

Blend feeding-an economic option for growing pigs

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It is customary to feed pigs three different diets between weaning and slaughter, but since the amino acid requirements are constantly changing during this period the pig is frequently fed a diet that is supplying excess amino acids. Phase feeding incorporates a greater number of diets between weaning and sale to overcome this problem, with diets being changed about every four weeks. Blend feeding, by which two diets are mixed together in varying ratios, can mean a change in diet to a group of pigs at least weekly. This has the potential to reduce feed costs and the nitrogen content of the effluent. Simulation models, such as AUSPIG, can be used to calculate the amino acid requirements at any live weight (LW) and hence provide the means by which a blend feeding system can be designed. The aim of this experiment was to compare the performance of pigs fed diets based on a blend feeding system to the more traditional system of feeding only a grower and a finisher diet.

The experiment was a 2 x 3 factorial arrangement of treatments with a total of 30 entire male and 30 female pigs (Large White x Landrace) fed one of three diets from 20 to approximately 100 kg LW. The diets were

formulated using AUSPIG to supply at least 110% (110) or 130% (130) of the requirement for the first-limiting amino acid, or fed a blend (B) of the 110% diets. Pigs that were blend-fed received a diet that was a mix of the 110% diet formulated for a 20, 50 or 90 kg LW pig, and this was changed weekly. At each LW, diets were formulated to be isoenergetic and all pigs were fed *ad libitum*. There was no significant effect of treatment on performance when pigs were fed a diet that supplied either 110 or 130% of the calculated requirement for the first-limiting amino acid, or were blend-fed. Pigs that were blend-fed were fed a diet that was lower in energy as well as amino acids at each LW, because it was a mix of a diet formulated for different LW, but this did not significantly influence feed conversion. Adopting the principle of blend-feeding reduced feed costs by approximately \$3 per pig from what was already a low specification diet (110%), without having a significant impact on performance. For blend-feeding to be adopted by producers, we recommend that the variation in LW between pigs in a pen would need to be kept to a minimum.

Table 1 The performance of entire male (M) and female (F) pigs fed diets formulated to supply either 110 or 130% of the requirement for the first-limiting amino acid, or blend-fed (B).

Treatment	110	130	B	110	130	B	P =	P =
Sex	M	M	M	F	F	F	Treat	Sex
No. of pigs	10	10	10	10	10	10		
LW start (kg)	21.0	20.8	21.4	21.2	20.7	20.9	0.810	0.796
LW end (kg)	101.5	101.7	101.4	96.3	96.5	93.6	0.493	0.001
Daily gain (g)	966	945	953	891	883	852	0.551	0.001
Feed conversion (g/g)	2.45	2.57	2.41	2.63	2.51	2.62	0.962	0.184
Depth of backfat (mm)	15.4	16.4	16.3	16.1	16.9	15.5	0.539	0.870
Feed cost (\$/pig)	40	42	37	39	40	36	0.011	0.008