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## Feeding cull beef cows in feedlots

### Abstract

I conducted two trials during 1977 using 115 cows culled from KSU cow herds. Dry cows on lush brome grass gained 1.5 pounds per head per day. Those on a 60% concentrate ration average 2.2 pounds/day; those on 80% concentrate ration, 3.7 pounds/hd/day. The cull, dry cows ate between 23 and 30 pounds of dry matter/day. Cows fed during the Dec. 15-Feb. 15 trial required 2.5 lbs. more dry matter per pound of gain than cows fed during the May 17-June 21 trial. Fastest and most efficient gains were from the 80% concentrate rations. Length of feeding period should coincide with optimum slaughter weight. Results of these trials showed optimum slaughter weight was obtained when a cow weight 22 pounds per inch of height at the withers.

### Keywords

Cattlemen's Day, 1978; Report of progress (Kansas State University. Agricultural Experiment Station); 320; Beef; Cull cows; Feedlots

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## Feeding Cull Beef Cows in Feedlots

Jack Riley

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### Summary

I conducted two trials during 1977 using 115 cows culled from KSU cow herds. Dry cows on lush brome grass gained 1.6 pounds per head per day. Those on a 60% concentrate ration averaged 2.2 pounds/day; those on 80% concentrate ration, 3.7 pounds/hd./day. The cull, dry cows ate between 25 and 30 pounds of dry matter/day. Cows fed during the Dec. 15 - Feb. 15 trial required 2.5 lbs. more feed dry matter per pound of gain than cows fed during the May 17 - June 21 trial. Fastest and most efficient gains were from the 80% concentrate rations. Length of feeding period should coincide with optimum slaughter weight. Results of these trials showed optimum slaughter weight was obtained when a cow weighed 22 pounds per inch of height at the withers.

### Introduction

Approximately 300,000 cows are culled from beef herds in Kansas each year. Since 50% of the calves are born during February, March, and April, October and November is the most popular weaning time. Producers are encouraged to pregnancy check cows weaning calves and sell the "open" cows. Fall-calving cows diagnosed as open when their calves are weaned in late spring also should be culled. It is important to cull before the expensive winter feeding period and before the summer grazing season. At least two questions should be asked: (1) are cull cows being sold to the producer's best advantage, and (2) is there an opportunity to profitably feed the cows additional energy to obtain a better slaughter weight? The two trials during 1977 were to help answer those questions.

### Procedure

All cows used in the trials were culled from KSU cow herds and were predominantly of Hereford breeding. Trial 1 used 49 cows fed 62 days, Dec. 15 - Feb. 15. Trial 2 used 66 cows fed 35 days, May 17 - June 21, 1977. Table 19.1 shows rations fed. Cows were sold on a grade-and-yield basis with carcass data obtained for each cow. Actual prices for cows and feed ingredients were used for the economic calculations.

### Results

Feedlot performance is shown in Table 19.2. Increasing the concentrate from 60 to 80 percent resulted in 1.3 to 1.5 lbs. more gain per cow per day. Mature cows weighing approximately 900 lbs. apparently

have a high maintenance requirement, therefore, if gains exceeding 3 lbs. a day are desired, the ration must have a high percentage of grain.

The most efficient gains also were obtained with the 80%-concentrate ration. Cull cows fed Dec. 15 to Feb. 15 required 2.5 lbs. more feed dry matter per pound of gain than cull cows fed during May - June.

Cull cows are usually sold on expected carcass value. Table 19.3 shows the effect that ration and number of days on feed had on carcass grade. Optimum time on feed should coincide with optimum carcass value. Carcass value and length of feeding influence economic returns. A summary of the economic results of the 2 trials is shown in Table 19.4.

It is obvious from the table that feeding cull cows is potentially risky. Cull cows are vulnerable to price fluctuations during short feeding periods, and the opportunity for profits from feeding cull cows is not large even when they are managed well and fed properly. Most profits result from purchasing thin cows with potential for large compensatory gain, and from grazing crop residues or other economical forage.

In these trials, optimum slaughter weight was when a cow weighed 22 lbs./inch of height at the withers. A random sample of cows could be measured when purchased or culled and the feeding program concluded at the optimum slaughter weight.

Table 19.1. Rations fed to cull beef cows.

Ration Information	% Concentrate				
	Trial 1*		Trial 2**		
	60	80	60	80	0
Daily intake/cow:					
Sorghum silage	33.4	17.8	27.7	14.3	brome
Milo	19.6	28.6	16.3	22.3	pasture
Supplement	.9	.4	.4	.4	free
Ration dry matter	52.6	66.1	51.2	63.7	choice
Daily D.M./cow	28.4	31.2	22.7	24.0	----

\*62-day trial: Dec. 15 - Feb. 15, 1977.

\*\*35-day trial: May 17 - June 21, 1977.

Table 19.2. Feedlot performance of cull beef cows.

% Concentrate	Trial 1		Trial 2		
	60	80	60	80	0
No. cows	25	24	18	18	15
Initial wt., lbs.	931.4	942.5	884.7	850.3	847
Final wt., lbs.	1069	1162	961	984.3	904
ADG	2.22	3.54	2.18	3.83	1.63
D.M./gain	12.8	8.8	10.4	6.2	---

Table 19.3. Effects on carcass grade of ration and days on feed.

Carcass grade	Cutter	Boner	Breaker
Treatment:	No. (%)	No. (%)	No. (%)
0 days on feed	11 (74)	2 (13)	2 (13)
Brome grass - 35 days	12 (80)	3 (20)	---
60% concentrate 35 days	9 (50)	8 (44)	1 (6)
60% concentrate 62 days	1 (4)	14 (56)	10 (40)
80% concentrate 35 days	6 (33)	12 (67)	---
80% concentrate 62 days	0 (0)	8 (33)	16 (67)

Table 19.4. Economic results of feeding trials with cull cows.

% Concentrate	Trial 1		Trial 2		
	60	80	60	80	0
Initial value/cow*	\$196.35	\$198.87	\$224.91	\$216.35	\$215.39
Feed cost/cow	66.34	83.08	27.65	31.50	8.75**
Initial value + feed	262.69	281.95	252.56	247.85	224.14
Value/cow final**	273.49	289.40	237.56	238.18	219.42
Return above feed cost/cow	\$10.80	\$7.45	(-15.00)	(-9.67)	(-4.72)

\*Based on cow market at start of trial.

\*\*Actual grade and yield payment.

\*\*\*Pasture charge.