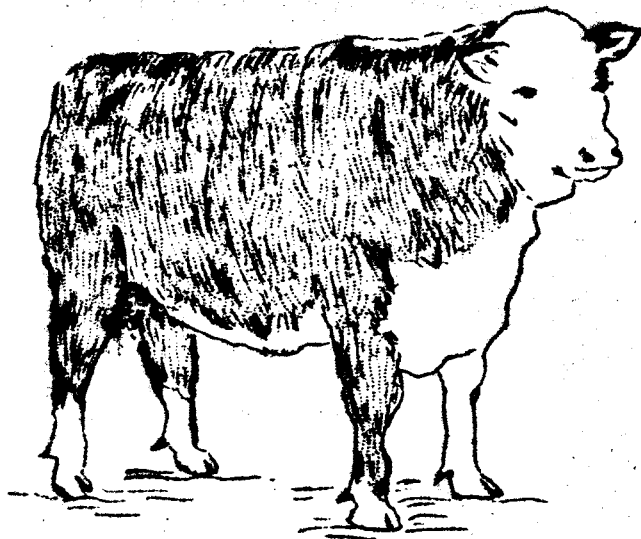


Miscellaneous Series Paper 232

Steer Feeding Experiment - 1943-44



UTILIZING FEED IN WARTIME

CATTLE FATTENING RATIONS

Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

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MacAllister data # 232

STEER FEEDING EXPERIMENT

Colorado Agricultural Experiment Station, Ft. Collins, Colorado

Feb 140 days - Nov. 9, 1943 to Mar. 23, 1944

April 1944

(Table based on one average steer)

Lot Number	1	2	3	4	5	6	7	8
Number of Steers	9	9	9	7	9	9	7	9
Feeds Fed:	Gr. Corn	Dried Pulp	Gr. Corn	Gr. Corn	Gr. Corn	Gr. Corn	Gr. Corn	Dried Pulp
Alfalfa hay,								
salt and	R. Barley	R. Barley	R. Barley	R. Barley	R. Barley	R. Barley	R. Barley	R. Barley
minerals self-	Wet Pulp	Wet Pulp	Wet Pulp					
fed in all lots				Alf. Sil.	B. Top. Sil.	Corn Sil.	Dr. B. Tops	Dr. B. Tops

Initial Weight	793.3	792.5	790.6	817.1	793.6	786.9	817.5	792.8
Final Weight	1044.2	1057.2	1046.7	1017.5	1033.3	1011.9	1055.0	1043.1
Total Gain	250.8	264.7	256.1	200.4	239.7	225.0	237.5	250.3
Daily Gain	1.79	1.89	1.83	1.43	1.71	1.61	1.70	1.79

Average Daily Ration

Ground Corn	5.17		3.23	3.29	3.24	3.03	3.06	
Rolled Barley	5.17	5.50	3.23	3.29	3.24	3.03	3.06	3.30
Dried Beet Pulp		5.50						
Wet Beet Pulp	17.11	17.13	37.94	22.92				3.30
Alfalfa Silage								
Beet Top Silage					27.13	23.86		
Corn Silage								
Dried Beet Tops								
Alfalfa Hay	5.82	7.03	7.29	4.66	4.64	6.23	9.54	9.52
Salt	.049	.013	.033	.027	.013	.022	.038	.028
Mineral	.058	.021	.020	.037	.053	.033	.053	.039

Feed Required per Cwt. Gain

Ground Corn	288.3		176.6	229.7	189.1	188.5	180.1	
Rolled Barley	288.3	290.9	176.6	229.7	189.1	188.5	180.1	184.8
Dried Beet Pulp		290.9						184.8
Wet Beet Pulp	954.7	906.2	2074.2					
Alfalfa Silage								
Beet Top Silage								
Corn Silage								
Dried Beet Tops								
Alfalfa Hay	324.7	371.7	398.7	325.9	271.2	387.7	562.1	532.5
Salt	2.7	.7	1.8	1.9	.8	1.4	2.2	1.6
Mineral	3.2	1.1	1.1	2.6	3.1	2.1	3.1	2.2
Feed Cost per Cwt. Gain	18.38	18.65	15.18	22.65	14.95	18.39	15.84	15.75

SHEEP FEEDING EXPERIMENT
FINANCIAL STATEMENT BASED ON SALE OF SHEEPERS
Colorado Experiment Station, Fort Collins, Colorado
Feb 140 Days - Nov. 9, 1943 to Nov. 28, 1944

Lot Number	1	2	3	4	5	6	7	8
Number of Steers	9	9	9	7	9	9	7	9
Feeds Fed:	Gr. Corn	Dried Pulp	Gr. Corn	Gr. Corn	Gr. Corn	Gr. Corn	Gr. Corn	Dried Pulp
Alfalfa hay,	R. Barley	R. Barley	R. Barley	R. Barley	R. Barley	R. Barley	R. Barley	R. Barley
salt and	Wet Pulp	Wet Pulp	Wet Pulp	Wet Pulp	Wet Pulp	Wet Pulp	Wet Pulp	Wet Pulp
minerals self-								
fed in all lots				Alf. Sil.	B. Top Sil.	Corn Sil.		
Initial Weight	793.3	792.5	790.6	817.1	793.6	786.9	817.5	792.8
Est. Mkt. Wt. (Denver-3% Sh.)	1012.8	1025.5	1015.3	987.0	1002.3	981.6	1023.4	1011.8
Total Est. Mkt. Gain	219.5	233.0	224.7	169.8	208.7	194.6	205.9	219.0
Daily Est. Mkt. Gain	1.57	1.66	1.61	1.21	1.49	1.39	1.47	1.56
Cost per steer in feedlot								
@ \$13.45 per cwt.	106.70	106.59	106.33	109.91	106.74	105.84	109.95	106.63
Feed cost per steer	46.10	49.37	38.88	45.38	35.84	41.38	37.62	39.42
Est. fixed costs inc.								
Int., labor & equip't.	6.82	6.89	6.64	6.87	6.58	6.68	6.69	6.66
Est. shipping & selling exp.	3.04	3.08	3.05	2.96	3.01	2.94	3.07	3.04
Total est. cost at market								
(Denver)	162.66	165.93	154.90	165.12	152.17	156.84	157.33	155.75
Total est. operating costs	55.96	59.34	48.57	55.21	45.43	51.00	47.38	49.12
Return per steer to cover								
est. operating costs	50.80	53.39	51.04	42.08	48.12	46.31	47.65	49.69
Est. price per cwt.								
flat (Denver)	15.55	15.60	15.50	15.40	15.45	15.50	15.40	15.45
Est. return per steer	157.50	159.98	157.37	151.99	154.86	152.15	157.60	156.32
Est. profit per steer	-5.16	-5.95	2.47	-13.13	2.69	-4.69	.27	.57
Necessary selling price per								
cwt. to break even	16.06	16.18	15.26	16.73	15.18	15.98	15.37	15.39
Margin over purchase price								
needed to break even	2.61	2.73	1.81	3.28	1.73	2.53	1.92	1.94
Feed Costs Used:								
Ground Corn	\$49.00 per ton	Wet Pulp	\$ 2.75 per ton			Dried Beet Tops	\$8.00 per ton	
Rollod Barley	47.00 " "	Alfalfa Silage	10.50 " "			Salt	.75 per cwt.	
Dried Beet Pulp	28.00 " "	Corn Silage	7.50 " "			Mineral Block	75.00 per ton	
Alfalfa Hay	19.00 " "	Beet Top Silage	4.00 " "					

STEER FEEDING EXPERIMENT
Colorado Experiment Station, Ft. Collins, Colo.
 1943-44

Summary and Observations

1. Under present wartime conditions, with protein supplements scarce and other concentrate feeds high in price, the rate of gain is secondary to the problem of profitably using feeds that are available. In this experiment, good to choice beef was produced at a profit by feeding steers only a small amount of grain with Colorado roughages. Comparing 6.5 pounds of grain and a large amount of roughage in Lot 3 with 10.3 pounds of grain and a smaller amount of roughage in Lot 1, the smaller amount of grain was more efficient, and although 120 pounds more wet pulp was used per cwt. gain, the cost of this gain was \$3.20 lower. The grain fed on the low level had a feed replacement value of 138% compared to the grain fed on the high level.
2. Wet beet pulp (Lot 3) showed a feed replacement value of 78% compared with corn silage (Lot 6) pound for pound and on the basis of feed costs shown for this experiment wet pulp was worth \$5.85 per ton. The steers in lot 3 gained more than those in any other lot on the low grain level.
3. Alfalfa silage in this experiment (Lot 4) was worth 69% as much as the corn silage. Because of the lack of equipment, alfalfa silage could not be properly prepared and it is planned to continue this study when such equipment is available.
4. Beet top silage (Lot 5) produced the cheapest gains in the experiment and showed a feed replacement value of 111% compared to corn silage. These steers gained almost as much as those in Lot 3 fed wet pulp.
5. Dried beet tops fed in Lots 7 and 8 produced gains comparable to wet pulp and beet top silage but the cost of gains was higher. In this experiment, one ton of dried beet tops replaced 5638 pounds of beet top silage plus 64 pounds of grain, but required 836 pounds more alfalfa hay.
6. Dried beet pulp (Lots 2 & 8) fed in this experiment was worth about 95% the value of ground corn.
7. These steers were appraised by lots at an estimated value ranging from \$15.40 to \$15.60 per hundred, based on a market top of \$15.75 flat, Denver.
8. In this experiment, the steers in those lots receiving a small amount of grain plus beet by-products were the only ones showing a profit. This is in line with last year's results and therefore low grain beet by-product rations under present conditions are again recommended to Colorado farmer-feeders in the beet producing areas.