

Table 30
Superior Meat Sire Test Pen—Winter 1962.

Breeder	Sex ¹	B ²	PRODUCTION DATA					L.F. ³ 52.5n.
			Age at 200 lbs. (days)	A.P.G. lbs.	Feed eff., lbs.	Lgh. in.	R.F. ⁴ 20.	
Bathrop Farm ¹	B	H	168	1.56	314	29.0	1.33	4.38
Wichita	B	H	176	1.36		29.5	1.32	4.47
		H	168	1.53		29.5	1.47	4.56
	B	H	165	1.56	314	29.0	1.60	4.72
		H	509	.38 ²		.....	.....	.....
	B	H	169	1.50		29.0	1.50	3.80
		H	177	1.31	314	28.0	1.93	3.82
	G	H	167	1.43		29.0	1.16	5.07
		H	165	1.41		29.0	1.08	4.82
	G	H	161	1.54	314	29.0	1.37	4.76
		H	167	1.29		29.5	1.34	4.22
B	H	158	1.65		30.0	1.57	3.95	
	H	172	1.40	314	25.5	1.07	3.84	
B	H	166	1.46		30.0	1.49	3.83	
	G	H	174	1.43		29.5	1.17	4.05
Average			158	1.47	314	29.2	1.31	4.31

1. Sire of pigs—Arnold 542851.
2. Data not used to calculate average.
3. SxS—B = barrow; G = gilt.
4. B = breed; H = Hampshire.

Beef Cattle

Vitamin A and Dehydrated Alfalfa Fed Individually and in Combination with and without Aureomycin in a Steer Fattening Ration (Project 567).

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This was the second test to compare dehydrated alfalfa as a source of vitamin A with pre-formed vitamin A, fed individually and in combination with and without Aureomycin. Two-year-old Hereford steers from two previous bluestem pasture-grazing tests were used in this test. They were from the same group as the yearlings used in the previous test. After the grazing test was completed, the steers were assigned to six lots of nine animals each on the basis of weight and uniformity. Supplements supplied the same amount of protein, calcium and phosphorus in each lot. Vitamin A value of carotene figuring dehydrated alfalfa at 400 I.U. per milligram of carotene gave 10,000 to 12,000 I.U. of vitamin A per head daily for animals receiving dehydrated alfalfa. Pre-formed vitamin A was added to the supplement at the rate of 15,000 I.U. per head daily. Assay of the supplements indicated approximately 30 percent loss. Aureomycin was fed at the rate of 70 mgs. per head daily. After the steers were on full feed, silage was limited to 20 pounds per head daily. The carotene content of the silage averaged about 2 mgs. per pound. All the sorghum grain was fed that the steers would clean up.

Results and Observations

The results are shown in Table 31. In general, the results agree with those of the previous test.

1. There were no differences in performance between animals fed dehydrated alfalfa and those fed pre-formed vitamin A.

2. A combination of pre-formed vitamin A and carotene was no better than either alone. Thus, it is indicated that a ration containing sufficient pre-vitamin A (carotene) is not benefited by adding pre-formed vitamin A.

3. Animals receiving a combination of added carotene, vitamin A and Aureomycin gained significantly faster than other lots in both tests; however, this was the only Aureomycin lot that gained faster. No explanation seems apparent.

4. No deficiency symptoms or difference in appearance was observed that could be attributed to vitamin A.

5. Again, liver storage of vitamin A was highest in animals fed pre-formed vitamin A, with greater variations within treatments than between treatments.

6. There was no real relationship between liver vitamin A storage and rate of gain, but animals with less liver storage tended to gain fastest.

7. There were no significant differences in percentage shrink to market, dressing percentage, carcass grades or carcass characteristics.

Table 31

Results of feeding vitamin A and dehydrated alfalfa individually and in combination with and without Aureomycin, December 9, 1962, to May 11, 1963—154 days.

Lot no.	7	8	9	10	11	12
No. steers per lot	9	9	9	9	9	9
Av. initial wt., lbs.	862	869	860	856	862	857
Av. final wt., lbs.	1253	1242	1246	1256	1245	1283
Av. daily gain, lbs.	2.54	2.51	2.51	2.59	2.49	2.76
Av. daily ration, lbs.:						
Sorghum silage	22.8	21.9	22.7	22.3	22.1	22.2
Sorghum grain	18.6	17.9	18.5	18.1	17.6	18.9
Supplement	1.5	1.5	2.0	2.0	2.0	2.0
Dehydrated alfalfa ¹	No	No	Yes	Yes	Yes	Yes
Vitamin A ²	Yes	Yes	Yes	No	Yes	Yes
Aureomycin	No	Yes	No	No	No	Yes
Feed per cwt. gain, lbs.:						
Sorghum silage	897.7	873.3	905.3	860.0	889.3	802.0
Sorghum grain	732.2	712.7	738.8	696.6	708.0	685.4
Supplement	59.1	59.8	79.8	77.1	80.3	72.4
Feed cost per cwt. gain	19.57	\$19.38	\$20.32	\$19.52	\$19.73	\$18.97
In transit shrink, %	2.44	1.80	2.10	1.68	1.74	1.78
Overnight shrink, %	2.13	1.90	2.10	2.21	2.37	2.03
Total shrink, %	4.57	3.70	4.20	3.89	4.11	3.81
Av. hot carcass wt., lbs.	769.7	768.8	774.6	767.8	758.9	794.0
Dressing %, feedlot wt.	61.4	61.9	62.2	61.2	61.0	61.9
Estimated kidney knob, % carcass	2.9	2.4	3.9	2.7	2.6	3.1
Average finish:						
Fat thickness, 12th rib, in.	0.73	0.72	0.66	0.58	0.59	0.70
Distribution ³	3.2	3.0	3.4	3.7	3.8	3.2
Degree marbling ⁴	6.0	5.2	5.8	5.4	6.9	6.2
Degree firmness ⁵	2.2	1.8	2.2	2.3	3.2	3.9
Fat color ⁶	2.0	2.2	2.3	2.1	2.6	2.2
Lean color ⁷	2.4	2.3	2.7	2.7	2.7	2.7
Av. carcass grade:						
Lot prime	..	..	..	1	..	..
Top choice	1	1	..	1	..	..
Av. choice	..	5	3	1	..	..
Low choice	4	2	2	3	2	5
Top good	4	1	2	3	5	..
Av. good	..	..	2	..	..	3
Low good	..	..	..	..	2	1
Av. liver wt., lbs.	12.1	12.1	12.4	12.3	12.6	12.5
Av. vitamin A per gram liver, I.U.	25.0	26.0	18.8	16.9	36.5	25.3
Av. carotene per gram liver, mcg.	1.66	1.69	2.43	2.15	1.85	1.70

1. 0.50 lb. per head daily included in supplement. Carotene figured at 1 mcg. = 400 I.U. vitamin A.

2. 15,000 I.U. per head daily.

3. 2 = uniform, 3 = moderately uniform, 4 = modestly uniform.

4. 5 = moderate amount, 6 = modest amount, 7 = small amount.

5. 1 = very firm, 2 = firm, 3 = moderately firm.

6. 1 = white, 2 = creamy white, 3 = cream, 4 = slightly yellow.

7. 1 = light cherry red or dark pink, 2 = slightly dark cherry red or dark pink, 3 = moderately dark cherry red.