

**THE EFFECT OF AN ACIDIFIER ON THE GROWTH PERFORMANCE
AND HAEMOLYTIC *E. COLI* LEVEL IN PIGS DURING THE
POST-WEANING PERIOD**

R.J. JOHNSON* AND R.G. CAMPBELL**

Young pigs have a physiological deficiency in gastric hydrochloric acid production (Kidders and Manners, 1978) and certain dietary ingredients exasperate this condition because of their high buffering capacity. This failure to attain a sufficiently low stomach pH in the young pig may contribute to growth reduction and an increase in the incidence of scours in the immediate post-weaning period. Addition of certain organic acids to the diet of pigs have been shown to have beneficial effects on growth and to reduce the incidence of haemolytic *E. coli* (Cole, 1968).

The present study investigated the use of a commercial acidifier, Acid-Pak 4-Way (Alltech Inc. Kentucky, U.S.A.), which contains acidifiers, feed enzymes, a direct-fed microbial, flavours and electrolytes. The experiment was a 2 x 2 factorial with two levels of Acid-Pak-4-Way (AP4W) added to the drinking water (0 and 1 g/l) and two levels of whey powder (0 and 80 g/kg) added to a conventional pig weaner diets. The two control treatments (no whey powder or AP4W) had 4 replicates while the other treatments had 8 replicates. Each replicate contained 32 pigs with equal numbers of males and females. Pigs were weaned at approximately 21 d of age and the treatments were applied over the following 25 d. Growth performance and the excretion of haemolytic *E. coli* were measured.

Results are given in the Table.

TABLE 1 Growth performance and haemolytic *E. coli* excretion in pigs in the post-weaning period given a commercial acidifier (Acid-Pak 4-Way) in the drinking water with and without dietary whey powder +

Parameter	Without Whey		Whey 80 g/kg	
	AP4W:0	1 g/l	0	1 g/l
Feed intake (g/d)	425	402	417	461
Growth rate (g/d)	297	319	313	341
FCR (g feed/g gain)	1.42	1.27	1.34	1.34
Haemolytic <i>E. coli</i> (%)‡	21	26	26	9

+ Performance data are covariance (initial liveweight) adjusted means

‡ Haemolytic *E. coli* as a percentage of total faecal *E. coli*

There were no significant effects of treatments on growth rate, although AP4W and whey increased growth rate by about 8 and 6% respectively. Similarly both AP4W and whey tended ($0.05 < P < 0.10$) to increase feed intake. There was some indication (not significant) that this effect only occurred with AP4W and whey in the diet. There was a significant reduction in haemolytic *E. coli* faecal excretion rate with the addition of AP4W to the water when the diet contained whey. These results indicate that the commercial acidifier tested (Acid-Pak 4-Way) may have considerable benefits in improving growth and reducing the possibility of *E. coli* scours in young pigs.

Cole, D.J.A. (1968). *Vet Rec.* 83:459-464

Kidder, D.E. and Manners, M .J. (1978). *Digestion in the pig.* Scientechica. Bristol.

* Rhone Poulenc Animal Nutrition, 19-23 Paramount Road, West Footscray, Victoria, 3012.

** Bunge Meat Industries, 174 Hume Street, Corowa, NSW, 2646