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Basic H as a Feed Additive

George W. Libal and Richard C. Wahlstrom

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Swine producers are always looking for a way to lower feed costs which represent the largest expenditure in a swine production unit. We have been informed that some producers are reducing supplemental dietary protein and adding Shaklee's Basic H or Basic H plus Shaklee's Nutritional Protein Supplement (NPS), a human protein supplement. Although these products are not recommended or approved as feed additives, some producers are convinced that their pigs perform adequately when this has been done. The experiment reported herein was conducted to evaluate, under controlled conditions, this practice of reducing protein requirements by adding these products to the diet.

Experimental Procedure

Sixty crossbred pigs were allotted at an average weight of approximately 49 pounds to five experimental diets replicated three times. Each pen contained two barrows and two gilts. The pigs were housed on totally slatted concrete floors in our environment-modified finishing house. Eight square feet of floor space was provided for each animal and adequate feeder and waterer space was provided. The trial lasted 7 weeks at which time the average weight of the pigs was approximately 112 pounds.

The experimental diets are shown in table 1. These consisted of a 16% protein diet, two diets which contained 14% protein and two diets which contained 12% protein. The 14% and 12% protein diets represented soybean meal reductions of 100 pounds and 200 pounds, respectively. One of each of the 12 and 14% protein diets was supplemented with one quart of Basic H and one can of NPS.

TABLE 1. COMPOSITION OF EXPERIMENTAL DIETS

Protein, %	16	14	14	12	12
Ground yellow corn	1500	1600	1600	1700	1700
Soybean meal, 44%	400	300	300	200	200
Dicalcium phosphate	22	24	24	26	26
Limestone	18	18	18	17	17
Trace mineralized salt (.8% zinc)	10	10	10	10	10
Vitamin-antibiotic premix ^a	50	48	47	47	46
Shaklee's Basic H (1 quart)			+		+
Shaklee's NPS (1 can)			1		1
	<u>2000</u>	<u>2000</u>	<u>2000</u>	<u>2000</u>	<u>2000</u>

^a Concentration of the premix varied to provide 50 grams per ton aureomycin and the recommended levels of vitamins to each diet.

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Results

A summary of pig growth and efficiency is shown in table 2. As might be expected, pigs grown from approximately 49 pounds to 112 pounds average weight gained at a slower rate as the protein content of the diet was reduced from 16% to 14% and finally to 12% (1.47, 1.34 and 1.16 pounds per day, respectively). Daily feed consumption, on the average, was reduced in the same manner to 4.36, 4.22 and 4.08 pounds per day as the protein level was reduced. Progressively more feed was required per unit of gain with decreasing levels of protein (2.99, 3.18 and 3.51). Additions of Basic H and NPS to the 14% and 12% diets failed to improve rate of gain or efficiency of gain to equal the performance of pigs fed higher protein levels. In this study, pigs receiving 12% protein diets with the Shaklee supplements did gain faster than those fed the unsupplemented 12% protein diet but did not gain at the rate of pigs fed the 14% protein diet. It should be pointed out that decreasing a complete commercial supplement by the levels that soybean meal was reduced in this study would most likely cause even greater depression of performance because of deficiencies of minerals and vitamins as well as protein.

TABLE 2. PERFORMANCE OF PIGS FED DIETS OF VARYING PROTEIN CONTENT AND WITH OR WITHOUT SHAKLEE PRODUCTS^a

Protein, %	16	14	14	12	12
Basic H + NPS ^b	-	-	+	-	+
Starting weight, lb	49.0	49.1	49.1	48.5	49.0
Ending weight, lb	120.9	114.4	114.9	101.8	109.5
Average daily gain, lb	1.47	1.33	1.34	1.09	1.23
Average daily feed, lb	4.36	4.16	4.28	3.86	4.30
Feed/gain	2.99	3.13	3.23	3.56	3.47

^a Results are from a 49-day trial with each mean representing results from three pens of four pigs, a total of 60 pigs in the trial.

^b Additions of Shaklee's Basic H (1 quart per ton) and Shaklee's Nutritional Protein Supplement (1 can per ton) were made where indicated.

Summary

Sixty crossbred pigs were fed from 49 to 112 pounds to evaluate the effects of reducing protein in the growing pig's diet and supplementing those lower protein diets with Shaklee's Basic H and NPS. As protein levels decreased from 16% to 14% and 12%, average daily gain, average daily feed and efficiency of gain were reduced. Supplementation with the Shaklee product was of no benefit. These results obtained under controlled conditions would indicate there is no rationale for the addition of these products as a substitution for supplementary protein.