^a	14.5 ^b	5.9 ^{ab}	8.5 ^{ab}	6.0 ^{ab}	10.2 ^{ab}
Medication cost per head, \$	2.10	2.42	2.90	2.67	2.48	2.18
Medication cost per pound gained during 28-day receiving period, ¢	7.06	6.05	3.92	3.71	3.76	3.21

^{ab} Means in the same row with different superscripts are significantly different (P < .05).

Calves not suffering from effects of stress normally eat more hay than higher energy rations because of the lower energy density in hay. The data in Table 2 demonstrate that stressed calves do not eat in a normal manner. Significantly less hay was eaten than the 75% concentrate ration. Thus, stressed calves provided higher energy rations have a feed containing more energy per pound and they also eat more, resulting in a greatly increased energy intake by calves fed the

75% concentrate ration compared to millet or alfalfa hay alone. This causes a more rapid rate of gain and thus a more rapid recovery of purchase weight and a more efficient conversion of feed to gain. It is noteworthy that although alfalfa hay alone produced the cheapest gain, the highest net return above costs during the 28-day receiving period was realized on the higher energy rations. The lowest return was on millet hay alone.

Table 2. Performance

Item	Millet hay alone	Alfalfa hay alone	75% conc. alone	75% concentrate plus:		
				Millet hay	Alfalfa hay	
					4 weeks	2 weeks
Days to regain purchase weight ¹	26	20	11	11	12	12
Daily feed intake, lb.						
75% concentrate ration	0 ^a	0 ^a	11.00 ^d	8.91 ^c	7.13 ^b	9.02 ^c
Hay	8.35 ^e	9.24 ^f	0 ^a	3.16 ^c	4.04 ^d	1.68 ^b
Totals	8.35 ^a	9.24 ^b	11.00 ^{cd}	12.07 ^e	11.18 ^d	10.70 ^c
Daily weight gain, lb. ²	1.12 ^a	1.43 ^b	2.66 ^c	2.56 ^c	2.35 ^c	2.43 ^c
Feed per pound gain, lb.	7.46 ^c	6.46 ^b	4.14 ^a	4.71 ^a	4.76 ^a	4.40 ^a
Cost per pound gain, c ³	27.24	23.68	26.47	26.65	25.61	26.16
Net value of 28-day gain over cost, \$	14.81	20.53	35.91	34.81	32.60	33.21

¹ Disregarding deads.

² Includes a deduction for death loss prorated over a 280-day feeding period.

³ Includes feed, processing and medication costs with the latter two prorated over 280 days

abcdef Means in the same row with different superscripts are significantly different.

REMEMBER! NMSU College Ranch and U.S.D.A. Jornada Experimental Ranch Field Day on August 29, 1979 with registration at 8:00 a.m. and program at 9:00 a.m. Lunch courtesy of Worley Mills.

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