

V. Feed Value of Wheat Mill Feed in Rations for Swine.

By-products of wheat flour milling include such things as bran, shorts and middlings. Those fractions represent about a fourth of the kernel weight and usually have a higher protein value than milo or corn. Certain of the by-products have been considered as supplemental feeds, but more realistically should be considered as substitutes for grain in swine rations.

This experiment was to determine effects of substituting wheat mill feed for milo in milo-soybean meal rations for growing-finishing swine.

The results are shown in Table 54. There were no significant differences due to dietary treatment. The highest rate of gain was obtained with the 7.5% level of wheat mill feed. Daily feed intake tended to increase, and feed efficiency decreased with increase in dietary wheat mill feed.

Table 54
Effects of different levels of wheat mill feed in swine rations, November 17, 1964, to January 15, 1965.

	% wheat mill feed ¹				Av.
	0	7.5	15.0	30.0	
84 to 142 lbs. (November 17 to December 23, 1964)					
Av. daily gain, lbs. ²	1.68	1.91	1.75	1.61	1.74
Av. daily feed, lbs.	5.05	5.77	5.51	5.81	5.53
Feed per lb. of gain, lbs.	3.00	3.00	3.15	3.64	3.20
142 to 183 lbs. (December 23, 1964, to January 15, 1965)					
Av. daily gain, lbs.	1.71	1.88	1.71	1.88	1.79
Av. daily feed, lbs.	6.06	6.23	6.72	7.09	6.52
Feed per lb. of gain, lbs.	3.55	3.30	3.95	3.76	3.64

1. Consisted of approximately 60% bran, 23% shorts, 13% tailings, and 4% red dog. Analyzed about 17% crude protein.

2. The rations analyzed 16.9, 17.1, 18.2, and 18.5% crude protein, respectively, and 2.7, 2.6, 3.3, and 4.2% crude fiber, respectively.

3. Each figure represents average performance of 2 pens of 5 pigs each. They were housed in building M.

Effects of Feed Processing on Ration Utilization (Project 110).

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Previous reports from the Kansas Station have shown that method of processing grains and rations may affect acceptance by the animal and efficiency of utilization.

The experiment reported here was designed to evaluate the effects of grinding fineness (of milo and wheat) on feeding value for growing swine.

I. Effect of Fineness of Grind of Wheat and Milo on Utilization in Diets for Growing Swine.

Forty-eight pigs averaging about 55 pounds each were used. Each treatment group of 6 pigs was confined to a pen in building W.

Either 1/8-inch or 1/16-inch screens were used in the hammer mill grinder to grind the wheat and milo. The respective ground products were mixed with the appropriate ration ingredients, then the ration was pelleted (3/16-inch pellet).

Results are shown in Table 55.

Fineness of grind had no significant effect on rate of gain, daily feed intake or feed required per pound of gain.

Average rate of gain from the milo diets was 1.35 while that from the wheat diets was 1.24 pounds. They reflect the different levels of daily feed intake of 3.60 and 3.22 pounds, respectively. Pigs receiving the milo diet required slightly more feed per pound of gain than those receiving wheat diets.

The results suggest no advantage of 1/16-inch grind over 1/8-inch grind of milo and wheat used in diets for growing swine.

Table 55
Effect of fineness of grind of wheat and milo on utilization in diets for growing swine, January 26 to March 4, 1965.

Ration no. ¹	S-76	S-76N	S-76A	S-76AA
Cereal	Milo	Milo	Wheat	Wheat
Grinder screen	1/8"	1/16"	1/8"	1/16"
Av. initial wt., lbs. ²	54	55	54	55
Av. final wt., lbs.	104	106	102	100
Av. daily gain, lbs.	1.34	1.37	1.28	1.20
Av. daily feed, lbs.	3.54	3.65	3.34	3.10
Feed per lb. of gain, lbs.	2.63	2.66	2.59	2.58

1. Forty-five percent crude protein soybean meal was used to supplement the respective cereals to provide a 16% crude protein ration.

2. Each figure represents an average of 2 pens of 6 pigs each.

Table 56
Prices of feeds used in beef cattle experiments, 1964-65

Sorghum silage	\$ 8.00 ton
Prairie hay	20.00 ton
Sorghum grain	2.00 cwt.
Alfalfa hay	25.00 ton
Soybean oil meal	50.00 ton
Dicalcium phosphate	50.00 ton
Salt	20.00 ton
Rice hulls-concentrate-molasses mixture	39.50 ton