

FEEDING TRIAL OF COMPARING GAINS AND COSTS FROM RATIONS MADE UP OF DIFFERENT RATIOS OF ROUGHAGE AND GRAIN

This trial compares rations made up of different percentages of roughage and grain. Ration proportions were calculated on the basis of total digestible nutrients. The rations were made up of corn silage, dry-rolled barley, alfalfa hay and protein supplement.

In 1964 the rations were made up and fed as follows: The check ration, made up of 50% roughage and 50% concentrate was fed for the entire 321 day feeding period. One ration was made up of 65% roughage and 35% concentrate, and was fed for a period of 175 days. Steers getting this ration were then switched to a high concentrate-low roughage ration made up, of 35% roughage and 65% concentrate for the balance of the 321 day feeding period. Another ration, made up of 80% roughage and 20% concentrate was also fed for a period of 175 days. These steers were then switched to ration of 20% roughage and 80% concentrate for the balance of the 321 day feeding period.

Initial weight of the steer calves used in this trial was about 420 pounds. The trial was closed when the steers averaged 1050 pounds.

Results of the 1964-65 trial are shown in table 1.

Table 1. Gains and Feed Costs in a Trial Comparing Three Different Ration Combinations of Roughage and Grain.			
	80:20	65:35	50:50
No. of Head	15	16	16

Days Fed	321	321	321
Av. Final Weight	1,047.0	1,054.7	1,067.5
Av. Initial Weight	419.0	422.8	422.5
Average Gain	628.0	631.9	645.0
Average Daily Gain	1.96	1.97	2.01
Feed-Lbs./100 Lbs. Gain	1812	1868	1812
Feed Cost/100 Lbs. Gain	\$12.40	\$12.49	\$412.39
Av. Feed Cost/Animal	\$78.00	\$78.97	\$79.93
Av. Carcass Weight	589.7	599.2	602.1
Av. Dressing %	56.3	56.8	56.4
Carcass Grade	12 Cho, 2 T. Gd., 1 A. Gd.	1 Pr., 13 Cho, 2 T. Gd.	15 Cho., 1 A. Gd.
Av. Carcass Value	\$236.98	\$241.70	\$243.16

Summary of This Trial For Three Years - 1962-1964.

This experiment was begun in 1962 and was designed to compare two lots of steer calves which were started on rations containing 90% and 80% roughage, then switched abruptly to 90% and 80% grain for finishing. A third lot which was fed a 50:50 grain to roughage ratio throughout the period was used as a check on the first two.

All ration proportions were figured on the basis of total digestible nutrients. The ration used in this trial included corn silage, dry-rolled barley, 1 pound alfalfa hay and 1 pound of protein supplement. (The supplement consisted of soybean oilmeal, 82.5%, Di-Calcium phosphate, 11%, trace mineral salt, 5.5%, and 11300 units vitamin A and 1000

units vitamin D.) Initial weight of the steer calves used in the 1962 trial was about 440 pounds. The trial was closed when the steers averaged 1080 pounds following a 308 day feeding period.

In October 1963 the trial was changed by eliminating the ration which started with a 90% roughage and 10% grain ration and in its place was substituted a ration which started with 65% roughage and 35% grain ratio.

Steer calves with an initial weight of 403 - 404 pounds were used for the 1963 trial. The trial closed when the steers averages 1069 pounds after being fed 312 days.

Results of the 1962 - 1964 trials are shown in table 2.

Table 2. Gains and Feed Costs of Four Different Ration Combinations of Roughage and Grain.				
	90% Roughage 90% Grain	80% Roughage 80% Grain	65% Roughage 65% Grain	50% Roughage 50% Grain
Average Daily Gain				
1962-1963	2.00	2.10	--	2.12
1963-1964	--	2.05	2.11	2.13
1964-1965	--	1.96	1.97	2.01
Average	2.00	2.04	2.04	2.08
Feed/100# Gain				
1962-1963	1864	1790	--	1895
1963-1964	--	1895	1913	1780
1964-1965	--	1890	1868	1813
Average	1864	1858	1891	1829

Feed Cost/100# Gain				
1962-1963	\$14.58	\$14.10	--	\$14.10
1963-1964	--	\$13.69	\$13.57	\$13.41
1964-1965	--	\$12.40	\$12.49	\$12.39
Average	\$14.58	\$13.40	\$13.03	\$13.30
Average Dressing %				
1962-1963	57.82	57.69	--	58.48
1963-1964	--	57.10	59.00	56.80
1964-1965	--	56.30	56.80	56.40
Average	57.82	57.03	57.90	57.23

Table 3. Average Gains and Feed Costs Comparing Four Different Ration Combinations of Roughage and Grain From 1962-64.					
Treatment	Average Daily Gain	Feed Per 100 lbs. Gain	Feed Cost Per 100 lbs. Gain	Average Dressing %	Carcass Grade
90% Roughage Start 90% Concentrate Finish	2.00	1864	\$14.58	57.82	High Good
80% Roughage Start 80% Concentrate Finish	2.04	1858	\$13.40	57.03	Low Choice
65% Roughage Start 65% Concentrate Finish	2.04	1891	\$13.03	57.90	Low Choice

50% Roughage 50% Concentrate Check	2.08	1829	\$13.03	57.23	Low Choice
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The 65%-35% ration on the average had the lowest feed costs per hundred pounds gain. The 50%-50% ration gave the fastest daily gain. There was only a slight difference in dressing percentage between rations.

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