

Phytate phosphorus utilization in the growing pig

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At least 2/3 of the phosphorus consumed by the pig are phytates. To analyse the interrelationships between phytate phosphorus digestibility and intestinal alkaline phosphatase and phytase activities, three balance experiments were carried out in pigs fed low mainly phytic phosphorus diets. In the first experiment, we observed a better P-digestibility with wheat than with maize diets and this was imputed to the higher phytase content of wheat. Results from the 2nd experiment showed that the two intestinal enzymes did not adapt themselves to variable phytic-P intakes. They also confirmed the negative effects of dietary phytates on calcium-phosphorus metabolism in the pig. In the last experiment, one group received a vitamin-D supplement (1000 IU/kg diet) whereas the other did not. The vitamine-D addition led to a greater P-absorption ($\times 2$) while the intestinal phosphatase activities were unchanged. In conclusion, organic-P digestibility was usually poor (mean value : 30 p. 100 intake), varying in a wide range (from 5 to 50 p. 100) and the animals did not adapt themselves to mainly phytic-P diets. Thus, they all showed signs of P-deficiency (bone disorders and hypophosphaturia).

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