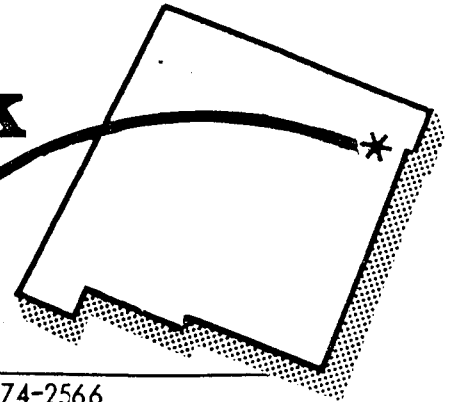




Clayton Livestock Research Center

PROGRESS REPORT



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Clayton, New Mexico 88415

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Progress Report No. 27 (April, 1982)

ONCE VS TWICE DAILY FEEDING FOR FINISHING CATTLE

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A recent review of published information on the effect of feeding frequency on beef cattle performance indicated an improvement in both rate and efficiency of weight gain with increasing feeding frequency. Most of the increase was attributable to increasing the number of feedings from once or twice to four times per day. The magnitude of the response appeared to be greater when average daily gain was low. An aspect of the problem which appeared to need further study was the effect of increasing feeding frequency from once to twice daily with cattle fed for high rates of gain. This report describes the results of such an experiment.

Three groups of steers (total of 112 head) were used in the study. All were yearling No. 1 Okies and crossbreds. Group 1 came off dry native grass, group 2 from wheat pasture and group 3 from a growing program in the feedlot. Within each group the cattle were assigned at random to be fed either once or twice daily. Thus three pens of cattle were assigned to each feeding frequency. An 85% concentrate ration containing 67.4% steam flaked corn was fed to all groups. The ration contained 30g of rumensin and 10g of tylosin per ton of finished feed. All cattle were implanted with Synovex-S at the start of the trial.

Item	Fed once daily				Fed twice daily			
	1	2	3	Totals and means	1	2	3	Totals and means
Number of steers	14	21	20	55	16	21	20	57
Initial weight, lb.	523	735	677	660	563	745	713	683
Days fed	151	117	151	138	151	117	151	138
Daily feed intake, lb.	22.31	23.92	19.43	21.88	22.67	23.81	19.71	22.05
Daily weight gain, lb.	3.55	3.50	2.67	3.21	3.48	3.59	2.64	3.23
Feed per pound gain, lb.	6.28	6.83	7.28	6.82	6.51	6.63	7.47	6.83
Quality grade ^a	-	-	-	12.3	-	-	-	11.9
No. of yield grade two	-	-	-	8	-	-	-	17
No. of yield grade threes	-	-	-	36	-	-	-	36
No. of yield grade fours	-	-	-	11	-	-	-	4
Dressing percent	-	-	-	63.2	-	-	-	63.1

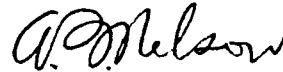
^aChoice = 13, low choice = 12, high good = 11, good = 10.

With both feeding frequencies care was exercised to provide sufficient feed to allow feed to accumulate in the bunk. At least once a week the cattle were fed so they would completely consume all feed given. Because of different initial weights and body conditions, the length of time varied with two groups fed for 151 days and the third for 117 days. The weighted mean days fed was 138.

The accompanying table shows the performance of each group and the weighted means for feeding frequency. No significant differences were observed between once and twice daily feeding in feed intake, rate of gain or efficiency of feed conversion. Because carcass data were not available on individual animals, significance of differences could not be tested statistically. However, there were some interesting effects of feeding frequency on carcass characteristics. With the exception of dressing percent, carcass measurements indicated the cattle fed once a day were fatter than those fed twice daily. Thus, those fed once daily had more carcasses grading choice, had fewer yield grade twos and more yield grade fours than those fed twice

daily. In order to reduce the number of yield grade fours those fed once daily would have to have been slaughtered earlier. Despite the higher quality grade for the groups fed once daily, the average selling price per cwt. was lower because of the greater number of yield grade fours. The reason for the observed difference in fattening is not clear. It could have occurred by chance. However, it has been observed with certain laboratory animals that "nibblers" tend to deposit more fat than "meal eaters." One could surmise that when fed once daily the cattle would eat more frequently but less at each trip to the bunk. This pattern might more closely resemble "nibbling" at the feed. Twice daily feeding might cause two peaks in feed consumption as the cattle are stimulated to come to the bunk by the appearance of the feed truck. This might more closely resemble "meal eating" and could account for the difference in fat desposition. Verification of these results and investigation of reasons must await further research.

Please plan to attend the Clayton Livestock Research Center Field Day which will be held on Thursday, May 27. Registration will be at 10:00 p.m. with an open house until noon, when a complimentary lunch will be served. The program will start at 1:00 p.m. and be completed by about 3:00 p.m.



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