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Rations containing sorghum, corn, or wheat with 0 or 4% added fat for weaned pigs

G L. Allee

Rations Containing Sorghum, Corn, or Wheat with 0 or 4% Added Fat for Weaned Pigs

Gary L. Allee

Summary

One hundred eight crossbred, weaned pigs averaging 10.0 kg. (22.1 lbs.) were used to compare rations containing sorghum, corn, or wheat with 0 or 4% added fat (tallow) on performance of young pigs. There were no significant differences in average daily gain or feed efficiency among pigs fed sorghum, corn, or wheat with no added fat; and adding 4% fat to the rations did not affect gain but did result in a slight improvement in feed/gain.

Experimental Procedures

One hundred eight crossbred, weaned pigs averaging 10.0 kg. (22.1 lbs.) were randomly assigned from outcome groups (formed on weight and sex) to 18 pens representing three replications of six dietary treatments. The six treatments represented were three grain sources (sorghum, corn, and wheat), each with 0 and 4% added fat (tallow). Performance data were summarized after 42 days, when pigs averaged 32.1 kg. (70.5 lbs.). The experiment was conducted during May and June of 1977.

Composition of the three rations containing no added fat is shown in table 2 . All rations were formulated on a lysine basis. The wheat used in this experiment contained 13.0% protein and 0.35% lysine. Rations containing corn or sorghum were formulated assuming 9.0% protein and 0.24% lysine for each grain. When fat (4% tallow) was added, synthetic lysine was also added to maintain a constant calorie-lysine ratio.

Table 2 . Composition of rations fed to weaned pigs.

Grain source	Sorghum	Corn	Wheat
Ingredients, %	----------%	----------	
Sorghum	68.75		
Corn		68.75	
Wheat, hard red winter			72.15
Soybean meal	27.0	27.0	23.7
Dicalcium phosphate	1.5	1.5	1.3
Limestone	1.4	1.4	1.5
Salt	0.5	0.5	0.5
Vitamin mix	0.5	0.5	0.5
Trace mineral mix	0.1	0.1	0.1
Antibiotic	0.25	0.25	0.25
	100.00	100.00	100.00
Crude protein, %	17.91	17.91	19.66
Lysine, %	0.92	0.92	0.92
Calcium, %	0.90	0.90	0.90
Phosphorus, %	0.70	0.70	0.71

Results and Discussion

Average daily gain and feed efficiency of pigs were similar for all grain sources (table 3). Adding 4% tallow to each grain source did not affect average daily gain but did result in a small improvement in feed efficiency, which was similar for all three grains.

Table 3 . Effect of grain source and 0 or 4% added fat in rations on performance of weaned pigs.[a]

Grain source	Sorghum	Corn	Wheat	Sorghum	Corn	Wheat
Fat added, %	0	0	0	4	4	4
Avg. daily gain, lbs.	1.18	1.22	1.15	1.15	1.16	1.12
Daily feed intake, lbs.	2.43	2.42	2.38	2.28	2.14	2.22
Feed/gain	2.06	1.98	2.07	1.98	1.85	1.98

[a]Each value represents the mean of three pens of six pigs each. Average initial weight, 10.0 kg. (22.1 lbs.); average final weight, 32.1 kg. (70.6 lbs.).

For rations formulated on a lysine basis, the use of wheat--compared with sorghum or corn--resulted in saving 66 pounds of soybean meal per ton of complete feed. These results demonstrate that producers should not hesitate to use wheat in rations for young pigs when it is economically feasible, and that rations containing wheat should be formulated on a lysine basis.