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STUDIES ON THE EFFECT OF NITRATE ON THE FARM ANIMALS

By

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Abstract

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The experimental field of this study was running at the Experimental Station of the Poultry Production Department, Faculty of Agriculture, Mansoura University.

The current study was conducted to study the possibility of feeding diets with or without sodium nitrate by adding sodium sulfate, clay or yeast and prebiotics to improve rabbit performance.

Ninety, 7 weeks' old weaning New Zealand White (NZW) rabbits with average live body weight (LBW) 745 g were used in this study.

Rabbits were randomly distributed into 10 equal experimental groups; each contained three equal replications. Each replicate group (3 rabbits) was housed in a separate cage with the following dimensions (50×50×45 cm) for length, width and height, respectively. Rabbits were fed their respective experimental diets from 7 to 14 weeks of age. Feed and water were offered *ad libitum* throughout the experimental period. The values of live body weight and feed intake were recorded on a replicate group basis and thus daily weight gain and feed conversion were also calculated.

This study revealed that the impaired observed in rabbits fed the highest levels of fiber might be explained by higher fermentation losses in caecum together with an insufficient glucose from the gut to meet the requirements, while the importance of the amino acids depends on the efficiency of microbial protein synthesis. These observations are in

agreement with the present results of fiber and CP digestibility of the experimental diets and on the TDNI and DEI.

The DCPI g/d was higher with feeding on R_1, R_5 and R_7, TDNI g/d was higher with R_1, DE Kcal/Kg was higher with feeding on R_4 and R_9, DEI Kcal/d with R_1 and R_4, DEI/DCPI increased with feeding on R_4, R_6.

More studies are needed to find out the best feed additives to be used at different levels as well as at higher nitrate levels than the use herein in the different farm animals especially for ruminants.