

عنوان مقاله:

Evaluating the Contamination of Raw Milk in Jiroft City with Lead, Mercury and Cadmium by Atomic Absorption Optical Spectroscopy Method

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خلاصه مقاله:

Background and purpose: Today, cow's milk is one of the most important and widely used animal milks fed by humans and a unique source of food for all ages. Contamination of milk with heavy metals such as lead, mercury and cadmium is regarded a risk to human health. Poisoning with lead, mercury and cadmium has adverse effects on human health, which is much more common during childhood. Therefore, this study was conducted with the purpose of investigating lead, mercury and cadmium concentrations in raw milk of cattle ranchings located around Jiroft city in ۲۰۲۱. Materials and methods: After selecting ۱۰ cattle ranching randomly around Jiroft city and preparing ۱۰ samples in the laboratory, the acidic digestion of the samples was performed according to AOAC method. Then, the elements concentrations were measured based on Graphite Furnace Atomic Absorption Spectrometry. SPSS software was used for statistical processing of the results. Results: The results showed that the mean concentrations of elements for lead, cadmium and mercury were ۰.۰۱۳۶۴۷, ۰.۰۰۱۲۵۲۰ and ۰.۰۰۲ mg/l, respectively. According to international standards (Codex) and the national standard of Iran, the accumulated mean concentration of lead (ppm ۱), cadmium (ppm ۰.۰۱) and mercury in the samples was within the permissible range and samples measurement showed that the amount of lead, cadmium and mercury was less than standard and in only one sample, the amount of lead exceeded the standard. Conclusion: The result of this study showed that the levels of lead, cadmium and mercury in Jiroft are standard and permissible. However, in order to increase the safety and health of the consumers, it is suggested that .more monitoring be done on livestock farms and industrial centers adjacent to livestock farms

کلمات کلیدی:

Milk, Cow, Lead, Cadmium, Mercury, Jiroft, شیر, گاو, سرب, کادمیوم, جیوه, جیرفت

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