

THE EFFECTS OF *ESCHERICHIA COLI* PHYTASE ON NUTRIENT METABOLIZABILITY AND ILEAL DIGESTIBILITY IN LAYING HENS

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Summary. The aim of this experiment was to determine the efficacy of different inclusion levels of *Escherichia coli* phytase (ECP) in diets based on corn meal and soybean meal, fed to laying hens. Phytase efficacy was determined based on the metabolizability and ileal digestibility of phosphorus, calcium and crude protein. The experiment was conducted during the first 24 weeks of the laying period, and it involved Lohmann Brown hens kept individually in cages. Two hundred and twenty birds were randomly assigned to five treatments, providing 44 replicates per treatment, as follows: positive control (I), negative control (II) and three treatments where diets were supplemented with different amounts of ECP - 125 FTU (III), 250 FTU (IV) and 500 FTU/kg diet (V). Phytase supplementation numerically improved the metabolizability of Ca, P and crude protein. The effect was dose-independent in most cases. The values noted in the positive control treatment were not achieved. The effect of phytase on the ileal digestibility of the analyzed nutrients was more pronounced. The addition of Optiphos phytase to the negative control diet resulted in a significant improvement in the ileal digestibility of phosphorus, calcium and nitrogen, compared with the negative control group. This effect was observed at all phytase doses. Again, there was no dose-dependent effect.

Keywords: laying hens, phytase, *Escherichia coli*, metabolizability, ileal digestibility, phosphorus, calcium, crude protein.