

IMPROVEMENTS IN AMINO ACID DIGESTIBILITY AND GROWTH OF GROWING-FINISHING PIGS FOLLOWING DIETARY SUPPLEMENTATION WITH A COMBINATION OF LYSOLECITHINS, MONOGLYCERIDES AND A SYNTHETIC EMULSIFIER

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Feed costs represent the single largest financial investment in pig production. Applying nutritional strategies to minimize the impact of these costs while further improving performance remains a key objective for pig producers. It was hypothesized that a combination of lysolecithin, monoglycerides and emulsifiers (LEX) in reformulated diets could support performance whilst reducing feed costs. 360 weaned piglets were randomly placed into one of four groups (6 replicates, 15 pigs/rep): positive control (PC, standard diet), negative control (NC, standard diet -100kcal ME/kg), NC+LEX at 250g/t and NC+LEX at 500g/t. Diets were based on corn, wheat and SBM, and fed *ad libitum*. Pigs were individually weighed at the start of the trial (d28), d56, 112 and 168 to calculate average daily gain (ADG). Average daily feed intake and feed conversion ratio (FCR) were calculated by phase. P2 backfat was measured on d168. 12 male pigs (IBW 30 kg) were further assigned to PC or NC+500 and kept individually in metabolism cages for 12 days (7d adaptation, 5d collection). Samples were collected for assessment of ileal nitrogen and amino acid digestibility using Cr₂O₃. Data were analyzed by ANOVA (JMP 15.0); means separation was achieved using Tukey's HSD (P<0.05). Across the study, NC+500 significantly increased ADG vs the standard diet (PC) and NC, and significantly reduced FCR compared to all other treatments. NC+250 achieved a statistically similar FCR to PC and was significantly reduced vs NC. There were no significant differences in feed intake or backfat thickness. NC+500 supplementation significantly increased digestibility of histidine, threonine, tyrosine, methionine, and lysine vs PC. Average uplift in amino acid digestibility as a percent of PC was +1.88%; the greatest improvement was seen for histidine (+4.22%). Across the study, LEX supplementation improved growing pig performance, driven by improvements in digestion and utilization of essential nutrients including amino acids.