

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

Honoring—Grover Poole, Manhattan, Kansas
Joe O'Bryan, Hiattville, Kansas
The late H. G. Reuber, Atwood, Kansas

FOR THE LADIES

Friday, May 6, 1960

6:30 p.m.—Dinner, Gillett Hotel—Kansas Cow Belles and visiting ladies (Make reservations with Mrs. C. W. McCampbell, 1127 Thurston Street)

Saturday, May 7, 1960

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

10:30 a.m.—Tour and Program—Home Economics staff

12:00 n. —Lunch—Arena, Animal Industries Building

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

COVER PHOTOS are of the Brookover Feedlots near Garden City, Kansas. These are symbolic of a rapidly growing commercial feeding industry in this state. These yards have a capacity of 11,000 head of cattle and turn out some 11 to 12 million pounds of beef annually. This beef is produced primarily from such Kansas feeds as grass, hay, silage and sorghum grain. Only protein supplement must be purchased to balance the feeds produced in abundance in Kansas.

Swine

The Value of Soaking Shelled Corn for Finishing Spring Pigs on Alfalfa Pasture (Project 110-2).

C. E. Aubel

Soaking grain for pigs has been revived and an automatic and self-feeder that soaks grain is on the market. This experiment was to test that system of feeding corn.

Two lots of nine pigs each were self-fed, free choice, shelled corn and a mixed protein supplement as a basal ration. The treatment of the two lots varied only in that corn for lot 2 was soaked in water. The protein supplement fed both lots consisted of 4 parts tankage, 4 parts soybean meal, 1 part cottonseed meal, and 1 part alfalfa meal.

Results are given in Table 1.

Observations

Pigs fed soaked shelled corn gained .04 pound per day more than those fed dry shelled corn. The pigs fed the soaked shelled corn ate more each day than those receiving dry shelled corn. It required 33 pounds more of corn for the soaked corn fed pigs to make 100 pounds gain.

Soaking the corn in this experiment was of no particular advantage.

Table 1

The value of soaking corn for finishing spring pigs on alfalfa pasture.¹
June 2, 1959, to September 15, 1959—106 days.

| Item | Dry shelled corn | Soaked shelled corn |
|--------------------------------------|------------------|---------------------|
| Lot number | 1 | 2 |
| Number pigs in lot | 9 | 9 |
| Av. initial wt. per pig, lbs. | 51.77 | 51.55 |
| Av. final wt. per pig, lbs. | 196.66 | 201.33 |
| Av. total gain per pig, lbs. | 144.89 | 148.78 |
| Av. daily gain per pig, lbs. | 1.36 | 1.40 |
| Av. daily ration per pig, lbs.: | | |
| Shelled corn | 3.38 | 3.94 |
| Protein supplement | .54 | .51 |
| Lbs. feed per 100 lbs. gain per pig: | | |
| Shelled corn | 247.77 | 280.80 |
| Protein supplement | 39.57 | 36.89 |

1. Both lots received the same protein supplement.

The Comparative Value of Shelled Corn and Sorghum Grain Prepared by Different Milling Processes for Finishing Fall Pigs in Drylot (Project 110-3).

C. E. Aubel

Grain sorghums are being grown extensively in many parts of the High Plains. Sorghum grain previously has given excellent results compared with corn in feeding tests with swine at this station.

New ways of processing grain may improve the efficiency of the grains for feeding and thus provide more profit in hog raising.

Five lots of pigs were self-fed, free choice, in drylot. All lots received a mixed animal and plant protein supplement of 4 parts tankage, 4 parts soybean meal, 1 part cottonseed meal, and 1 part alfalfa meal. Each ton of mixed protein supplement also contained 27 pounds of Aureofac¹ and one half pound of zinc oxide. The ration for each lot varied only in the method of processing.

1. Registered trademark American Cyanamid Company for Aureomycin.

- Lot 1. Whole sorghum grain.
 - Lot 2. Dry rolled sorghum grain.
 - Lot 3. Steam rolled sorghum grain.
 - Lot 4. Steamed sorghum grain with rolling or crimping delayed four hours.
 - Lot 5. Shelled corn.
- The sorghum grain was steamed at 90 pounds pressure and at 180° F. Results are presented in Table 2.

Observations

Pigs receiving the steam rolled sorghum grain gained just .02 pound less per day than those receiving shelled corn. Gains in lot 2 were .02 pound per day less than those getting the steam rolled grain. Delaying the crimping four hours (lot 4) seemed not to improve gains. Poorest gains were from unprocessed sorghum grain. All factors considered, the sorghum grains proved satisfactory—confirming earlier experiments at this station. The lot fed corn made good gains with low corn consumption of grain. The corn quality was very good.

Table 2

The comparative value of shelled corn and sorghum grain prepared by different milling processes for finishing fall pigs in drylot.¹
December 5, 1959, to March 3, 1960—89 days.

| Items | RATION FED | | | | |
|------------------------------------|---------------|------------|--------------|-----------------------------|--------------|
| | Sorghum grain | | | | |
| | Whole | Dry rolled | Steam rolled | Steam rolled, delayed crimp | Shelled corn |
| Lot number | 1 | 2 | 3 | 4 | 5 |
| Number pigs per lot .. | 10 | 10 | 10 | 10 | 10 |
| Av. initial wt. per pig, lbs. | 58.50 | 58.50 | 58.40 | 58.30 | 58.90 |
| Av. final wt. per pig, lbs. | 177.60 | 184.60 | 185.70 | 179.00 | 188.60 |
| Av. total gain per pig, lbs. | 119.10 | 126.10 | 127.30 | 120.70 | 129.70 |
| Av. daily gain per pig, lbs. | 1.33 | 1.41 | 1.43 | 1.35 | 1.45 |
| Av. daily ration per pig, lbs.: | | | | | |
| Shelled corn | | | | | 4.37 |
| Sorghum grain | 4.85 | 5.05 | 5.33 | 5.46 | |
| Protein supplement | .70 | .69 | .74 | .64 | .67 |
| Lbs. feed per cwt. gain per pig: | | | | | |
| Shelled corn | | | | | 300.30 |
| Sorghum grain | 362.80 | 356.85 | 373.21 | 383.30 | |
| Protein supplement | 52.30 | 48.85 | 52.00 | 47.47 | 46.49 |

1. All lots received the same protein mix supplement.

The Value of Soaking Whole Sorghum Grain for Finishing Fall Pigs in Drylot (Project 110-4).

C. E. Aubel

Two lots of pigs were self-fed, free choice, whole sorghum grain and a mixed protein supplement. Each lot contained 10 pigs. In one lot, the whole sorghum grain was fed dry; in the other, it was automatically fed into water warmed enough to prevent freezing.

The protein supplement fed both lots consisted of 4 parts tankage, 4 parts soybean meal, 1 part cottonseed meal, and 1 part alfalfa meal. To each ton of supplement was added 27 pounds of antibiotic Aureofac¹ (Aureomycin) and one half pound of zinc oxide.

1. Registered trademark American Cyanamid Company for Aureomycin.

The results are listed in Table 3.

Observations

The lot of pigs receiving soaked whole sorghum grain made faster daily gains but consumed about 19 pounds more grain per 100 pounds gain than the lot fed dry whole sorghum grain. They ate about the same quantity of protein supplement. The soaked grain apparently was more palatable than the dry, for the pigs ate one pound more per head daily.

Table 3

The value of soaking whole sorghum grain for finishing fall pigs in drylot.¹

December 5, 1959, to March 3, 1960—89 days.

| Item | Whole dry sorghum grain | Soaked whole sorghum grain |
|------------------------------------|-------------------------|----------------------------|
| Lot number | 1 | 2 |
| Number pigs in lot | 10 | 10 |
| Av. initial wt. per pig, lbs. | 58.50 | 59.40 |
| Av. final wt. per pig, lbs. | 177.60 | 196.00 |
| Av. total gain per pig, lbs. | 119.10 | 136.60 |
| Av. daily gain per pig, lbs. | 1.33 | 1.53 |
| Av. daily ration per pig, lbs.: | | |
| Sorghum grain | 4.85 | 5.84 |
| Protein supplement | .70 | .77 |
| Lbs. feed per cwt. gain per pig: | | |
| Sorghum grain | 362.80 | 381.03 |
| Protein supplement | 52.30 | 50.51 |

1. Both lots received the same protein supplement.

The Value of Yeast Culture and L-Lysine (Amino Acid) in a Sorghum Grain Ration for Finishing Fall Pigs in Drylot¹ (Project 110-5).

C. E. Aubel

Sorghum grain is deficient in the amino acid, lysine. This test was to determine the value of a lysine feeding supplement recently on the market. Cultured yeast also is a source of lysine.

Three lots of 10 pigs each were fed, free choice, whole sorghum grain with a mixed protein supplement. One lot received the whole sorghum grain and a mixed protein supplement of 4 parts tankage, 4 parts soybean meal, 1 part cottonseed meal, and 1 part alfalfa meal. To each ton of the supplement 27 pounds Aureofac² and one half pound zinc oxide were added. A second lot was fed the same except that 100 pounds of yeast culture was added to each 500 pounds of protein mix. A third lot was fed as lot 1 except that 10 pounds I-Lysine feeding supplement was added to each ton of protein supplement.

The results are presented in Table 4.

Observations

Adding yeast culture or I-Lysine feeding supplement to a protein supplement fed with whole sorghum grain increased the rate of gain and decreased the quantity of sorghum grain required to produce 100 pounds of gain.

The protein supplement consumed was about the same in all lots; palatability was slightly better when yeast culture or I-Lysine was fed.

1. Chas. Pfizer & Co., Inc., Terre Haute, Ind., supplied the L-Lysine feeding supplement, and Diamond V Mills, Cedar Rapids, Iowa, the yeast culture used in this experiment.

2. Registered trademark American Cyanamid Company for Aureomycin.