

Table 62
Free-Choice Feeding Compared with Completely Mixed Rations in Pellets.

December 6, 1955, to March 12, 1956—97 days.

Ration fed	Shelled corn, Protein-mixed supplement, free choice	Pellets (complete mixture corn and protein supplements)
Lot number	1	2
Number pigs in lot	9	9
Av. initial wt. per pig, lbs.	50.70	51.90
Av. final wt. per pig, lbs.	221.11	203.33
Av. total gain per pig, lbs.	169.11	151.43
Av. daily gain per pig, lbs.	1.74	1.56
Av. daily ration per pig, lbs.:		
Shelled corn	5.16	
Protein supplement82	
Pellets		5.47
Lbs. feed per 100 lbs. gain per pig:		
Shelled corn	329.04	
Protein supplement	52.36	
Pellets		350.87

Observations

1. The daily feed consumption of the pigs fed free choice was .51 pound greater than that of those fed pellets.
2. The pigs fed free choice gained .18 pound more each day than the pellet-fed pigs.
3. The pellet-fed pigs required 30.5 pounds less total feed than the pigs fed free choice.
4. In this experiment complete mixtures of corn and protein supplements slowed the daily rate of gain but reduced the feed consumed per 100 pounds gain. If the costs of grinding, mixing, and pelleting were considered, their expense probably would offset the cost of the 30.5 pounds of feed saved.

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

PROJECT 110, Test 7

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 have increased in popularity, it was thought advisable to get results from a 1956 experiment that compared corn with sorghum grain, with the sorghum grain prepared for feeding in different ways.

Five 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, dry rolled milo; Lot 4, wet rolled milo; and Lot 5, rolled milo with 5 percent cane molasses added.

Table 63 gives the results.

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Table 63
Comparative Value of Corn and Milo as Swine-Fattening Feeds.
December 6, 1955, to March 12, 1956—97 days.

Ration fed	Shelled corn, Protein mixed suppl.	Whole milo, Protein mixed suppl.	Dry-rolled milo, Protein mixed suppl.	Wet-rolled milo, Protein mixed suppl.	Rolled milo, 5 percent molasses- mixed protein suppl.
Lot number	1	2	3	4	5
Number pigs in lot	9	9	9	10	9
Av. initial wt. per pig, lbs.	50.70	52.77	52.40	51.50	50.30
Av. final wt. per pig, lbs. ..	221.11	216.66	214.77	198.50	219.44
Av. total gain per pig, lbs.	169.11	163.89	162.37	147.00	169.14
Av. daily gain per pig, lbs.	1.74	1.68	1.67	1.51	1.74
Av. daily ration per pig, lbs.:					
Grain	5.16	6.28	6.68	5.96	6.47
Protein mix82	.79	.88	.91	.86
Lbs. feed per 100 lbs. gain per pig:					
Grain	329.04	372.06	399.36	354.08	371.15
Protein mix	52.36	46.98	52.62	54.14	49.40

Observations

1. The daily gains of the pigs receiving corn were slightly greater than for the pigs receiving whole or dry-rolled milo. With the wet-rolled milo daily gains of pigs were .23 pound less. The pigs getting rolled milo with molasses made the same daily gains as the corn-fed pigs.

Thus the whole- or dry-rolled milo on a pound-for-pound basis was about 3 percent less efficient than corn. The wet-rolled milo was about 13 percent less efficient.

2. The quantity of grain consumed per 100 pounds gain was greater in all the milo-fed lots than in the corn-fed lots, running from a little less than 1 percent with wet-rolled milo to 21 percent with the dry-rolled milo; however, cost of corn usually is at least 20 percent more than milo per pound.

3. The protein supplement requirements per 100 pounds gain varied from a little less in Lots 2 and 5 to a little more in Lots 3 and 4 than required by pigs fed corn. The protein requirements for all varied only slightly.

4. The milo was palatable. Each lot fed milo consumed more grain daily than the lot fed corn.

5. Milo was a satisfactory, though not outstanding, grain for feeding in this experiment.

Metabolism of Carotenoid Pigments and Vitamin A by Swine.

PROJECT 311, Test 8

Relative Value of Carotenoid Pigments of New-Crop (1954) Yellow Corn and Old-Crop (1948-49 government stored) Yellow Corn and of Dehydrated Alfalfa for Supplying the Vitamin A Requirements of Weanling Pigs.

D. B. Parrish and C. E. Aubel

Question has been raised concerning the vitamin A potency of stored yellow corn. Samples of 1954 corn and 1948-49 stored corn were analyzed for provitamin A content by a separation and chemical determination of the carotene and crude cryptoxanthin contents. The 1948-

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