

Efficacy of a Protease on growth performance and nutrients digestibility of male broiler chicks fed a diet based on maize and soybean meal

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INTRODUCTION

RONOZYME® ProAct (CT) is a novel enzyme product containing a protease developed to upgrade the nutritive value of soybean meal (SBM). The objective of this study was to test the efficacy of the protease supplementation in a corn-soybean meal basal diet containing 210 g/kg and 200 g/kg crude protein for the starter and grower phases respectively. The effects on growth performance, nutrient and energy utilization of male broiler chicks were studied.

DESIGN

Animals: 12 x 20 male birds (Ross PM3) / treatment

Treatments: Control
RONOZYME® ProAct (CT) at 15000 PROT/kg

Duration: Day 1 to day 36

Feed: Pelleted corn / SBM basal diet

Parameters:

Growth performance (WG and FCR) for starter (day 1-22), grower (day 22-36) and the whole period (day 1-36) (**Figure 1 and 2**)

Apparent ileal digestibility (AID) of protein, total fat and energy (**Figure 3**)

Statistical analysis:

ANOVA on the measured parameters followed by Newman-Keuls test as post hoc test ($p < 0.05$)

RESULTS

Over the whole period, the WG and the FCR were significantly ($p < 0.01$) enhanced by the protease supplementation. The protease significantly improved WG by 5.8 % and FCR by 2.7 %. Protease supplementation significantly increased the AID of protein by 7.7 %, total fatty acid by 2.9 % and energy by 10.2 % compared to the control diet.

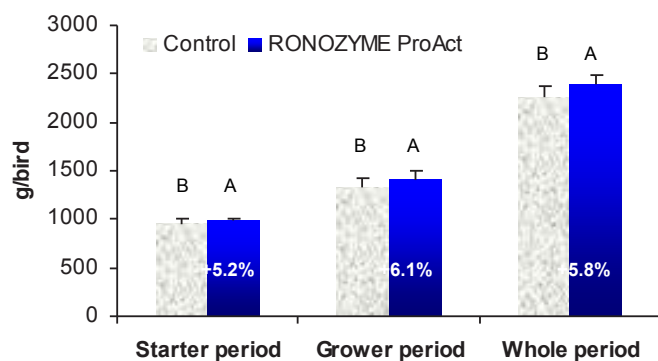


Figure 1: WG of male broiler chicks (Mean ± SD)

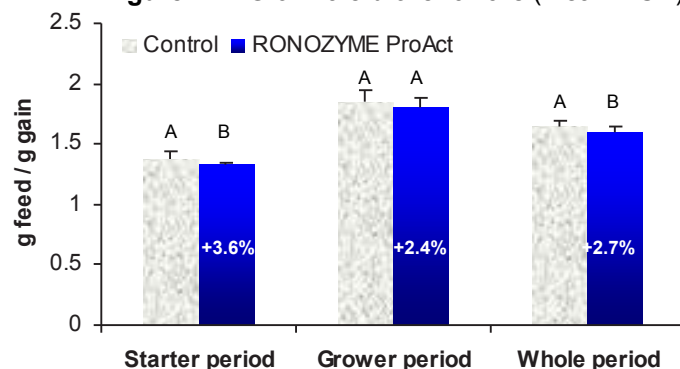


Figure 2: FCR of male broiler chicks (Mean ± SD)

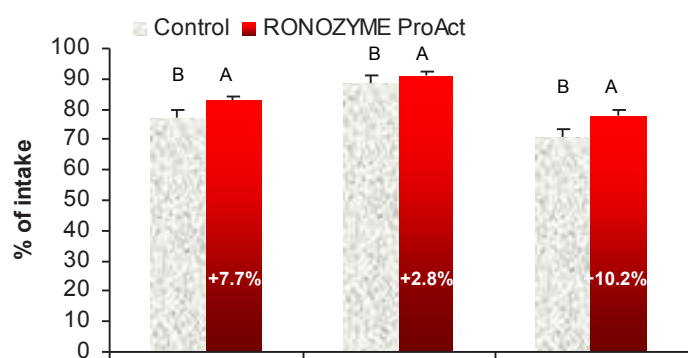


Figure 3: Apparent ileal digestibility of protein, fat and energy (Mean ± SD)



CONCLUSION

Supplementation of broiler diets containing moderate protein levels with the novel protease in a two phases feed regimen, significantly improved nutrient digestibility and consequently animal performance. The protease has the potential to reduce feed costs by maximizing protein utilization and improving the nutritive value of diets for the poultry industry.