

EFFECTIVENESS OF ALUMINOSILICATE-BASED PRODUCTS FOR DETOXIFICATION OF MICOTOXIN-CONTAMINATED DIETS FED TO BROILER CHICKENS

Teresa Majewska¹, Krzysztof Pudyszak¹, Krzysztof Kozłowski¹, Paulius Matusevičius²

Department of Poultry Science, University of Warmia and Mazury in Olsztyn, Oczapowskiego 5, 10-719 Olsztyn, Poland, Tel. +48 89 5233988, Fax. +48 89 5233323, E-mail: teresa.majewska@uwm.edu.pl

²Department of Animal Science, Veterinary Academy of Lithuanian University of Health Sciences Tilžės 18, LT-47181 Kaunas, Lithuania; Tel. +370 37 36 35 05; E-mail: paulmat@lva.lt

Summary. A total of 210 one-day-old male Ross-308 broiler chickens were allocated into 7 groups, with 6 replicates per group and 5 birds per replicate. The chickens were kept in cages. Birds of all groups were fed diets of identical composition, except that diets for groups II - VII contained natural micotoxins found in ground wheat characterized by the following contamination levels: OTA - 68.9 ppb ($\mu\text{g}/\text{kg}$), DON - 60.4 ppb ($\mu\text{g}/\text{kg}$), ZEA <0.5 ppb ($\mu\text{g}/\text{kg}$). The share of contaminated wheat grain in the above diets was 50%, which resulted in the following micotoxin concentrations: OTA - 35 ppb ($\mu\text{g}/\text{kg}$), DON - 30 ppb ($\mu\text{g}/\text{kg}$) and ZEA <0.5 ppb ($\mu\text{g}/\text{kg}$). Group II birds were fed a contaminated diet without additives, while diets for groups III - VII were supplemented with four different detoxifiers with aluminosilicates as the active substance. The obtained results did not provide a basis for determining the effectiveness of the tested detoxifiers. Contaminated wheat grain used in this study showed visual symptoms of fungal spoilage, and contained micotoxins whose concentrations exceeded sevenfold the EU-recommended maximum allowable levels (as confirmed by a laboratory analysis). However, it had no significant negative effect on the production results of broiler chickens. The use of all detoxifiers resulted in a decrease in the body weights (BW) of chickens (from 3.62 to 8.24%), and it deteriorated feed conversion ratio (FCR) (from 1.59 to 6.76%), compared with the group fed a micotoxin-contaminated diet.

Keywords: broiler chickens, micotoxins, detoxifiers, performance.