

RESPONSE OF WEANER PIGS TO ACIDIFICATION AND DIET COMPLEXITY

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The potential of diet acidification to overcome the digestive insufficiency and post-weaning lag in early weaned pigs has received attention in recent years, but a survey of published data reveal considerable variation in response to acidification (Ravindran and Kornegay 1993). Some evidence suggest that weaner pigs fed complex diets may respond more to acidifiers than those fed simple maize-soyabean meal diets and the studies reported herein were conducted to investigate this hypothesis.

Two trials involving 156 crossbred pigs (n=84 in Trial 1; n= 72 in Trial 2) were conducted to determine the influence of diet type and acidifier (Syneracid: a mixture of phosphoric, citric, malic and tartaric acids; O.H.F. America, Inc., Northbrook, IL, USA) levels on performance and scour scores of weaner pigs. Pigs were weaned between 17 and 29 days at an average weight of 6.85 kg and placed directly on test without prior exposure to creep feed. The two diet types evaluated were a simple maize-soyabean meal diet, and a complex maize-soya-bean meal diet containing 15% dried whey and 5% fish meal. Both basal diets were formulated to contain 20% CP and 1.25% lysine. Syneracid was added to basal diets at 0, 0.2 and 0.4% levels of the diet. The two diet types and the three Syneracid levels constituted a 2 x 3 factorial arrangement of treatments within a randomized complete block design. Each dietary treatment was fed to seven replicate pens of two pigs each in Trial 1 and four replicates of three pigs each in Trial 2. Weight gains and feed intake were recorded at weekly intervals during the five-week study. Scour scores were determined every other day during the first two weeks and thrice weekly thereafter. The combined results of the two trials are summarized in the Table.

Diet type	Simple diet			Complex diet			SEM
	0	0.2	0.4	0	0.2	0.4	
Syneracid (%)							
Diet pH	6.6	6.5	6.4	6.2	6.1	6.0	-
Daily gaining (g)	324	301	309	343	324	346	12
Daily Intake (g)	553	493	517	553	518	551	17
Gain/feed (g/kg)	589	618	599	621	632	636	14
Scour scores	2.4	2.2	2.2	2.5	2.2	2.2	0.04

Weaner pigs fed the complex diets grew faster ($P<0.01$) and were more efficient ($P<0.05$) than those fed the simple diets. Syneracid additions decreased feed intake in both diet types, with effects being greater at 0.2% level than at 0.4% level (quadratic effect, $P<0.05$). Daily gain and gain/feed were not affected by Syneracid addition. Diet type x Syneracid interaction was not significant indicating that the response of weaner pigs to acidification was not influenced by the diet type. Diet type had no influence on scour scores. Syneracid lowered ($P<0.01$) scour scores throughout the five-week study. However the magnitude of improvement was small and scouring was not a problem in the present study.

RAVINDRAN, V. and KORNEGAY, E.T. (1993). *J. Sci. Food. Agric.* 62: 313.

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