

## Nonruminant Nutrition: Enzymes 2

at a phytase inclusion level of 1,016 FYT/kg. In Exp. 2, 6 diets were formulated as in Exp. 1. A total of 24 growing pigs (initial BW:  $36.2 \pm 4.0$  kg) were randomly allotted to the 6 dietary treatments in a balanced 2 period changeover design. The total P output and P concentration in feces were reduced (linear, quadratic,  $P < 0.01$ ) as phytase was added to the NC diet. The ATTD of P was greater ( $P < 0.01$ ) for the PC diet (59.4%) than for the NC diet (39.8%) and increased (linear, quadratic,  $P < 0.01$ ) as phytase was added to the NC diet (39.8 vs. 58.1, 65.4, 69.1, and 72.8%). The breakpoint for the ATTD of P (69.1%) was reached at a phytase inclusion level of 801 FYT/kg. Ronozyme HiPhos effectively improved the ATTD of P and reduced P excretion in both weanling and growing pigs.

**Key Words:** phosphorus, pigs, phytase

### 1105 Effects of a novel phytase on phosphorus digestibility in corn-soybean meal diets fed to weanling and growing pigs. F. N. Almeida\* and H. H. Stein, *University of Illinois, Urbana.*

Two experiments were conducted to evaluate the effects of a novel bacterial 6-phytase expressed in a strain of *Aspergillus oryzae* (Ronozyme HiPhos, DSM Nutritional Products, Parsippany, NJ) on the apparent total tract digestibility (ATTD) of P in corn-soybean meal diets fed to weanling and growing pigs. In Exp. 1, 6 diets were formulated. The positive control (PC) was a corn-soybean meal diet that contained dicalcium phosphate to bring the total concentration of P to 0.66%. A negative control (NC) diet (0.36% P) without dicalcium phosphate was also formulated. Four additional diets similar to the NC diet were formulated to contain microbial phytase at levels of 500, 1,000, 2,000, or 4,000 phytase units (FYT) per kg. The 48 weanling pigs (initial BW:  $13.5 \pm 2.45$  kg) were placed in metabolism cages and randomly allotted to the 6 dietary treatments in a randomized complete block design. Feces were collected for 5 d. The total P output and the P concentration in feces were reduced (linear, quadratic,  $P < 0.01$ ) as phytase was added to the NC diet. The ATTD of P was greater ( $P < 0.01$ ) for the PC diet (60.5%) than for the NC diet (40.5%) and increased (linear, quadratic,  $P < 0.01$ ) as phytase was added to the NC diet (40.5 vs. 61.6, 65.1, 68.7, and 68.0%). The breakpoint for the ATTD of P (68.4%) was reached