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Monitoring of raw milk safety by chemical and microbiological indicators in the Republic of Tatarstan for the first half of the year 2020

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Abstract

Milk is one of the main food products for the population, as it contains the necessary proteins, fats, carbohydrates, vitamins and minerals. However, milk and dairy products can be sources of pathogens of many infectious diseases. In addition, they may contain harmful substances of chemical origin (heavy metal salts, pesticides, etc.). Also, the number of somatic cells is one of the main indicators of milk safety and determines its suitability for processing. In this regard, the implementation of the examination of dairy products becomes particularly relevant.

The article presents the results of studies of raw milk of agricultural enterprises and farms of private entrepreneurs of various regions of the Republic of Tatarstan on the indicators of chemical and microbiological safety, performed in the first half of 2020. Raw milk was examined for such organoleptic and physico-chemical indicators as fat content, protein, mass fraction of skimmed milk powder, acidity, purity group, density and microbiological indicators in accordance with regulatory documentation. According to the results of research, it was found that all milk samples had good consumer properties. Heavy metal salts, pesticides, mycotoxins, antibiotics, radionuclides, and genetically modified organisms were not found in the studied samples of raw milk. According to microbiological indicators, the samples studied met the requirements of the technical regulations of the Customs Union. Nevertheless, in 20 samples of raw milk, the number of somatic cells exceeds the standard indicators. It follows that the results of the study indicate the need for monitoring the safety of raw milk.

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