EFFECT OF LUPIN-SEED HULLS ON THE GROWTH PERFORMANCE OF PIGS GIVEN SOYABEAN MEAL

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Previous work (Batterham 1989) has indicated that lupin-seed meal does not support pig growth to the extent indicated by its content of ileal digestible essential amino acids, particularly lysine. The implication that the lupin hulls might be a decisive contributing factor to the inferior nutritive quality of lupin-seed meal has been studied in a growth trial and preliminary results are reported here.

Twenty kg live weight, female and male pigs (5/5), were allocated randomly to a diet containing either soya or soya+10 % lupin hulls or soya+lysine. Soyabean meal contained 428, 61 and 28.3 g/kg crude protein, crude fibre and lysine respectively. The corresponding contents in lupin hulls were: 56, 619 and 3.9. The content of ileal digestible amino acids and faecal digestible energy (DE) of soyabean meal were estimated from a previous trial. All diets were adjusted to 0.36 g ileal digestible lysine/MJ DE and to a relative excess of all other amino acids by dilution with sugar and addition of free amino acids, respectively. The soya+lysine diet was used to test that lysine was in fact limiting. The pigs were penned individually and scale fed (MJ DE/d= 3 x maintenance) divided in eight equal daily portions. The pigs were sacrificed at 45 kg live weight and empty body weight (EBW) and carcass traits measured. Results concerning the effect of lupin hulls on pig performance are shown below:

	Diet			
	Soya	Soya+hull	Soya+lysine	Diet diff.
Intake, kg/d	1.25	1.32	1.25	***
Intake, MJ DE/d	19.62	19.52	19.52	NS
EBW-gain, g/d	465	506	550	***
EBW-feed conversion, kg/kg	2.7	2.6	2.3	***

The above results show, that contrary to the expected detrimental effect, the hulls in fact improved the performance of pigs on the soya diet. Diets containing soya or soya+hulls were deficient in available lysine as evidenced by the response to the added lysine. Therefore the positive effect of the hulls may be associated with actual content of available lysine.

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