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Whole corn rations for finishing heifers: A comparison of self-fed and mixed supplement, with and without salt.

L.H. Harbers

K.F. Harrison

D. Richardson

See next page for additional authors

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Whole corn rations for finishing heifers: A comparison of self-fed and mixed supplement, with and without salt.

Abstract

Twenty-four Hereford x Angus heifers averaging 714 lbs. were allotted by weight to four groups of six animals each to study effects on gain, feed intake, and feed efficiency of: 1. Free-choice whole corn without roughage. 2. Protein supplement either mixed with whole corn or supplied seperately (free-choice). 3. Omitting salt

Keywords

Cattlemen's Day, 1972; Report of progress (Kansas State University. Agricultural Experiment Station); 557; Beef; Corn; Finishing heifers; Salt

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Authors

L.H. Harbers, K.F. Harrison, D. Richardson, and E.F. Smith

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K S U

Whole Corn Rations for Finishing Heifers: A Comparison of Self-fed and Mixed Supplement, with and without Salt.

L. H. Harbers, K. F. Harrison, D. Richardson, and E. F. Smith

Twenty-four Hereford X Angus heifers averaging 714 lbs. were alloted by weight to four groups of six animals each to study effects on gain, feed intake, and feed efficiency of:

1. Free-choice whole corn without roughage.
2. Protein supplement either mixed with whole corn or supplied separately (free-choice).
3. Omitting salt.

Protein supplement (table 36) was pelleted for uniform consumption of nutrients, however, the pellets had to be ground when fed separately from whole corn to reduce consumption. Groups receiving the complete mixture received supplement in pelleted form (4% of ration) throughout the 85-day trial. Groups receiving salt had access to block salt. Animals were fattened 85 days. Carcass data are not yet available.

Results of the trial are summarized in table 37. Feeding supplement either separately or mixed with whole corn did not statistically affect average daily gain, however, gain tended to be higher in groups fed the mixed ration. Omitting salt from the ration for 85 days did not statistically affect gains. More free-choice supplement was consumed when salt was omitted, possibly to get the sodium content (.26% Na) of supplement compared with whole corn's .01% Na. When animals had access to salt, the highest consumption averaged only 12.24 gms/head/day, equivalent to 0.15% of the ration. The universally accepted dietary level of 0.5% salt was not necessary.

Heifers consumed two to three times more supplement when it was fed separately but tended to gain slightly less. The practice of mixing supplement with grain was confirmed.

Table 36. Composition of feedstuffs used in protein supplement.

Feedstuff	Amount / 100 lbs.
Soybean meal (49%)	77.90 lbs.
Ground milo	9.40 lbs.
Ground limestone	11.25 lbs.
Vitamin A (10,000 IU/gm)	77.20 gms.
MGA-100	127.10 gms.
Aurofac-10	204.30 gms.
Trace minerals (2-5)	254.20 gms.
Ground milo for premix	18.20 gms.

Table 37. Body weight, gain, feed intake, and efficiency data of heifers fed an all-concentrate ration 85 days.

Indicated Factor	Supplement fed separately		Supplement mixed with corn	
	no salt	salt	no salt	salt
No. of animals	6	6	6	6
Initial wt., lbs.	714	715	714	715
Final wt., lbs.	926	944	968	965
Gain, lbs./day	2.56	2.69	2.99	2.95
Daily feed intake, lbs.	17.28	19.38	17.98	17.59
Whole corn, lbs.	14.63	17.89	17.26	16.89
Supplement	2.65	1.49	.72	.70
% Protein of ingested feeds	13.51	11.20	10.20	10.20
Daily salt intake, gm.	---	6.90	---	12.24
Salt intake, % of ration	---	0.08	---	0.15
Feed/gain ratio (dry basis)	6.08	6.48	5.41	5.35