AFM1 in Milk and Dairy Products

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Among food products, the most important role is given to milk and dairy products with high nutritional value. Consequently, we became interested in evaluating the quality of certain milk and dairy products in our country. This includes detecting toxins, conducting quality tests, and examining the same products alongside a comparative analysis of regulatory frameworks . Among the carcinogenic mycotoxins is aflatoxin M1, which is found in varying concentrations in milk and dairy products. AFM1 is a hydroxylated metabolic product derived from AFB1. It can enter the body through the airways, mucous membranes, or skin, causing an inflammatory reaction. To determine the frequency and concentration of AFM1 in milk and dairy products in the market, we collected five samples of milk available to consumers. The analysis was performed using HPLC, in accordance with ISO 9001 and ISO 13485 standards. The examination revealed the presence of the dangerous mycotoxin aflatoxin M1 in milk in our country, with levels in some samples significantly exceeding the permissible concentration. HPLC studies the effects of aflatoxin M1 on human health, highlighting advantages and disadvantages. This analysis is intended to highlight the importance of strong regulatory oversight and advanced detection methodologies to protect public health. Taking into account the findings of the study will help dairy enterprises to improve the quality of products, since high quality of the product is a necessary condition for its implementation and competitiveness, both on the local and international market. The results of the study are also important for the population’s consumption of healthy food.