

## **SELF FEEDING COMPLETE MIXED RATIONS TO CALVES FROM WEANING TO SLAUGHTER**

This trial studies the economic feasibility of self feeding calves from weaning to market on rations made up of barley, crested-brome hay, wheat straw and alfalfa hay. This type of ration can easily be prepared on location since the development of the portable grinder-mixer feed mills. The feeders used were straight sided, two ton capacity feeders designed for self feeding high roughage-grain mixtures. The grain was ground through a 3/16 inch screen, the hay through a one inch screen.

In November 1970, four lots of steer calves were started on four different complete mixed rations. Rations 4 and 6 were fed in 1969-70 also.

Ration <sup>1/</sup>	Lot 3 <sup>2/</sup>	50% barley, 4% alfalfa, 21% crested wheatgrass and 25% wheat straw. (Barley increased 10% every 56 days, crested and wheat straw reduced 10%.)
	Lot 4 <sup>2/</sup>	50% barley, 4% alfalfa, 21% crested wheatgrass and 25% wheat straw. ( no change)
	Lot 5 <sup>2/</sup>	50% barley, 4% alfalfa, 46% crested wheatgrass. (Barley increased 10% every 56 days, crested wheatgrass hay reduced 10%.)
	Lot 6 <sup>2/</sup>	50% barley, 4% alfalfa, 46% crested wheatgrass. (no change)

<sup>1/</sup> All lots received a mineral mix (2 parts di-calcium phosphate and 1 part trace mineral salt) fed so that each animal received approximately 0.2 pound per day.

<sup>2/</sup> All rations figured on a weight basis.

Table 6 and 7 show the results of the 1970-71 trial.

Table 8 and 9 summarize two year results of self-feeding a straight 50 percent grain 50 percent roughage ration.

**Table 6. Data on Weights and Gains and Feed Costs in the Trial Comparing Complete Mixed Rations, Self-Fed.**

<b>Data on:</b>	<b>Lot 3</b>	<b>Lot 4</b>	<b>Lot 5</b>	<b>Lot 6</b>
Number of steers per lot	8	8	8	8
Initial weight – lbs.				
Total per lot	3555	3545	3550	3550
Average per head	444.4	443.1	443.8	443.8
Final weight – lbs.				
Total per lot	8890	8955	9500	9245
Average per head	111.3	1119.4	1187.5	1155.6
Days on trial	314	314	314	314
Average daily gain per head – lbs.	2.12	2.15	2.37	2.27
Feed cost per hundredweight gain	\$13.33	\$12.47	\$12.94	\$12.93

**Table 7. Carcass Data in the Trial Comparing Complete Mixed Ration, Self-Fed.**

<b>Data on:</b>	<b>Lot 3</b>	<b>Lot 4</b>	<b>Lot 5</b>	<b>Lot 6</b>
Average carcass weight	664.5	646.8	724.6	685.4
Average carcass grade				
Choice	5	3	5	6
Good	3	5	3	2
Average carcass value per head	\$298.38	\$283.60	\$323.92	\$310.02
Average dressing percent	59.8	57.9	61.0	59.3

**Table 8. Two Year Summary of Gains and Feed Costs in the Self-Feeding Trial of Beef Steers.**

<b>Data on:</b>	<b><u>Barley &amp; tame hay ration</u></b>			<b><u>Barley, hay &amp; straw ration</u></b>		
	<b>1969-70</b>	<b>1970-71</b>	<b>Avg.</b>	<b>1969-70</b>	<b>1970-71</b>	<b>Avg.</b>
Number of head	8	8	8	8	8	8
Avg. initial weight	355.0	443.8	399.4	355.6	443.1	399.4
Avg. final weight	1033.8	1155.6	1094.7	1038.1	1119.4	1078.8
Avg. gain per head	678.8	711.9	695.4	682.5	676.3	679.4
Avg. days fed	330	314	322	358	314	336
Avg. daily gain	2.06	2.27	2.17	1.91	2.15	2.03
Feed cost per hundredweight gain	\$13.26	\$12.93	\$13.10	\$13.68	\$12.47	\$13.08

**Table 9. Ration and Average Pounds Fed Per Head Per Day in the Self-Feeding Trial on Beef Steers.**

<b>Data on:</b>	<b><u>Barley &amp; tame hay ration</u></b>			<b><u>Barley, hay &amp; straw ration</u></b>		
	<b>1969-70</b>	<b>1970-71</b>	<b>Avg.</b>	<b>1969-70</b>	<b>1970-71</b>	<b>Avg.</b>
Alfalfa	0.68	0.78	0.73	0.70	0.77	0.74
Crested-brome	8.38	9.00	8.69	3.96	4.03	4.00
Wheat straw	-	-	-	4.62	4.80	4.71
Barley	9.06	9.78	9.42	9.29	9.60	9.45
Minerals	0.20	0.20	0.20	0.20	0.20	0.20
Total	18.32	19.76	19.04	18.77	19.40	19.10

**Summary**

After two years study, we find that self-feeding calves from weaning to market is a very efficient, practical, and simple method of feeding.

There was a variation in feed cost of \$.86 per hundredweight. Based on average carcass value, the difference amounts to \$40.32 in favor of the changing barley-hay ration when compared to the straight barley-hay-straw ration.

All lots gained very satisfactorily within an average range of 2.12 to 2.37 pounds per head per day.

In this study, the calves were not given any supplement other than the minerals. All calves were vaccinated for blackleg, malignant edema and enterotoxemia (type C and D). All steers were also implanted with 30 mg. of stilbestrol twice during the feeding period.

Although the steers fed the straw rations had a lower carcass value, the feeding of straw does enable the feeder to get cash value from an otherwise wasted by product of the grain industry.