

Effect of dietary Natugrain TS enzyme supplementation on broiler diets digestibility. Everton Luis Krabbe*¹, Valdir Silveira de Avila¹, Diego Surek¹, Peter Ader³, Bruno Wernick², ¹EMBRAPA Suínos e Aves, Concórdia, Brazil ²BASF S.A., Brazil ³BASF S.E., Germany.

This study was conducted to compare the effects of an arabino-xylanase / β -glucanase preparation (Natugrain TS, BASF SE) and an arabino-xylanase preparation (Hostazym X, Huvepharma) in broiler diets on nutrient digestibility. Day old broiler, male, Cobb 500, were used. All birds were housed in a poultry metabolism room. All birds were fed with the 3 different experimental corn-soybean based diets from the beginning of the trial. The 3 experimental groups were i) control diet (C), ii) C with Natugrain TS (100 g/t) (NGTS), iii) C with Hostazym X 100 microgranulated (100 g/t) (HX). Day 17 to 21 (end of the trial), excreta were collected daily to produce a single pooled of each per test cage. The experimental design was conducted in randomized blocks (based on day old bird weight), with three treatments and 19 replicates per treatment, and 10 birds per experimental unit, totaling 380 birds per treatment, repeated twice. Data were submitted to statistical analysis (ANOVA), GLM, SASTM (2008). Block (day old chick weight) and treatment effect were tested, comparing means throughout t-Student Test, 5%. There was no effect of enzyme treatment on dry matter digestibility and apparent digestibility of nitrogen. For Ash retention, HX presented statistically improved retention in comparison to all other treatments ($P > 0.05$). NTGS compared to C was the ash retention (+8%) significantly ($P < 0.05$). Nitrogen excretion corrected apparent metabolizable energy (AMEn) was improved in NGTS by 32 Kcal/kg as fed basis ($P < 0.05$), in comparison to C, while in HX AMEn was only leveraged by 4 kcal/kg in comparison to the control diet ($P > 0.05$). In conclusion, Natugrain TS supplementation resulted in an increase of AMEn of about 1.1% relative to C and demonstrated in general a positive effect on nutrient utilization. For more detailed quantification further trials are recommended.

Key Words: AMEn, chicken, glucanase, nutrient retention, xylanase