A Center for Research and Education in the Animal Industries—Dr. Arthur D. Weber, Dean of Agriculture, Kansas State College

Research and the Livestock Industry—Dr. Oliver S. Willham, President, Oklahoma State University, Stillwater

10-minute recess

2:30 p.m.—Announcement of Beef Production Contest Awards—W. H Atzenweiler, Agriculture Commissioner, Chamber of Commerce, Kansas City, Mo.

Concluding Reports of Livestock Experiments—Animal Husbandry Staff

Question and discussion period for all who wish to stay.

6:30 p.m.—Kansas State Union

Banquet for parents and visiting stockmen and ladies—Block and Bridle Club

FOR THE LADIES

Friday, May 2, 1958

6:30 p.m.—Dinner—Gillett Hotel

Kansas Cow Belles and Visiting Ladies (Make reservations in advance with Mrs. C. G. Elling, 2230 Anderson, Manhattan.)

Saturday, May 3, 1958

9:00 a.m.—Coffee—Room 103, Animal Industries Building, by Animal Husbandry Wives

9:30 a.m.—Auditorium (Room 107), Animal Industries Building

Program sponsored jointly by School of Home Economics and Animal Husbandry Department

Presiding—Mrs. Edwin Brown, Fall River, Kan., President, Kansas Cow Belles

Address—Rita Campbell, National Livestock and Meat Board, Chicago, Ill.

What Makes Beef Good to Eat?—Marilyn McNelis, Ruby Franklin, Grayce Goertz and Dorothy Harrison, School of Home Economics, Kansas State College

12:15 p.m.—Lunch—Animal Industries Building (See General Program.)

1:00 p.m.—Livestock Arena

Dedication of new Animal Industries Building (See General Program.)

6:30 p.m.—Block and Bridle Banquet (See General Program.)

MILO AND SORGHUM GRAIN

Inasmuch as the sorghum varieties and hybrids used for grain at present are largely the result of hybridization between such sorghum types as true milo, kafir, feterita, and others, they do not possess all characteristics common to any one type. Therefore they cannot rightfully be referred to by any single type name. Although the term **milo** is frequently applied to all sorghum used for grain, this use is incorrect and can even be misleading. The preferable terms in this case are **grain sorghum** for the entire plant, **sorghum grain** for the seed of such a plant, and **milo** only when speaking of true milo. Such usage has been followed in this circular.

Swine

The Value of Vigofac and Terramycin B_{12} Supplement Bi-Con TM-10 Antibiotic in the Rations of Fattening Pigs on Alfalfa Pasture (Project 110, Test 2).

C. E. Aubel

Vigofac, put out by Chas. Pfizer & Co., is another additive that has recently come into the pig-feeding arena. It was thought desirable to compare it with antibiotics for fattening pigs on pasture.

In this test four lots of spring pigs were self-fed free choice a basal ration of shelled corn and a mixed protein supplement on alfalfa pasture. The mixed protein supplement was made up of 4 parts tankage, 4 parts soybean meal, 1 part linseed meal, and 1 part alfalfa meal. Lot 1 pigs received no Vigofac or antibiotic. They were self-fed the basal ration of a mixed protein supplement and shelled corn. Lot 2 pigs were self-fed shelled corn and a mixed protein supplement to which had been added Vigofac at the rate of 27 pounds to the ton.

Lot 3 pigs were self-fed shelled corn and a mixed protein supplement to which had been added Vigofac at the rate of 27 pounds to the ton, and Bi-Con TM-10 Terramycin B_{12} antibiotic at the rate of 4½ pounds to the ton. Lot 4 pigs were self-fed shelled corn and a mixed protein supplement to which had been added Bi-Con TM-10 at the rate of 4½ pounds to the ton. Table 1 shows the results of this experiment.

Table 1

The Value of Vigofac and Terramycin B_{12} Supplement Bi-Con TM-10 Antibiotic in the Rations of Fattening Pigs on Alfalfa Pasture.

June 9, 1957, to September 17, 1957—100 days.

Basal ration fed: Shelled corn, mixed protein supplement, in the dry lot	Basal	Basal + 27 lbs. per ton Vigofac	Basal + Vigofac, 27 lbs. per ton + Bi-Con TM-10, 4½ lbs. per ton	Basal + Bi-Con TM-10, 4½ lbs. per ton
Lot number	1	2	3	4
Number pigs in lot	10	10	10	10
Av. initial wt. per pig, lbs.	60.20	59.40	60.30	60.30
Av. final wt. per pig, lbs.	181.00	208.90	192.90	180.50
Av. total gain per pig, lbs.	119.80	149.50	132.60	120.20
Av. daily gain per pig, lbs.	1.19	1.49	1.32	1.20
Av. daily ration per pig, lbs.:				
Shelled corn	3.85	4.35	4.26	3.87
Protein supplement	.37	.37	.32	.30
Lbs. feed per 100 lbs. gain per pig:				
Shelled corn	321.70	291.37	321.71	322.79
Protein supplement	30.96	25.01	24.73	24.45

Observations

In this experiment the pigs that received the Vigofac made the larger gains. They exceeded the gains made by the lot 3 pigs that received Vigofac and the antibiotic Bi-Con TM-10 Terramycin B_{12} supplement. The lot 2 pigs also consumed least total feed per 100 pounds gain of any of the lots in the experiment.

Acknowledgment is made to Chas. Pfizer & Co., Inc., Terre Haute, Ind., for supplying the Terramycin$_{12}$ supplement, Bi-Con Tm-10, and the Vigofac for this experiment.

The pigs in lot 3 receiving the Vigofac and the terramycin made the next largest gains and likewise made a good showing in total feed consumption, although not quite as efficient as the pigs in lot 2.

In conclusion it may be said that when Vigofac was added to a ration of shelled corn and good mixed protein supplement to pigs on pasture, a good response was achieved. Adding, in addition, terramycin antibiotic did not improve the gains or feed conversion factor. Antibiotic alone in this test of pasture-fed pigs did not improve the gains or feed consumption of the pigs over that where no antibiotic was fed.

The Value of Furazolidone Nf-180 and Terramycin Bi-Con TM 10 Antibiotic in the Rations of Fattening Pigs on Alfalfa Pasture (Project 110, Test 1).

C. E. Aubel

One of the most critical problems of the swine industry is disease. Antibiotics have been demonstrated to be effective in keeping some diseases at a low level. The nitrofurans have shown good results for certain specific diseases in poultry. Their effect in swine feeding is little known, for few experiments have been carried on feeding them to swine.

This experiment was initiated to study the effect of Furazolidone Nf-180 in rations for growing and fattening swine.

In this test four lots of fall pigs were self-fed free choice a basal ration of shelled corn and a mixed protein supplement on alfalfa pasture. The mixed protein supplement was made up of 4 parts tankage, 4 parts soybean meal, 1 part linseed meal, and 1 part alfalfa meal.

Lot 1 pigs received no nitrofuran. They were self-fed the basal ration, a mixed protein supplement, and shelled corn.

Lot 2 pigs received shelled corn and a mixed protein supplement to which had been added Nf-180 at the rate of 2¼ pounds per ton. This supplied it to the pig at the rate of about 25 gms. per ton of total feed.

Lot 3 pigs received the same feed ration as did those in lot 2 except that they also received Bi-Con TM-10 at the rate of 4½ pounds to a ton.

Lot 4 pigs received shelled corn and a mixed protein supplement to which had been added Bi-Con TM-10 at the rate of 4½ pounds to a ton.

Table 2 gives the results of this experiment.

Acknowledgment is made to Hess & Clark, Inc., Ashland, Ohio, for supplying the Furazolidone Nf-180 for this experiment, and to Chas. Pfizer & Co., Terre Haute, Ind., for the Terramycin B_{12} supplement, Bi-Con TM-10.

Table 2

The Value of Furazolidone Nf-180 and Terramycin Bi-Con TM-10 Antibiotic in the Rations of Fattening Pigs on Alfalfa Pasture.

June 9, 1957, to September 17, 1957—100 days.

Basal ration fed: Shelled corn, mixed protein supplement, on pasture	Basal	Basal + Nf-180 at 25 gms. per ton level	Basal + Nf-180 at 25 gms. per ton level; Bi-Con TM-10, 4½ lbs. per ton	Basal + Bi-Con TM-10 at 4½ lbs. per ton
Lot number	1	2	3	4
Number pigs in lot	10	10	10	10
Av. initial wt. per pig, lbs.	60.20	60.30	60.40	60.30
Av. final wt. per pig, lbs.	181.00	188.70	187.20	180.50
Av. total gain per pig, lbs.	119.80	128.40	126.80	120.20
Av. daily gain per pig, lbs.	1.19	1.28	1.26	1.20
Av. daily ration per pig, lbs.:				
Shelled corn	3.85	3.87	4.17	3.87
Protein supplement	.37	.38	.35	.30
Lbs. feed per 100 lbs. gain per pig:				
Shelled corn	321.70	311.79	345.54	322.79
Protein supplement	30.96	30.17	28.22	24.45

Observations

In this experiment the pigs that received the Furazolidone Nf-180 supplement made faster gains than the pigs receiving no drug or those receiving Terramycin B_{12} antibiotic. The lot receiving the drug, and in addition receiving Terramycin as in lot 3, made for practical purposes about the same gain as the pigs that received the drug alone. In feed consumption, the pigs in lot 2 that received the drug alone utilized less corn per 100 pounds gain than the pigs in any of the other lots, but the pigs in lot 3 receiving the drug and the antibiotic for some reason or other utilized more corn per 100 pounds gain, although not quite so much protein supplement. The pigs in lot 4 receiving the antibiotic utilized about the same grain per 100 pounds gain as the pigs in the lot receiving no drug or antibiotic.

In conclusion it may be said that the pigs in lot 2, receiving the Nf-180, made the best showing of all the lots in this test with larger daily gains and less total feed consumption. The pigs in lot 3 receiving the drug and antibiotic required more feed than any of the other pigs in the experiment but made comparable daily gains with lot 2. The reason for this has not been determined, but two pigs in lot 3 did not do well and were scarcely up to the average of the rest in the lot. This may be the reason.

The Comparative Value of Corn, Open-pollinated Grain Sorghum, and Hybrid Grain Sorghum as Fattening Feeds to Fall Pigs in the Dry-Lot (Project 110-4).

C. E. Aubel

In many parts of Kansas sorghum grains are grown extensively. In previous feeding tests with hogs at this station, some sorghum grains gave excellent results compared with corn. In 1950 Westland milo and Midland milo gave 12 percent greater daily gains than did corn. The economy in feed per 100 pounds gain was about 5 percent better from sorghum grain than from corn. Because corn has been more difficult to produce in Kansas, while sorghum grains, especially hybrids, have increased in popularity, it was thought advisable to get results from a 1958 experiment that compared corn with both open-pollinated and hybrid sorghum grain, with the sorghum grains prepared for feeding in different ways.

Five lots of pigs were self-fed free-choice in dry-lot. All lots received a mixed animal and plant protein supplement of 4 parts tankage, 4 parts soybean meal, 1 part linseed meal, and 1 part alfalfa meal. The open-pollinated sorghum was the Plainsman variety, of excellent quality, being especially high in protein. The hybrid sorghum was Farmer's Union 222 and was somewhat high in moisture.

Table 3 gives the chemical analysis of the feeds used in this experiment.

Table 3

	Protein (Nx6.25)	Ether extract	Crude fiber	Moisture	Ash	N-free extract	Carbohydrates
Sorghums:							
F.U. 222	6.63	2.43	1.63	15.68	1.24	72.39	74.02
Open-pollinated	13.81	2.89	1.52	12.45	1.50	67.83	69.35
Corn (yellow)	9.75	3.51	1.98	14.78	1.35	68.63	70.61
Protein supplement, 4-4-1-1	45.88	4.04	6.33	7.84	11.34	24.57	30.90

In this experiment lot 1 received, with the protein supplement, whole hybrid sorghum grain. Lot 2 received rolled hybrid sorghum grain, lot 3 whole open-pollinated sorghum grain, lot 4 rolled open-pollinated sorghum grain, and lot 5 shelled corn.

Table 4 gives the results of this experiment.