

Table 20 (Continued).

Av. total gain per pig, lbs.	139.60	42.90	97.38	143.25	122.22
Total gain, Lot 2—entire period		140.28			
Av. daily gain per pig, lbs.	1.56	1.12	1.90	1.60	1.37
Av. daily gain per pig, lbs., Lot 2—entire period		1.57			
Av. daily ration per pig:					
Shelled corn, lbs.	4.19	3.15	4.98	4.50	4.17
Protein supplt., lb. ....	.72	.39	.75	.77	.74
Feed per 100 lbs. gain per pig:					
Shelled corn, lbs.	267.55	279.72	261.24	280.10	303.64
Protein supplt., lbs.	46.20	34.96	39.43	47.99	51.73
Feed per 100 lbs. gain per pig: (Lot 2) for entire period					
Shelled corn, lbs.		266.89			
Protein supplt., lbs.		38.06			

Observations

In this experiment Lot 1 pigs on pasture the entire feeding period and Lot 2 pigs on pasture only about one-half the feeding period (then placed in the dry lot) made about the same gains. They gained 1.56 and 1.57 pounds daily for the period with almost exactly the same feed per 100 pounds gain, except that the pigs in dry lot one-half the time (on increased alfalfa meal) consumed 8 pounds less protein supplement than the pasture-grazed pigs.

The daily gains of those on dry lot one-half time were about the same as Lot 3 (fed the entire time in dry lot with 3 parts alfalfa meal). Lot 3 pigs used 23 pounds more feed per 100 pounds gain than Lot 2 pigs.

The Lot 4 pigs made the poorest showing of all with a daily gain of 1.37 pounds, and they had a rather high requirement of feed per 100 pounds gain.

Conclusion

Results indicate thus far that when the allowance of alfalfa meal in a ration is too high, efficiency decreases. But a ration of proper quantities of alfalfa meal, fed in the dry lot, will be as efficient as pasture and a smaller quantity of alfalfa meal.

More tests are needed to verify these observations.

The Comparative Value of Corn and Whole and Ground Milo as Swine-Fattening Feeds.

PROJECT 110, Test IV

C. E. Aubel

Sorghum grains are grown extensively in parts of Kansas for hog feed. In previous feeding tests with hogs at this station, some sorghum

grains have given excellent results compared with corn. In 1950 Westland and Midland milos gave 12 percent greater daily gain than 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 have increased in popularity, it was thought advisable to compare sorghum grain with corn again.

Four lots of pigs were self-fed 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 milo was an unidentified variety, straight elevator run. Lot 1 received shelled corn; Lot 2, whole milo; Lot 3, coarsely ground milo from a burr mill; Lot 4, ground milo. The protein supplement mixture for this lot contained aureomycin supplied as Aurofac at the rate of 27 pounds per ton. Table 21 gives the results.

Table 21.—Comparative value of corn and milo as swine-fattening feeds.

Ration fed, 91 days	Shelled corn, protein mixed supplt., min. mix.	Whole milo, protein mixed supplt., min. mix.	Burr mill ground milo, protein mixed supplt., min. mix.	Ground milo, protein mixed supplt., 27 lbs. Aurofac per ton min. mix.
Lot number	1	2	3	4
Number pigs in lot	10	10	9	9
Av. initial wt. per pig, lbs.	51.90	51.70	53.11	52.55
Av. final wt. per pig, lbs.	202.90	219.20	223.22	224.32
Av. total gain per pig, lbs.	151.00	162.50	170.11	171.77
Av. daily gain per pig, lbs.	1.65	1.78	1.86	1.88
Av. daily ration per pig:				
Grain, lbs.	5.40	6.26	6.42	6.34
Protein mix, lb. ....	.89	.90	.91	.92
Lbs. feed per 100 lbs. gain per pig:				
Grain	325.82	350.89	339.64	323.42
Protein mix	54.17	50.76	48.85	48.77
Mineral mix .....	.08	.07	.06	.06

Observations

1. Whole milo produced about 8 percent greater gains in pigs than was produced by corn.
2. Daily gains of pigs fed ground milo were about 12 percent greater than daily gains of pigs fed corn.
3. Ground milo was more efficient than whole milo.
4. Adding aureomycin to the ration reduced the amount of feed required per 100 pounds gain.
5. Milo was palatable. Each lot fed milo consumed more of it daily than the amount of corn consumed daily by the corn-fed lot.
6. Milo was a satisfactory grain in all respects and was better than corn, in these tests, for fattening pigs.

Some Studies on Breeding Market Pigs by Crossing Duroc with Beltsville No. 1 for Meat-type Hogs.

PROJECT 242

C. E. Aubel

Much discussion in Kansas has concerned the desirability of cross-breeding inbred breeds (so-called hybrids) with other breeds for meat-

type hogs. Consequently, a Beltsville No. 1 (Poland x Landrace origin) was secured and matings planned with a Duroc. The test was to study vigor and size of the litter produced and ultimate performance in the feedlot of the litter compared with performance of purebred Duroc pigs raised under comparable conditions.

In the winter of 1953-54, six purebred Duroc sows were mated to a Duroc boar, and six Duroc sows were mated to a Beltsville No. 1 boar. Results are given in Table 22.

Table 22.—Some studies on breeding market pigs by crossing Durocs with a Beltsville No. 1 boar for meat-type hogs.
Farrowing Data—Spring, 1954

	Purebred Duroc	Beltsville No. 1 x Duroc
Lot number	1	2
Number sows farrowed	6	6
Av. number pigs/litter	9.0	9.1
Av. birth wt. of pigs	2.1	2.4
Av. strong pigs/litter	6.1	7.6
Av. weak pigs/litter	2.5	.8
Av. born dead/litter .....	.3	.5
Av. 5-day wt. pigs in litter	3.3	3.6
Av. 56-day wt. pigs in litter	21.9	21.8
Av. pigs weaned/litter	7.2	6.4

From the pigs farrowed, 25 purebred Duroc pigs and 23 crossbred Beltsville No. 1 x Duroc pigs were selected to be fed for market. They were self-fed in separate groups on corn, tankage, and sudangrass pasture. Their initial weights were 34.63 pounds, purebred Durocs; 36.52 pounds, crossbreds. The following data show the results of this feeding test.

Table 23.—Some studies on breeding market pigs by crossing.
(June 9, 1954, to October 5, 1954—118 days)

	Shelled corn, tankage (self-fed on sudangrass)	
	Purebred Duroc	Beltsville No. 1 x Duroc
Lot number	1	2
Number pigs in lot	25	23
Av. birth wt. of pigs, lbs.	2.1	2.4
Av. 56-day wt. of pigs, lbs.	21.9	21.8
Av. initial wt. on feed, lbs.	34.63	36.52
Av. final wt. on feed, lbs.	188.12	188.26
Av. total gain/pig, lbs.	153.49	151.74
Av. daily gain/pig, lbs.	1.30	1.28
Feed/day/pig:		
Shelled corn, lbs.	3.47	3.40
Tankage, lb. ....	.80	.70
Feed for 100 lbs. gain/pig:		
Shelled corn, lbs.	258.08	265.18
Tankage, lbs.	57.35	54.44

Observations

The purebred pigs gained 153 pounds with 315.43 pounds of feed for 100 pounds gain, while the crossbred pigs gained 151.74 pounds with 319.62 pounds of feed for 100 pounds gain.

The Comparative Value of New Corn (1954 Crop) and Old Corn (Government Stored 1948-49) for Fattening Fall Pigs in Dry Lot.

PROJECT 110

C. E. Aubel

Numerous inquiries to the Department of Animal Husbandry in recent months concerning the probable value for hog feed of corn stored several years under government supervision prompted this test.

This experiment was initiated and conducted during the winter of 1954-55, starting with fall-farrowed pigs weighing about 55 pounds.

Three lots totaling 25 pigs were fed. Lot 1 was self-fed shelled old corn that had been government stored since 1948-49. Lot 2 was self-fed the same corn ground, and Lot 3 was the control group self-fed shelled new corn. All lots were self-fed free choice a mixed animal and plant protein supplement of 4 parts tankage, 4 parts soybean meal, 1 part cottonseed meal, and 1 part alfalfa meal, in dry lot.

Results are shown in Table 24.

Table 24.—Comparative value of new corn (1954 crop) and old corn (government stored 1948-49) self-fed for fattening fall pigs in dry lot.
(December 7, 1954, to March 15, 1955—98 days)

Ration fed	Shelled old corn	Ground old corn	Shelled new corn
	—Prot. suppl. mixed, self-fed— 4 parts tankage, 4 parts soybean meal, 1 part cottonseed meal, and 1 part alfalfa meal		
Lot number	1	2	3
Number of pigs in lot	8	8	9
Av. initial wt. per pig, lbs.	55.25	55.25	53.88
Av. final wt. per pig, lbs.	204.75	204.62	205.88
Av. total gain per pig, lbs.	149.50	149.37	152.00
Av. daily gain per pig, lbs.	1.52	1.52	1.55
Av. daily ration per pig:			
Corn, lbs.	4.75	5.12	5.49
Protein suppl., lbs.	1.01	1.14	.95
Lbs. feed per 100 lbs. gain:			
Corn	311.87	349.14	354.53
Protein suppl.	66.47	74.89	61.40

Observations

1. There was little difference among lots in daily gains throughout the 98-day feeding period. Lot 1 on old shelled corn gained 1.52 pounds. Lot 2 on old ground corn made the same gain, and Lot 3 on the new shelled corn gained 1.55 pounds.

2. Daily consumption of the grain indicated that the new corn was a little more palatable. Ground old corn was consumed at 5.12 pounds per day compared with 4.75 pounds per day for the shelled old corn. There was a little difference in the protein supplement consumed daily. This might indicate that the old corn was harder than the new corn, and thus not relished.