

## Nonruminant Nutrition: Feed Ingredients

**505 Energy, phosphorus, and amino acid digestibility in Lemna protein concentrate, fish meal, and soybean meal fed to weanling pigs.** O. J. Rojas\* and H. H. Stein, *University of Illinois, Urbana*.

Lemna protein concentrate (LPC; 68% CP) may be used in diets fed to pigs, but no data on the nutritional value to pigs of LPC have been published. Three experiments were, therefore, conducted to determine the concentration of ME, the standardized total tract digestibility (STTD) of P, and the standardized ileal digestibility (SID) of AA in LPC and to compare these values to values for fish meal (FM) and soybean meal (SBM). Experiment 1 was conducted to determine the ME of LPC, FM, and SBM. Thirty-two barrows (initial BW:  $16.8 \pm 2.8$  kg) were placed in metabolism cages and allotted to a randomized complete block design with 4 diets and 8 replicate pigs per diet. A corn-based diet and 3 diets that contained corn and LPC, FM, or SBM were formulated. Feces and urine were collected for 5 d after a 5-d adaptation period and all samples were analyzed for GE. Results indicated that the concentration of ME was not different among the 3 ingredients. In Exp. 2, 24 barrows (initial BW:  $10.5 \pm 2.5$  kg) were allotted to a randomized complete block design with 3 diets and 8 replicate pigs per diet and used to determine the STTD of LPC, FM, and SBM. Three diets that each contained 1 of the 3 test ingredients as the sole source of P were formulated. Pigs were placed in metabolism cages and feces were collected for 5 d after a 5-d adaptation period. The STTD of P in LPC (72.8%), FM (65.6%), and SBM (62.8%) was not different among ingredients. The SID of AA in LPC, FM, and SBM was determined in Exp. 3. Eight barrows (initial BW:  $21.4 \pm 4.0$  kg) were equipped with a T-cannula in the distal ileum and randomly allotted to a replicated  $4 \times 4$  Latin square design. An N-free diet and 3 cornstarch-based diets in which SBM or SBM and LPC or SBM and FM were the only sources of AA were formulated. The SID of most indispensable AA was greater ( $P \leq 0.01$ ) in SBM than in LPC and FM. In conclusion, the concentration of ME and the STTD of P is not different among LPC, FM, and SBM, but SID of most indispensable AA is greater in SBM than in FM and LPC.

**Key Words:** Lemna protein concentrate, nutrient digestibility, pigs