
**NONRUMINANT NUTRITION:
NUTRIENT REQUIREMENTS OF
MONOGASTRICS AND AMINO ACID
DIGESTIBILITY OF FEEDSTUFFS**

**0437 Estimated lysine requirement of 25 to 50 kg
growing gilts.** J. K. Mathai* and H. H. Stein,

University of Illinois at Urbana-Champaign, Urbana.

An experiment was conducted to determine the standardized ileal digestible (SID) Lys requirement of gilts (G-Performer × Fertilis 25) from 25 to 50 kg BW. Seventy gilts (G-Performer × Fertilis 25; initial BW: 24.54 ± 3.28 kg) were used in a growth

assay with 2 pigs per pen and 7 pens per treatment. Diets were formulated using corn and soybean meal as the sole sources of AA. Under the assumption that Lys is the first limiting AA in corn-soybean meal diets, soybean meal concentration was increased at the expense of corn to increase SID Lys in the diets. Five treatments with calculated SID Lys levels of 0.80, 0.93, 1.06, 1.19, and 1.32% were formulated using values from NRC (2012). Accuracy of diet formulations were confirmed by analyzing diets for total Lys. Daily feed allocations were recorded and individual pig weights were recorded at the beginning and at the conclusion of the experiment, 33 d later. Results indicated that ADG increased ($P < 0.05$) quadratically and G:F increased linearly ($P < 0.05$) as SID Lys increased from 0.80 to 1.32% (Table 0437). Broken-line and curvilinear-plateau regression analyses were used to estimate the requirement for SID Lys. Results indicated that 1.08% SID Lys was needed to maximize ADG and 1.10% SID Lys was needed to maximize G:F. Thus, results of this experiment indicate that the SID Lys requirement for 25- to 50-kg growing gilts is slightly greater than the recent estimate of 0.98% reported by NRC (2012). Under the conditions of this experiment, the requirement for SID Lys for 25 to 50 kg gilts is approximately 1.09%.

Key Words: amino acids, lysine requirement, pigs

Table 0437. Performance of pigs fed increasing levels of standardized ileal digestible Lys

	Standardized ileal digestible lysine, %					Contrasts (P -value) ¹	
	0.80	0.93	1.06	1.19	1.32	Linear	Quadratic
ADG, g	782	809	825	846	794	NS	0.03
ADFI, g	1758	1826	1738	1775	1658	NS	NS
G:F, g	432	444	462	465	467	< 0.01	NS

¹NS indicates $P > 0.10$.