

CASE STUDY ON THE PREVENTION AND CONTROL OF MYCOTOXIN CONTAMINATION IN A FEED MILL UNIT

Dragos Mihai Lapusneanu¹, Daniel Simeanu¹, Cristina Radu-Rusu¹, Cecilia Pop¹, Alina Narcisa Postolache², Ioan Mircea Pop^{1*}

¹Department of Fundamental Sciences in Animal Husbandry, Faculty of Animal Sciences, University of Agricultural Sciences and Veterinary Medicine of Iasi, Mihail Sadoveanu Alley 3, 700490 Iasi, Romania

²Research and Development Station Bovine Dancu, Iasi-Ungheni Street 9, 707252 Iasi, Romania

*e-mail: popmirceais@yahoo.com

Abstract

In the production of compound feed, contamination with undesirable substances may occur, which may come from the environment and/or the production process; compound feed and raw materials may be contaminated with these substances. Mycotoxins are chemical compounds produced by molds. The prevention and control of mycotoxin contamination in a feed mill unit plays a particularly important role given the inevitability of their presence and their negative effects on animal and human health. The paper aims to conduct a case study on the prevention and control of mycotoxin contamination in a feed mill unit.

Quantitative analysis of mycotoxin contamination of raw materials and compound feeds for broilers was performed by ELISA method. In order to achieve the proposed aim, we followed the results from some raw materials analyzes (soybean meal, sunflower meal, corn, wheat) and for the compound feed for broiler (starter, grower, finisher); at the same time we followed the degree of accomplishment of the analyzes proposed within the mycotoxicological auto-control program, for each month from January to June 2019. Methodologically, the data were analyzed and synthesized in the form of graphs and tables.

The results of the quantitative analyzes of the mycotoxin contamination of the raw materials and compound feeds showed that the determined values fall within the limits imposed by the legislation of the European Union. Regarding the degree of accomplishment of analysis proposed in the auto-control program for mycotoxins, the results showed that between January and June 2019 a total number of 1,080 analyzes were proposed, of which 720 for raw materials and 360 for compound feeds; out of the total number of proposed analyzes, 42.1% (455 analyzes) were performed, of which 35.4% (255 analyzes) for raw materials and 55.5% (200 analyzes) for compound feeds. It is established that the auto-control program is a useful tool to prevent and control mycotoxin contamination.

As a result of the study carried out at the feed mill unit, it was found that the prevention and control of mycotoxin contamination must be increased by increasing the degree of accomplishment of analysis proposed in the auto-control programs up to 100%.

Key words: *Feed safety, Raw materials, Food safety, Mycotoxins, Compound feed.*