W101 Enzyme supplementation to piglet diets.

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A study was designed to assess the efficacy of an enzyme complex (CE n 34) containing 275 U/g of endo-1,3(4)-β-glucanase (E.C. 3.2.1.6), 400 U/g of endo-1-4-β-xylanase (E.C. 3.2.1.8) and 3,100 U/g of α-amylase (E.C. 3.2.1.1), when added at 2 concentrations (T2, 500 and T3, 600 mg/kg) to a pelleted diet based on cereals (wheat, maize, barley) on the performance of newly-weaned piglets, in comparison with a negative Control group (T1, 0 mg/kg). Diets were fed in 2 phases: Prestarter from weaning (21 d) to 35 d and Starter from 35 to 57 d of age, to 15 replicates of 10 piglets per treatment, in 3 blocks (weanings). Nutritive value of the diets was 10.55 MJ NE/kg and 16.1 g/kg lys for Prestarter and 10.37 MJ NE/kg and 12.5 g/kg lys for Starter. Data were analyzed as a completely randomized block design by using the GLM procedure of SAS. Piglets fed enzyme supplemented diets were heavier than Controls at 35 (9.2, 9.7 and 9.7 kg, P<.01) and at 57 d of age (18.2, 19.2 and 19.2 kg for T1, T2 and T3 respectively, P<.01). Enzyme addition improved piglet growth by 16% from 21 to 35 d (195, 227 and 226 g/d, P<.01), by 5% from 35 to 57 d (404, 426 and 424 g/d, P<.01), and by 8% from 21 to 57 d of age (322, 349 and 347 g/d for T1, T2 and T3 respectively, P<.01). Enzyme supplementation also induced improvements in feed intake from 21 to 35 d, from 35 to 57 d and for the overall period (445, 477 and 487 g/d for T1, T2 and T3 respectively, P<.01). Finally, enzyme complex reduced feed conversion ratio by 4% from 21 to 35 d of age (1.23, 1.20 and 1.17 g/g for T1, T2 and T3 respectively, P=.01). No significant differences were found between 500 mg/kg and 600 mg/kg. There were no significant differences among treatments in piglet body weight uniformity, cleanliness, incidence/severity of diarrhoea, veterinary treatments or mortality. In conclusion, the addition of 500 or 600 mg/kg of an enzyme complex containing glucanase, xylanase and amylase to a barley wheat and maize-based diet of weaned piglets improved growth performance.

Key Words: Feed enzymes, Piglets