

## PHYTASE AS A FEED ADDITIVES, THAT IMPROVES PERFORMANCE PARAMETERS OF WEANED PIGLETS IN EXTENSIVE FARM CONDITIONS

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### ABSTRACT

Interest in phytase for monogastric animals take place in regions, where soil and groundwater pollution due to animal wastes is a serious problem and phosphorus is a major concern. Indeed, plant phytate is the major form of plant phosphorus and phytate phosphorus itself has low availability. The majority of the phosphorus in cereal grains and oilseed meals is organically bound as phytic acid or phytate. This form of phosphorus is nutritionally unavailable to non ruminant animals due to the lack of phytase in their digestive tract. As a result swine and poultry diets must be supplemented with highly available, inorganic sources of phosphorus to meet their phosphorus requirements. The poor bioavailability of phosphorus in the natural feedstuffs along with high dietary levels of supplemental phosphorus result in higher levels of fecal P compared with ruminant animals. Non ruminant animals intrinsic phytase which is necessary for hydrolysis of phytate present in the plant feedstuffs. However many fungi, bacteria and yeast can produce this enzyme. The aim of this study was to test the effects of the microbial phytase (NATUPHOS) on the performance parameters and faecal excretion phosphorus of weaned piglets in extensive farm condition. The microbial phytase preparation (*Aspergillus niger*, NATUPHOS) was supplemented to a basal ration 750 FTU/kg feed and the effects on growth performance of weaned piglets were studied. The supplementation of microbial phytase improved slightly daily weight gain, feed conversion ratio and reduces the amount of inorganic phosphorus needed to maximize growth and bone mineralization and markedly reduces fecal excretion of phosphorus. Overall a positive effect of the microbial phytase on performance parameters was observed. The P-excretion in the faeces was reduced by 20- 25%.

**Keywords:** Microbial phytase, performance parameters, P- reduction, weaned piglets.