Table 42

Effect of supplemental copper and cobalt on fattening steers, June 17 to October 7, 1963—112 days.

Treatment	Control	Cobalt	Copper and cobalt	Copper	Cobalt, excess copper	Excess copper
Lot no.	18	19	20	21	22	23
No. steers per lot	8	9	9	8	9	9
Initial wt. per steer, lbs.	734	721	729	724	720	712
Total gain, lbs.	297	325	316	312	298	302
Daily gain per steer, lbs.	2.65	2.90	2.82	2.79	2.66	2.70
Daily ration per steer, lbs.:						
Corn	17.23	17.59	17.59	16.76	17.26	17.59
SBOM Supplement	1.49	1.48	1.49	1.49	1.49	1.49
Silage	3.47	3.52	3.52	3.60	3.55	3.52
Prairie hay	1.26	1.21	1.21	1.23	1.22	1.21
Feed cost per lb. gain, cents[1]	17.7	16.5	16.9	16.5	17.9	17.7
Lbs. feed per lb. gain	8.8	8.2	8.4	8.3	8.8	8.8
Carcass data:						
Average carcass wt., lbs.	603	633	619	619	607	598
Average dressing %	59.6	60.5	59.2	59.7	59.6	58.9
Average USDA grade[2]	15	14.7	14.9	14.3	14.4	13.9
Average yield grade[3]	3.75	3.4	3.2	3.6	3.4	3.5
Average marbling score[4]	7	7.3	7	7.1	7.6	8.1
Average rib eye, sq. in.	11.12	11.35	11.14	11.39	10.63	10.49

1. Feed prices can be found on inside back cover.
2. Average grade determined as follows: High choice, 18; average choice, 17; low choice, 16; high good, 15, etc.
3. Score from 1 to 6 on basis of yield, with 1 being the highest yield in closely trimmed boneless retail cuts.
4. Average marbling determined as follows: Moderately abundant, 8; slightly abundant, 4; moderate, 5; modest amount, 6; small amount, 7; slight amount, 8.

The Value of Dicalcium Phosphate, Vitamin A and Grinding Corn for Calves Fed Prairie Hay, 1963-64 (Projects 253-4-6).

E. F. Smith, D. Richardson, R. G. Curtis, and L. Dunn

The 60 good-to-choice grade Hereford calves used in this test came from near Fort Davis, Texas. They were assigned 10 to a lot on the basis of weight. All lots received all the prairie hay they would consume, about four pounds of corn each daily, and 1.25 pounds of soybean meal; where vitamin A (15,000 I.U. daily) and dicalcium phosphate (0.1 pound per head daily) were fed they were mixed with the soybean meal. In the lots fed ground corn it was ground medium coarse or between fine and coarse ground; the modulus of fineness was 4.34.

The phosphorus and carotene content of the feeds used is reported in the table on the inside back cover. The phosphorus intake of the basic ration without dicalcium phosphate was 11.8 grams daily per head and the carotene intake on the basic ration without vitamin A added was 80 mgs. of carotene from the prairie hay alone; these values exceed requirements published by the National Research Council.

The average daily gain for the three lots fed ground corn was 1.58 pounds; those fed whole corn gained 1.54 pounds; neither dicalcium phosphate nor vitamin A and dicalcium phosphate combined improved performance.

Table 43

The value of dicalcium phosphate, vitamin A, and grinding corn for calves fed prairie hay, November 27, 1963, to March 27, 1964—121 days.

Treatment	Ground grain	Whole grain	Ground grain + phosphorus	Whole grain + phosphorus	Ground grain, phosphorus + vitamin A	Whole grain, phosphorus + vitamin A
Lot no.	18	19	20	21	22	23
Heifers per lot	10	10	10	10	10	10
Initial wt., lbs.	369	365	368	362	361	364
Daily gain, lbs.	1.65	1.56	1.60	1.62	1.49	1.46
Daily ration per heifer, lbs.:						
Corn	3.88	3.88	3.88	3.88	3.88	3.88
Soybean meal	1.25	1.25	1.25	1.25	1.25	1.25
Prairie hay	9.10	9.03	9.36	9.14	9.32	9.20
Dicalcium phosphate	.....	.....	0.10	0.10	0.10	0.10
Vitamin A, 15,000 I.U. daily	.....	.....	.....	.....	Yes	Yes
Salt	Free choice					
Feed per lb. of gain, lbs.:						
Corn	2.35	2.49	2.43	2.40	2.60	2.66
Soybean meal	0.76	0.80	0.78	0.77	0.84	0.86
Prairie hay	5.52	5.79	5.85	5.64	6.26	6.30
Total feed per lb. of gain	8.63	9.08	9.16	8.91	11.05	11.17
Feed cost per lb. of gain[1]	$0.1371	$0.1420	$0.1465	$0.1411	$0.1582	$0.1581

1. Feed prices may be found on page 78.