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.

| | RATION FED | | | | |
|---|---|---|---|---|---|
| | Sorghum grain | | | | |
| Items | 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 Aurofac[1] (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 Drylot[1] (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 Aurofac[2] 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.

### Table 4

**The value of yeast culture and L-Lysine (amino acid) in a sorghum grain ration for finishing fall pigs in drylot.**

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

| | Whole sorghum grain, mixed protein | Whole sorghum grain + 100 lbs. yeast culture in each 500 lbs. protein supplement | Whole sorghum grain + 10 lbs. I-Lysine supplement per ton of protein supplement |
|---|---|---|---|
| Lot number | 1 | 2 | 3 |
| Number pigs per lot | 10 | 10 | 10 |
| Av. initial wt. per pig, lbs. | 58.50 | 59.50 | 58.60 |
| Av. final wt. per pig, lbs. | 177.60 | 185.00 | 183.00 |
| Av. total gain per pig, lbs. | 119.10 | 125.50 | 124.40 |
| Av. daily gain per pig, lbs. | 1.33 | 1.41 | 1.39 |
| Av. daily ration per pig, lbs.: | | | |
| Sorghum grain | 4.85 | 4.97 | 4.80 |
| Protein supplement | .70 | .76 | .74 |
| Lbs. feed per cwt. gain per pig: | | | |
| Sorghum grain | 362.80 | 352.82 | 344.05 |
| Protein supplement | 52.30 | 54.34 | 52.97 |

## The Value of Terramycin (TM-10)[1] and Oleandomycin in the Protein Supplement for Fattening Spring Pigs on Alfalfa Pasture (Project 110-1).

C. E. Aubel

The antibiotic, Oleandomycin, is a recent introduction.[2] This experiment was to test the antibiotic's value.

Three lots of nine pigs each were self-fed shelled corn and a mixed protein supplement on alfalfa pasture. All three lots had the same mixed protein supplement of 4 parts tankage, 4 parts soybean meal, 1 part cottonseed meal, and 1 part alfalfa meal. 4½ pounds of Terramycin TM-10 and 4½ pounds of Oleandomycin were added per ton to the protein mixture of lot 2. Lot 3 pigs had 4½ pounds of Oleandomycin premix added per ton to their protein mixture.

Results are given in Table 5.

1. Registered trademark of Chas. Pfizer & Co., Inc., for Terramycin.

2. Chas. Pfizer & Co., Inc., Terre Haute, Ind., supplied the Terramycin supplement TM-10 and Oleandomycin for this experiment.

### Table 5

**The value of the antibiotics Terramycin (TM-10) and Oleandomycin in the protein supplement for fattening spring pigs on alfalfa pasture.**

June 2, 1959, to September 15, 1959—106 days.

| Basal ration fed on alfalfa pasture. Shelled corn, mixed protein supplement | Basal | Basal + 4½ lbs. Terramycin TM-10, 4½ lbs. Oleandomycin per ton of supplement | Basal + 4½ lbs. Oleandomycin per ton of supplement |
|---|---|---|---|
| Lot number | 1 | 2 | 3 |
| Number of pigs in lot | 9 | 9 | 9 |
| Av. initial wt. per pig, lbs. | 51.77 | 52.11 | 51.44 |
| Av. final wt. per pig, lbs. | 196.66 | 189.66 | 204.77 |
| Av. total gain per pig, lbs. | 144.89 | 137.55 | 153.33 |
| Av. daily gain per pig, lbs. | 1.36 | 1.29 | 1.44 |
| Av. daily ration per pig, lbs.: | | | |
| Shelled corn | 3.38 | 3.41 | 3.84 |
| Protein supplement | .54 | .64 | .61 |
| Lbs. feed per cwt. gain per pig: | | | |
| Shelled corn | 247.77 | 262.93 | 265.73 |
| Protein supplement | 39.57 | 50.08 | 42.68 |



### Observations

The pigs that received both Terramycin (TM-10) and Oleandomycin made the smallest daily gain. The best gain (1.44 pounds a day) was by lot 3 receiving one antibiotic, Oleandomycin. The quantity of grain and protein supplement consumed per 100 pounds gain varied little in the three lots, but was least for those getting no antibiotic.

## Kansas Swine Improvement Association Testing Station

The Kansas Swine Testing Station is in its second year of operation and a summary of testing results is presented here. The station, located at the University, was built by private contributions. It is being supervised by personnel of the Department of Animal Husbandry. All expenses involved in testing are paid by the breeders or producers who have pigs on test.

It is now possible for commercial swine men to enter barrows at the station if they are interested in obtaining carcass information on the pigs they are producing. Such barrows are fed in a group with all other barrows on test until they reach a slaughter weight of 200 pounds. All slaughter data is determined in the Department of Animal Husbandry by Professors Mackintosh and Merkel.

Information concerning the testing program can be obtained by contacting the Kansas Swine Improvement Association, the Department of Animal Husbandry, or the Extension Service.

### Table 6

**Swine Testing Results**

| | BOARS | | | BARROWS | | |
|---|---|---|---|---|---|---|
| | High | Av. | Low | High | Av. | Low |
| **Winter 1958-1959** | | | | | | |
| Daily gain, lbs. | 2.58 | 1.98 | 1.50 | 2.25 | 1.77 | 1.35 |
| Backfat, in. | 1.60 | 1.10 | 0.70 | 2.17 | 1.71 | 1.42 |
| Efficiency, lbs. | 3.46 | 3.05 | 2.70 | | | |
| Loin eye, sq. in. | | | | 5.79 | 3.77 | 3.17 |
| Total cost (incl. sale) | | $ 51 | | | $ 38 | |
| Sale price | $550 | $158 | $ 40 | | $ 32 | |
| **Summer, 1959** | | | | | | |
| Daily gain, lbs. | 2.19 | 1.84 | 1.50 | 2.18 | 1.82 | 1.33 |
| Backfat, in. | 1.48 | 1.20 | 0.62 | 2.00 | 1.54 | 1.28 |
| Efficiency, lbs. | 3.06 | 2.82 | 2.52 | | | |
| Loin eye, sq. in. | | | | 4.24 | 3.39 | 2.45 |
| Total cost (incl. sale) | | $ 47 | | | $ 36 | |
| Sale price | $320 | $123 | $ 35 | | $ 28 | |
| **Winter, 1959-1960** | | | | | | |
| Daily gain, lbs. | 2.11 | 1.87 | 1.65 | 2.23 | 1.96 | 1.48 |
| Backfat, in. | 1.37 | 1.08 | 0.83 | 1.93 | 1.60 | 1.35 |
| Efficiency, lbs. | 3.24 | 3.00 | 2.78 | 4.10 | 3.45 | 3.08 |
| Loin eye, sq. in. | | | | 4.22 | 3.95 | 3.30 |
| Total cost (incl. sale) | | $ 50 | | | $ 40 | |
| Sale price | $250 | $166 | $ 55 | | $ 24 | |

**Slaughter Data (Summary)**

| | | |
|---|---|---|
| Number slaughtered | 72 | |
| Av. slaughter wt., lbs. | 198 | (192-208) |
| Av. % lean cuts | 47.93 | (42.10-55.22) |
| Av. loin eye area, sq. in. | 3.57 | ( 2.50- 5.79) |
| Av. backfat, in. | 1.65 | ( 1.28- 2.17) |
| Av. carcass length, in. | 29.09 | (27.05-31.75) |
| USDA carcass grades: | | |
| No. 1 | 36 | |
| No. 2 | 26 | |
| No. 3 | 10 | |