

1:15 p.m.—Feeders' problems and how we are meeting them, Roy Schoeb, Schoeb Ranch Feed Yards, Cherokee, Okla.

Cowherd operators' problems, Bill House, Ranchman, Cedar Vale, Kansas.

Questions and Discussion.

3:00 p.m.—Adjournment.

6:30 p.m.—Kansas State Union—Banquet for visiting stockmen and ladies, Block and Bridle Club.

Honoring: O. W. Fishburn  
Mr. and Mrs. Ray S. Zimmerman  
H. T. Hineman (deceased)

#### FOR THE LADIES

Friday, May 4, 1962

6:30 p.m.—Dinner, Gillett Hotel, Kansas Cow Belles and all visiting ladies. (Make reservations with Mrs. C. G. Eling, 701 Eling Drive, Manhattan.)

Presiding—Mrs. Clarence Sprout, Mullinville, Kansas, President, Kansas Cow Belles.

Saturday, May 5, 1962

9:30 a.m.—Coffee, Justin Hall (Home Economics Building). Animal Husbandry ladies.

10:30 a.m.—Food Preparation Demonstrations, Foods and Nutrition Class in Principles of Food Demonstration. School of Home Economics, K.S.U.

12:00 noon—Lunch, Animal Husbandry Arena.

6:30 p.m.—Block and Bridle Banquet (see general program).

**COVER PHOTO**—King Flit, Quarter Horse stallion, owned by Kansas State University, was donated to the University in 1958 by Robert Q. Sutherland. He has sired four colt crops at Kansas State. King Flit was sired by King P-234 and is out of Flit, by Leo. He earned his N.C.H.A. Certificate of Ability as a cutting horse and is a Register of Merit reining horse on A.Q.H.A. records. Kansas State University maintains a breeding herd of Quarter Horses and produces animals for use in its instruction and research programs.

#### Feed Prices—1961-62

	1960-61	1961-62
Cracked corn, cwt. ....	\$ 2.14	\$ 2.20
Rolled sorghum grain, cwt. ....	1.75	1.90
Soybean oil meal, cwt. ....	3.45	3.60
Dehydrated alfalfa pellets, ton ....	50.00	
Alfalfa hay, ton ....	17.00	18.00
Sorghum silage, ton ....	5.75	6.00
Prairie hay, ton ....	14.00	16.00
Bluestem pasture, summer, per head:		
Yearlings .....		16.00
Two-year-olds .....		20.00
Bluestem pasture, winter, per head per month:		
Calf .....		.50
Yearling .....		.75
Salt, cwt. ....	.90	.90

## Beef Cattle

Dehydrated Alfalfa vs. Vitamin A with and without Aureomycin in Cattle Rations Using Sorghum Grain (Project 567).

D. Richardson, E. F. Smith, F. W. Boren and B. A. Koch

The animals in this test were used in a previous wintering test (Cir. 383, pages 32-33, 1961) to study grain vs. forage type sorghum silage; dehydrated alfalfa as a source of vitamin A vs. vitamin A; and vitamin A with and without Aureomycin. At the end of the test, cracked sorghum grain was added to the ration and the fattening phase was started. Animals that had received dehydrated alfalfa in the wintering phase continued to receive it during the fattening phase and likewise those that received vitamin A continued to receive vitamin A. The dehydrated alfalfa contained approximately 50 mgs. of carotene per pound. Assuming 400 I.U. of vitamin A per milligram of carotene, one half pound of dehydrated alfalfa supplied the equivalent of 10,000 I.U. of vitamin A; hence, the comparison of one half pound dehydrated alfalfa pellets as a source of vitamin A with 10,000 I.U. of preformed vitamin A. Each source of vitamin A was fed with and without Aureomycin. The ration ingredients and average daily consumption are shown in Table 1. Salt and a mixture of salt and dicalcium phosphate were fed free choice.

#### Results and Discussion

Total gains of the animals were not so good because of their fleshy condition at the start of the test, hot weather conditions, and possibly other factors. However, treatment effects were highly significant. Both lots receiving dehydrated alfalfa gained significantly faster than the two lots receiving preformed vitamin A. Animals receiving Aureomycin with either dehydrated alfalfa or vitamin A gained significantly faster than those without Aureomycin. The difference was highly significant for the lot receiving dehydrated alfalfa and Aureomycin. Even with the great differences in gain, there were no significant differences in marbling or carcass grades. Results with carotene were as good or better than with an equivalent amount of preformed vitamin A. If a ration needs additional vitamin A, dehydrated alfalfa appears to be a good source, and the alfalfa also contains other beneficial nutrients.

Table 1  
Vitamin A vs. dehydrated alfalfa with and without Aureomycin.  
February 24 to August 18, 1961—175 days.

Lot no. ....	3	4	5	6
No. heifers per lot .....	10	10	9	10
Av. initial wt., lbs. ....	656	648	637	656
Av. final wt., lbs. ....	950	922	865	910
Av. daily gain per heifer, lbs.,**	1.68	1.57	1.30	1.45
Av. daily ration, lbs.:				
Sorghum silage (1st 74 days) .....	19.2	19.3	17.6	20.0
Prairie hay (last 101 days) ..	3.0	3.0	3.0	3.0
Soybean oil meal .....	1.0	1.0	1.0	1.0
Sorghum grain .....	15.5	15.5	14.3	15.6
Dehydrated alfalfa pellets ..	.5	.5	.....	.....
Aureomycin, mgs. ....	72	.....	.....	72
Vitamin A, I.U. ....	.....	.....	10,000	10,000

\*\* Highly significant differences.

Table 1 (Continued)

Av. feed per cwt. gain, lbs.:				
Sorghum silage .....	481	516	635	582
Prairie hay .....	301	110	123	119
Soybean oil meal .....	59	64	77	69
Sorghum grain .....	919	991	1093	1071
Dehydrated alfalfa pellets ..	30	32		
Feed cost per cwt. gain <sup>1</sup> .....	\$22.44	24.19	26.31	25.35
% shrink to market .....	1.3	1.8	1.7	1.8
Dressing %, feedlot wt. ....	60.6	61.3	60.7	60.5
Dressing %, day wt. ....	61.4	62.5	61.7	61.7
Av. hot carcass wt., lbs. ....	575.7	565.9	525.3	551.2
Av. finish:				
Thickness <sup>2</sup> .....	3.3	3.0	3.2	3.2
Distribution <sup>3</sup> .....	3.8	4.2	3.9	4.0
Av. degree of marbling <sup>4</sup> .....	7.4	7.0	7.7	7.0
Av. degree of firmness <sup>5</sup> .....	3.9	3.7	3.8	3.8
Av. size of rib eye <sup>6</sup> (est.) .....	4.1	4.1	4.2	4.2
Kidney knob fat (est.), lbs. ....	19.2	18.3	17.8	19.8
Carcass grades:				
Top choice .....		1		
Av. choice .....				
Low choice .....	1	2		
Top good .....	3	3	4	3
Av. good .....	4		1	3
Low good .....	2	4	2	1
Top standard .....			2	
Av. carcass value (choice, 39¢; good, 37¢; standard, 35¢) ..	\$209.83	208.63	189.35	203.20
Av. live animal value at \$23 per cwt. ....	\$215.74	208.38	195.75	205.62

1. Based on silage, \$6 per ton; prairie hay, \$14 per ton; dehydrated alfalfa pellets, \$50 per ton; soybean oil meal, \$70 per ton; sorghum grain, \$1.50 per cwt.  
 2. 2 = thick, 3 = moderate, 4 = modest.  
 3. 2 = uniform, 3 = moderately uniform, 4 = modestly uniform.  
 4. 6 = modest amount, 7 = small amount, 8 = slight amount, 9 = traces.  
 5. 2 = firm, 3 = moderately firm, 4 = modestly firm, 5 = slightly firm.  
 6. 2 = large, 3 = moderately large, 4 = modestly large, 5 = slightly small.

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

D. Richardson, E. F. Smith, F. W. Boren and D. L. Follis

A previous test indicated that carotene from dehydrated alfalfa was equal to or superior to vitamin A in a fattening ration using sorghum silage, prairie hay and sorghum grain. The test also indicated a significant improvement in gains and efficiency from Aureomycin.

This is a progress report on a test comparing dehydrated alfalfa as the source of vitamin A with vitamin A individually and in combination with and without Aureomycin.

Supplements used were formulated to supply the same amount of protein and minerals in each lot. Vitamin A value of dehydrated alfalfa was figured at 400 I.U. per milligram of carotene. The level of feeding was 10,000 I.U. per head daily. Seventy milligrams of Aureomycin were supplied per head daily. At the end of 84 days, the supplement was increased 50%.

A progress report of the results for the first 133 days is shown in Table 2.

(4)

Table 2  
Vitamin A and dehydrated alfalfa fed individually and in combination with and without Aureomycin,  
November 30, 1961, to April 12, 1962—133 days.

Lot no.	7	8	9	10	11	12
No. steers per lot .....	10	10	10	10	10	10
Av. initial wt., lbs. ....	708	708	708	708	710	708
Av. final wt., lbs. ....	1044	1038	1069	1047	1056	1071
Av. daily gain, lbs. ....	2.52	2.48	2.71	2.55	2.60	2.73
Av. daily ration, lbs.:						
Sorghum silage .....	22.1	21.2	22.3	21.7	23.7	22.1
Sorghum grain .....	18.1	18.6	19.6	19.9	20.3	19.6
Supplement .....	1.2	1.2	1.6	1.6	1.6	1.6
Dehydrated alfalfa .....	No	No	Yes	Yes	Yes	Yes
Vitamin A .....	Yes	Yes	No	No	Yes	Yes
Aureomycin .....	No	Yes	No	Yes	No	Yes
Feed per cwt. gain, lbs.:						
Sorghum silage .....	876	865	781	853	911	809
Sorghum grain .....	717	752	723	781	781	718
Supplement .....	47	48	57	61	60	57
Feed cost per cwt. gain .....	\$18.24	\$18.89	\$18.03	\$19.49	\$19.69	\$18.05

(5)