

## Transition of Aflatoxin from Feedstuff to Animal Milk and Pasteurized Milk in Shiraz City and Suburbs (South Iran)

Ersali A<sup>1\*</sup>, Grigoran K<sup>2</sup>, Baho-Aldini F<sup>3</sup>, Ghasemi R<sup>4</sup>, Ersali M<sup>5</sup>

### ABSTRACT

**Introduction:** There are a lot of fungi in our environment which grow and reproduce if the heat and humidity are suitable. *Aspergillus flavus* and *parasilicus* are among the most important food contaminants and have major roles in food poisoning. These fungi secrete poisons which contaminate feedstuffs as well as the milk we get from the animals fed with them. Because of the dire effects of these contaminations we decided to examine and compare the existence of aflatoxin M1 in samples of raw and pasteurized milk as well as the presence of aflatoxin B1 in feedstuffs in different seasons of the year.

**Material and methods:** In this study a total of 428 samples consisting of raw and pasteurized milk and feedstuffs were examined in different seasons of the year, using the ELISA, HPLC and TLC methods.

**Results:** In 43.36% of the feedstuff samples, the contamination level was above the permissible concentration of aflatoxin B1 (that is above 20 ppb), and in 38.03% of raw and 14.42% of pasteurized milk samples, the contamination level was above the permitted concentration (that is, above 0.5 ppb). We also found that the contamination level was higher in summer and autumn than that of winter and spring. A high percentage of contamination was found in corn and recycled bread compared to alfalfa, bran and straw.

**Conclusion:** There seems to be an urgent need for controlling aflatoxin contamination in feedstuff and prohibiting the use of contaminated feedstuff such as corn and recycled bread. Also thorough analysis of milk and its products for aflatoxin contamination is necessary.

**Keyword:** aflatoxin M1, aflatoxin B1, raw milk, pasteurize milk, feedstuff, ELISA, HPLC, TLC, food contamination

---

1- Member of Academic Islamic Azad University of Firuz Abad, Shiraz, Iran.

2- Professor of Yerevan university, Yerevan, Armenia.

3- Pharmacologist, Shiraz University of Medical Sciences. Shiraz, Iran.

4- Razi Laboratory, Shiraz, Iran.

5- Polymer Engineer, Shiraz, Iran.

\*Corresponding Author; Email: Abdolazim\_Ersali@yahoo.com