1-1-1900

Beef Production From Alfalfa-Grass Pastures When Grazed by Steers Wintered at Four Levels of Nutrition

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Mimeo AY-147

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BEEF PRODUCTION FROM ALFALFA-GRASS PASTURES WHEN GRAZED BY STEERS WINTERED AT FOUR LEVELS OF NUTRITION

Miller Purdue Farm, Upland, Indiana

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Hereford steer calves were wintered at four different levels of nutrition, beginning in December, 1952, and during successive winters until the winter of 1955-1956. During the growing season following each of the four winter periods, steers from each group were grazed on nine alfalfa-grass pastures.

WINTERING PERIOD

The winter feeding period averaged 140 days. Rations were formulated for each of four lots to give specific daily gains as follows:

Lot I -- 0.5 pounds per day
Lot II -- 1.0 pounds per day
Lot III -- 1.5 pounds per day
Lot IV -- 2.0 pounds per day

Table 1. Ration Formulation and Daily Consumption for Each Lot

Feeds	Daily Consumption (pounds)			
	Lot I (0.5)	Lot II (1.0)	Lot III (1.5)	Lot IV (2.0)
Ground Corn Cobs	9.0	7.0	5.0	---
Corn Silage	---	9.0	14.5	30.5
Supplement A	1.5	1.5	3.0	3.5

The average winter gains approached very closely the gains which were predicted for the rations used.

Table 2. Average Winter Gains Actually Obtained for Each of the Four Years

Year	Average Daily Gain (pounds)			
	Lot I (0.5)	Lot II (1.0)	Lot III (1.5)	Lot IV (2.0)
1952-53	.58	1.06	1.69	2.14
1953-54	.48	1.00	1.50	2.01
1954-55	.52	.97	1.53	1.86
1955-56	.61	.94	1.42	1.85
Average	.55	.99	1.54	1.96

SUMMER PASTURE PERIOD

Beef Production Per Acre

By using steers from each of the four winter-fed groups, it was possible to measure production of beef from alfalfa-grass pasture for each group. The amount of beef produced per acre follows closely with the average daily gain of the steers.

The steers wintered at 0.5 pounds produced exactly double the amount of beef per acre as produced by steers wintered at 2.0 pounds per day.

Table 3. Beef Production Per Acre on Alfalfa-Grass Pastures

Grazing Season		Beef Produced Per Acre (pounds)			
Year	No. Days	Lot I (0.5)	Lot II (1.0)	Lot III (1.5)	Lot IV (2.0)
1953	140	388	298	213	186
1954	168	412	336	295	201
1955	189	466	408	266	261
1956	140	295	286	215	133
	Average	390	332	247	195

Carrying Capacity

The carrying capacity (number of steers per acre) of the alfalfa-grass pastures did not vary greatly when grazed by animals wintered at different levels of nutrition. There is some indication that the steers which were wintered at a higher level of nutrition had a slightly greater feed requirement than steers wintered at a low nutritional level. This was reflected in the lower stocking rate for the steers wintered to gain 2.0 pounds per day.

Table 4. The Carrying Capacity (No. Steers per Acre) of the Alfalfa-Grass Pastures

Grazing Season		Number of Steers Per Acre			
Year	No. Days	Lot I (0.5)	Lot II (1.0)	Lot III (1.5)	Lot IV (2.0)
1953	140	1.94	1.89	1.86	1.88
1954	168	2.04	1.93	1.85	1.87
1955	189	2.20	2.10	2.23	2.01
1956	140	2.23	2.11	1.96	2.05
	Average	2.10	2.01	1.98	1.95

Daily Gains on Pasture

The average daily gains are greatly affected by the level of winter feeding, as indicated by the following table.

Table 5. Average Daily Gains on Alfalfa-Grass Pastures

Grazing Season		Average Daily Gain (pounds)			
Year	No. Days	Lot I (0.5)	Lot II (1.0)	Lot III (1.5)	Lot IV (2.0)
1953	140	1.49	1.18	.88	.79
1954	168	1.24	1.08	.97	.67
1955	189	1.13	1.05	.66	.70
1956	140	.98	1.01	.80	.50
	Average	1.21	1.08	.83	.66

Cooperative Extension Work in Agriculture and Home Economics
State of Indiana, Purdue University
and the United States Department of Agriculture Cooperating
H. G. Diesslin, Director, Lafayette, Indiana
Issued in furtherance of the Acts of May 8 and June 30, 1914.