

WINTERING BEEF COWS ECONOMICALLY

Winter 1954-55

The winter of 1954-55 was the fifth successive year that the beef cow herd has been wintered on these same maintenance and below maintenance rations. The same animals have been on each ration every year, except for necessary replacements. This cow wintering experiment is being continued to determine the possible cumulative effects of such treatment on the cows and their calves. Steer calves from the herd are fattened to sell at 2 years of age and heifers are bred to calve as 2-year-olds.

In the winter of 1954-55, there were 6 lots of 16 breeding cows each, including 22 head of bred yearlings distributed among the lots. As in the past, 3 of the lots were fed corn silage at 30 lb. per head per day and tame grass or prairie hay at 10 lbs. per head per day. Three other lots were allowed only 3/4 of these amounts of silage and hay. One of the higher level lots was again given soybean oilmeal at .8 lb. per head per day and one of the low level lots received soybean oilmeal at .6 lb. per head per day. A ground grain mixture composed of barley and oats 1:1, was again fed to each cow from calving time until all were turned out on grass April 29. High level cows received 7 lbs. of grain per day and low level cows received 5.25 lbs. of grain per day. All cows were supplied with steamed bonemeal and loose rock salt in a trough under the sheds, and water was constantly available in automatic electric waterers. No bedding is ever used for the cow herd.

A summary of cow wintering and calving data for the winter of 1954-55 is presented in [Table I](#).

The winter of 1954-55 was the third successive mild winter for this area. Cows wintered well and produced a record 90% calf crop in April and May. Summer losses of calves reduced the weaning percentage to 86.3%. Cows in the 3 higher level lots averaged winter gains of 26 to 37 lbs. per head and cows in the low-level lots averaged losses of 23 to 47 lbs. per head over winter. Summer gains of the cows were not so high in the summer of 1955 as in most previous summers. As in the other years, the less well-wintered cows gained more on summer range than did the

well-wintered cows.

Five of the 95 cows wintered were dry in the spring of 1955. Three other cows lost calves within the first 2 weeks after birth, and five calves were lost later in the summer. A variety of misfortunes caused the deaths of the 5 calves during the summer; 1 was struck by lightning, 1 steer died of urinary calculus before weaning, 1 steer bloated and died at the termination of the 2-day drive home from Pyramid Park, and 2 calves evidently starved from inattention of their dams in the summer.

Table I - Wintering beef Cows at 2 levels of nutrition, using 3 rations - 1954 - 1955						
	Full rations		3/4 rations		Full + S.B.O.M.	3/4 + S.B.O.M.
	I	II	III	IV	V	VI
No. cows per lot	16	16	15*	16	16	16
Days on winter feed	180	180	180	180	180	180
Av. daily ration - Nov. 1, 1954 to April 29, 1955						
Corn silage	30.03	30.04	23.05	22.85	30.03	22.95
Crested & brome hay	9.99		7.50			
Prairie hay		10.00		7.50	8.99	6.77
Ground oats & barley 1:1**	7.00	7.00	5.25	5.25	7.00	5.25
Soybean Oilmeal					.80	.60

Av. wt. Oct. 29, 1954	976	945	930	898	966	890
Av. wt. April 29, 1955	1004	971	907	858	1003	843
Av. winter gain per head	28	26	-23	-40	37	-47
Av. wt. April 29, 1955 after culling	981-15 hd.	971	895-14 hd.	846-15 hd.	1003	843
Av. wt. Oct. 31, 1955	1022	1004	972	923	1023	948
Av. summer gain per head	41	33	77	77	20	105
Calf Production						
No. calves weaned	12	15	12	14	14	15
No. cows not bred	1	0	2	1	0	1
No. calves lost first 2 weeks	1	1	1	0	0	0
No. calves lost during summer	2	0	0	1	2	0
Av. birth wt. of calves - lbs.	68.3	70.7	70.8	67.9	73.1	69.9
Av. weaning wt. of calves - lbs.	340	346	319	314	364	327
Av. age of calves weaned - days	196	191	185	185	191	198
*One heifer was killed accidentally Feb. 27, 1955. **Fed from calving date to April 29 only.						

The one cow which was lost during the summer of 1954, returned to the herd in July of 1955 with a calf. The overall

average weaning weights of the 1955 crop is lower than in 1954. Again, there is a difference in weaning weights between calves from well-wintered cows, and calves from low-wintered cows. This difference averaged about 30 lb. per head in 1955. For the second successive year, the heaviest calves came from the cow lot which received soybean oilmeal at .8 lb. per head per day during winter.

The ten-year old foundation cows of the herd were culled heavily during 1955. Altogether, 16 head of cows were culled during the summer, 3 in the spring and 13 in the fall. There remain only 4 of the original cows of the herd.

Yearling heifers bred to calves as two-year olds were again added to the herd in the fall of 1955. The number of cows per lot was reduced from 16 to 15 for the winter of 1955-56.

A five year summary of the beef cow wintering work is presented in [Table II](#).

Table II - Five year Summary of Beef Cow Wintering - Nov. 1, 1950 to Oct. 31, 1955						
	Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	Lot 6
	4 years					
Av. no. of cows per lot	11 4/5	11 2/5	11 3/5	12	12 1/4	12 1/4
Av. wt. into lots November 1	974	963	960	935	960	927
Av. wt. out of lots May 1	1006	974	900	866	982	867
Av. change of wt. over winter	32	11	-60	-69	22	-60
Av. no. calves born, including stillborn	10 1/5	10 2/5	10 1/5	9 4/5	12	12
Av. no. calves weaned	8 2/5	10	9 2/5	9 2/5	11	10 3/4
Av. % of cows that weaned calves	71.19%	87.72%	81.03%	78.33%	89.80%	87.76%

Av. birth wt. - lbs.	69.46	73.52	68.54	67.76	73.04	68.51
Av. weaning wt. - lbs.	381	383	351	356	385	352
Av. weaning age - days	199	195	192	195	194	196

Wintering Beef Calves at two Nutritional levels, followed by summer grazing - 1954 - 1955

At weaning, October 29, 1954, the calf crop was divided into 4 lots; two for a fattening experiment, and two for the wintering experiment which has been conducted each winter since 1950. There were 35 steers and 11 heifers divided equally between the two lots for the wintering trial. One steer died of urinary calculus about five weeks after weaning. Steers and heifers were fed together, as in earlier years, but 28 of the steers were placed in a spring grazing trial from May 4 to June 23 while the remaining 6 steers and 11 heifers grazed a common pasture all summer. All steers weighed off pasture September 20 in preparation for winter fattening trials, but the 11 heifers were grazed until October 31. Although this resulted in summer grazing periods of different duration steers and heifers, 139 days for steers and 185 days for heifers, there was no real difference between lot treatment because both sexes were divided equally between lots A and B.

[Table III](#) summarizes the calf wintering trial for the year November 1, 1954 to October 31, 1955.

Winter gains were about the same as in earlier years of the experiment, but summer gains were higher in 1955 than in any previous year. The spring grazing trial in which 28 of the 34 steers were used for about 2 months resulted in higher than normal gains.

Table III - Two levels of wintering beef calves followed by summer grazing.		
	Normal Ration	Limited Ration
	Lot A	Lot B
No. calves per lot	22*	23

Av. daily ration - lbs. Nov. 1, 1954-Apr. 29, 1955

Corn silage	24.44	20.02
Tame grass hay (crested & brome)	4.05	4.07
Whole Oats	2.00	0
Av. initial wt. Nov. 1, 1954 - lbs.	369.3	368.7
Av. spring wt. April 29, 1955 - lbs.	551.6	459.4
Av. winter gains per head - lbs.	182.3	90.7
Av. daily winter gains - lbs.	1.02	.51
Av. final wt. Sept. 20 & Oct. 31, 1955 ** Lbs.	764.5	705.4
Av. summer gains per head - lbs.	212.9	246.0
Av. daily	1.41	1.65

summer gains - lbs.		
Av. total gains per head for year - lbs.	395.2	336.7
*One steer died of urinary calculus 5 weeks after weaning.		
**34 steers grazed 139 days and 11 heifers grazed 185 days.		

Average daily summer gains of 1.65 lbs. for low wintered calves and 1.41 lbs. for higher wintered calves maintained the usual .25 lb. per day difference in summer gains between the two lots. The average difference in total years gain between the two winter feeding methods was 58.5 lbs., about the same as in 1954, but more than in the earlier experiments.

Table IV - Five-year summary of calf wintering followed by summer grazing 1951-55 calves		
	A Normal Ration	B Limited Ration
Av. no. calves per lot	18.6	18.8
Av. wt. into lots Nov. 1	393.0	395.2
Av. wt. out of lots about May 1	575.4	485.7
Av. daily winter gain	.979	.486
Av. wt. off grass about Oct. 30	757.6	711.0
Av. daily summer gain	1.087	1.349
Av. total yearly gain	364.5	315.8

Although we do not yet know the long-time effect of light winter rations on calves, the 5-year summary shows that lightly fed calves were 49 lbs. per head lighter one year after weaning than the well-fed calves. At the present relationship between feed cost and cattle prices, the additional 49 lbs. of beef has about the same value as the feed required to produce it.

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