

diets replacing other high quality protein ingredients without affecting growth performance..

**Key Words:** Dried Bacterial Cells, Nursery Pigs

**775 Effects of increasing true ileal digestible lysine/metabolizable energy ratios on gilts grown in a commercial finishing environment.**

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Two four-week experiments were conducted to determine the effects of increasing true ileal digestible (TID) Lys:ME ratio on performance of growing and finishing gilts. All diets were corn-soybean meal based and contained 0.15% L-Lysine HCl and 3% added fat. Desired Lys levels were achieved by altering the corn and soybean meal level in the diet. Each experiment consisted of six treatments with seven replications per treatment and approximately 27 pigs per pen. In Exp. 1, 1,085 gilts (PIC, initially 38.2 kg) were fed TID Lys:ME ratios of 2.01, 2.30, 2.58, 2.87, 3.16, or 3.45 g/Mcal. Both ADG (0.82, 0.87, 0.93, 0.95, 0.97, and 0.97 kg/d) and G:F (0.42, 0.45, 0.48, 0.49, 0.51, and 0.51) improved (quadratic,  $P < 0.003$ ) with increasing the TID Lys:ME ratio and optimal performance was reached at the TID Lys:ME ratio of 3.16 g/Mcal. Increasing the TID Lys:ME ratio resulted in increased daily TID Lys intake (linear,  $P < 0.001$ ) and TID Lys intake per kg of gain (16.8, 18.0, 18.9, 20.3, 21.8, and 23.5 g, quadratic,  $P < 0.001$ ). In Exp. 2, 1,080 gilts (PIC, initially 84.1 kg) were fed TID Lys:ME ratios of 1.55, 1.75, 1.95, 2.05, 2.35, or 2.55 g/Mcal. As TID Lys:ME ratio increased, ADG (0.83, 0.87, 0.87, 0.93, 0.95, and 0.98 kg/d) and G:F (0.33, 0.34, 0.35, 0.37, 0.37, and 0.39) improved (linear,  $P < 0.001$ ) through the highest lysine/ME level of 2.55 g/Mcal. Increasing TID Lys:ME ratio also increased (linear,  $P < 0.001$ ) daily TID Lys intake and TID Lys intake per kg of gain (16.58, 18.08, 19.65, 20.44, 22.05, and 22.98 g). It appears that the optimal Lys level to meet the biological needs of the pig may have increased compared to previous research conducted in the same facility (Main et al., 2002).

**Key Words:** Lysine, Finishing Pigs, Growth

**776 Effects of feeding excess crude protein on growth perfor- mance and carcass traits in finishing pigs.**

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A total of 176 pigs (88 barrows and 88 gilts with an average initial BW of 95 kg) were used in a 33-d experiment to determine the effects of excess dietary CP on growth performance and carcass measurements in finishing pigs. The pigs were sorted by ancestry and blocked by BW with 11 pigs/pen and four pens/treatment. Treatments were corn-soybean meal-based and formulated to 12, 14, 16, and 18% CP. Feed and water were consumed on an ad libitum basis until the pigs were slaughtered (average final BW of 125 kg) at a commercial abattoir. Increasing CP concentration in the diet had no effect on ADG ( $P > 0.41$ ), ADFI ( $P > 0.20$ ), G:F ( $P > 0.24$ ), and hot carcass weight ( $P > 0.20$ ). With hot carcass weight used as a covariate, there were linear decreases in dress- ing percentage ( $P < 0.02$ ) and loin depth at the last rib ( $P < 0.05$ ) as crude protein concentration in the diet was increased from 12 to 18%. However, fat thickness at the last rib and percentage carcass lean were not affected ( $P > 0.34$ ) as crude protein concentration in the diet was increased. For diets with 12, 14, 16, and 18% CP, ADG was 944, 927,

921, and 936 g/d, ADFI was 2.86, 2.85, 2.83 and 2.79 kg/d, G:F was 330, 325, 325, and 336 g/kg, hot carcass weight was 92.6, 91.6, 91.0, and 91.7 kg, dressing percentage was 73.6, 73.3, 73.1, and 73.2%, loin depth was 6.4, 6.2, 6.2, and 6.1 cm, last rib backfat thickness was 19, 19, 19, and 19 mm, and percentage carcass lean was 55.0, 54.5, 54.5, and 54.4, respectively. Our results indicate that increasing CP in diets for pigs during late finishing from 12 to 18% does not affect growth performance or carcass leanness with only a small negative effect on dressing percentage.

**Key Words:** Pig, Protein, Growth

**777 Effects of organoleptic properties of the feed and diet complexity on nursery pig performance.**

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A total of 480 weaning pigs (6.6 kg and  $20 \pm 2$  d, PIC) were allotted to one of eight treatments using a randomized complete block design with exposure to the flavor in the creep feed (no vs. yes), diet complexity (complex vs. simple), and flavor in the nursery diets (no vs. yes) as treat- ment factors. Each treatment had six pigs per pen and ten replications. Experimental diets were the combinations of complex or simple diets with or without the flavor for Phase 1 (d 0 to 10) and 2 (d 10 to 28). Diets with the flavor were supplemented with Luctarom<sup>®</sup> at 1500 and 1000 ppm in Phase 1 and 2 diets, respectively. A tendency for a three-way interaction for ADG from d 5 to 10 ( $P < 0.11$ ), d 10 to 28 ( $P < 0.09$ ), and d 0 to 28 ( $P < 0.06$ ) were observed. Post-weaning ADG of pigs exposed to the flavor in creep feed and fed flavored-complex diets were greater than any other treatment combination. Increasing diet complexity increased ( $P < 0.01$ ) ADG, ADFI, and G:F during both phases. Adding flavor in the creep feed had no effect on G:F ( $P > 0.34$ ) and pig BW ( $P > 0.45$ ) in both periods post-weaning. Adding Luctarom to starter diets tended to improve ADFI ( $P < 0.06$ ; 163 vs. 154 g) during d 0 to 5. In conclusion, pre-weaning exposure to Luctarom<sup>®</sup> improved post-weaning daily gain of pigs fed complex diets supplemented with the same flavor, but did not influence performance of pigs fed simple diets.

**Table 1. Interactive effects of flavors and diet complexity on nursery performance.**

Flavor in Creep:	No				Yes				SED
	Simple		Complex		Simple		Complex		
Diet Complexity:	No	Yes	No	Yes	No	Yes	No	Yes	SED
Flavor in Nursery:									
D 0 to 10									
ADG, kg	0.18	0.19	0.24	0.24	0.17	0.17	0.24	0.27	0.01
ADFI, kg	0.20	0.20	0.25	0.25	0.18	0.18	0.24	0.26	0.01
G:F	0.95	0.96	0.99	0.99	0.95	0.94	0.98	1.04	0.03
D 0 to 28									
ADG, kg	0.37	0.38	0.43	0.42	0.38	0.37	0.42	0.44	0.01
ADFI, kg	0.48	0.49	0.57	0.56	0.48	0.47	0.55	0.57	0.02
G:F	0.77	0.79	0.76	0.76	0.79	0.78	0.77	0.77	0.01

**Key Words:** Flavor, Nursery, Diet Complexity