



Determination of penicillic acid in Poultry food in Diyala Governorate

Noor Th. Talib ¹; Dalia A. Abdul-Shaheed ²

¹ University of Diyala / College of Veterinary Medicine

² University of Baghdad / College of Veterinary Medicine

Corresponding author Email address: noor.thier@yahoo.com

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*Corresponding author:

Email address:

noor.thier@yahoo.com

Abstract

Contamination of the poultry feed with fungi and its toxin products can lead to nutrient losses and detrimental effects on animal health and production. This study was designed to isolate the fungi especially *Penicillium spp.* and to determine the concentrations of Penicillic acid (PA) levels in poultry food samples collected from different Layer and

Broiler chicken farms in Diyala governorate. Food samples were collected from four sectors farms (Alkhalis, Baquba, Baldrooz and Almuqdadia) from Diyala governorate in the period extended from November 2015 to March 2016. High-performance liquid chromatography (HPLC) was used to analysis food samples. *Mucor spp.*, *Rhizopus spp.*, *Absidia spp.*, *Aspergillus niger*, *Penicillium spp.*, *Aspergillus ochraceus*, *Aspergillus fumigatus*, *Chrysosporium sitophila*, *Aspergillus flavus*, *Fusarium spp.*, *Apophysmyces elegans*, *Paecilomyces lilacinus*, *Scopulariopsis*, *Circinella* were isolated from different food samples. Moreover, *Candida spp.*, *Rhodotorula rubra*, *Geotricum candid* and *Cryptococcus neoformans* were the most isolated yeast species. All feed samples were positive for PA. The highest levels of penicillic acid in Alkhalis, Baquba, Baldrooz and Almuqdadia were (53.47±2.75), (49.62±2.43), (48.39±2.35) and (47.29±2.37) respectively in Layer chicken and (53.66±2.79), (49.99±2.62), (48.25±2.35) and (47.23±2.42) respectively in broilers. No significant differences ($P \leq 0.05$) was seen in the levels of PA among the food samples from the four different sectors. In conclusion, this study approved the presence of mycotoxigenic fungi in the poultry foods that increases the risk of mycotoxin poisons for the animal health and its implications for human health. The authors recommend another future study in another farms in Diyala including a large number of samples to understand the actual situation of the fungi toxin products.

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