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CLASSIFICATION OF HEAVY METALS IN MEAT AND DAIRY PRODUCTS BASED ON THE DEFINITION

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ABSTRACT
In this state, meat and dairy products and ix the content of heavy metal salts are investigated and analyzed. The influence of heavy metal soles on human health has been studied. And also the content of heavy metals in meat and milk samples corresponded to state standards: 3,8% in cow milk, 4,5% in camel milk, 1,8% in birch milk and 6,7% in sheep milk. Modern organoleptic and physicochemical methods for determining the quality of these goods have been developed and introduced into customs practice.

Keywords: Commodity nomenclature of foreign economic activity, product code, classification, chemical composition, organoleptic and physicochemical methods, customs expertise.

INRODUCTION:
Determination of salts of heavy metals (Pb, As, Cd, Hg, Cu, Zn) in milk according to the requirements of state standards, the physicochemical parameters of milk are checked for fat content, fat-free dry matter, acidity, purity and temperature. The amount of fat in milk, depending on their type, is from 5% to 6%, the amount of fat-free solids is not less than 7.8 - 8.1%. To do this, we take 25 ml of the test milk sample, put it lightly on a cup, polish it on an electric stove, after putting on the silencer, heat it from 150 °C to 450 °C. Placed in the muffle furnace. Then we add 1 ml of hydrogen chloride and hydrogen peroxide to a cup, steam it on a plate, cool it and put it on a polygraph. The amount of heavy metals in kefir, which was investigated, is shown in table 1.

Table 1. Concentrations of heavy metals in kefir, mg/kg

Samples for testing	Zn	MAC	Cd	MAC	Pb	MAC
kefir 2,7%	0,0204	5	0,0017	0,03	0,0091	0,1
Biokefir 2,5%	0,0358	5	0,0108	0,03	0,0202	0,1
Rohat kefir 4%	0,874	5	0,0011	0,03	0,0250	0,1

As can be seen from Table. 1, the zinc content in the sample ranged from 0.0204 to 0.0874 mg/kg and averages 1% of the maximum allowable concentration. Cadmium in the sample ranges from 0.0011 to 0.0018 mg/kg, which is 7.5% of the average MAC. The average value of lead is 0.0181 mg/kg or 0.36% MAC. The average value of lead was 0.0181 mg/kg or 0.36% of MAC. We then determined the concentration of zinc, cadmium and lead ions in yogurt. The results of the analysis are presented in table 2.

Table 2. Concentrations of heavy metals in yogurt, mg/kg

Samples for testing	Zn	MAC	Cd	MAC	Pb	MAC
Miro plus	0,0100	5	0,0034	0,03	0,0283	0,1
Ermigurt	0,0120	5	0,0019	0,03	0,0120	0,1
Alpen gold	0,0004	5	0,0022	0,03	0,0220	0,1

As can be seen from Table. 2, the zinc content in the sample is in the range of 0.0004-0.010 mg/kg, and the content of the cadmium element is 6-11% of the allowable concentration. The average value of lead is 0.020 mg/kg.

Condensed milk of domestic and foreign producers. The results of the analysis of the content of heavy metals in the composition are shown in table 3.

Table 3 Concentrations of heavy metals in condensed milk, mg/kg

Samples for testing	Zn	MAC	Cd	MAC	Pb	MAC
Mari milk	0,0204	5	0,0017	0,03	0,0091	0,1
Milinko	0,0385	5	0,0018	0,03	0,0202	0,1
Lakomka	0,0874	5	0,0011	0,03	0,0250	0,1

All studied samples showed that the content of heavy metals does not exceed the permissible concentrations.

Determination of salts of heavy metals (Pb, As, Cd, Hg, Cu, Zn) in milk according to the requirements of state standards, the physicochemical parameters of milk are checked for fat content, fat-free dry matter, acidity, purity and temperature. The amount of fat in milk, depending on their type, is from 5% to 6%, the amount of fat-free solids is not less than 7.8 - 8.1%.

To do this, we take 25 ml of the test milk sample, put it lightly on a cup, polish it on an electric stove, after putting on the muffler, heat it from 150 °C to 450 °C. Placed in the muffle furnace. Then we add 1 ml of hydrogen chloride and hydrogen peroxide to a cup, steam it on a plate, cool it and put it on a polygraph. The amount of heavy metals in cow's milk, which we studied, is given in table 4.

Table 4. Amount of heavy metals in milk

№	Heavy metals	Physico-chemical index	State Standards
1	Pb	0,00	0,1
2	As	0,00	0,05
3	Cd	0,00	0,03
4	Hg	0,00	0,005
5	Cu	0,5	1,0
6	Zn	1,3	5,0

According to table 4, it was found that the content of heavy metals in the studied milk samples was normal.

METHOD OF MICROSCOPIC ANALYSIS.

As a rule, the new meat layer contains a small amount of microorganisms. The level of meat content, the composition of microorganisms, their quantity and the quality of the muscles are determined. The decomposition of meat leads to an increase in the number of microbes and a change in the type of meat. At the beginning of the decomposition of meat, when observed under a microscope, deep-lying bacteria are found mainly in the form of blue. In addition, when observed under a microscope, negative microorganisms are observed, stained in purple, gram-positive and reddish colors.

The composition of heavy metals in the beef we studied is presented in table 5 and figure 1.

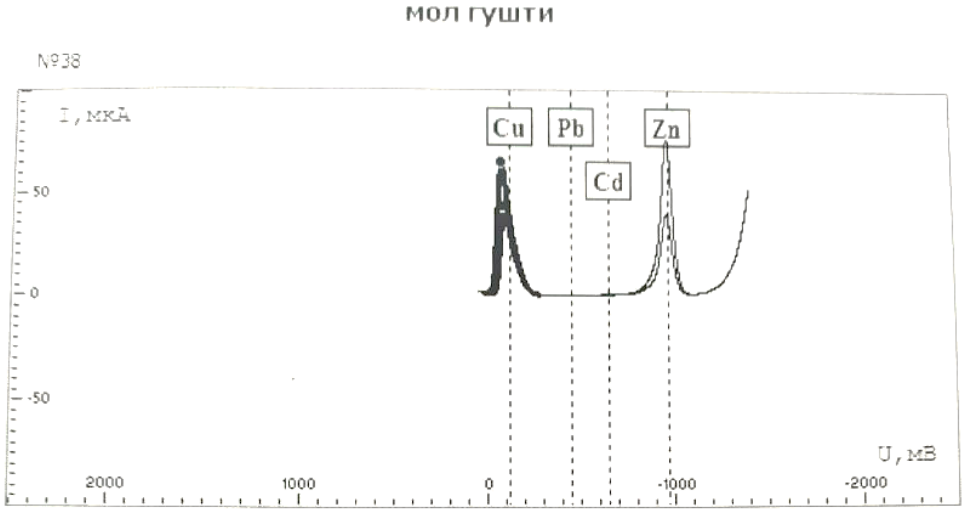

Таблица обработки результатов:

Эл-т	Имя граф.	Cx, мкг/дм³	Ccp, мкг/дм³	Xcp, мг/кг	δ,%	Δ, мг/кг
Zn	График2	819.3160	819.3160	4.0970	25	1.0240
Cu	График2	320.9593	320.9593	1.6050	25	0.4010

Fig.1. GLC analyzes. The amount of heavy metals in beef.

Table 5. The amount of heavy metals in beef

№	Heavy metals	Physico-chemical index	State Standards
1	Pb	0,00	0,5
2	As	0,00	0,1
3	Cd	0,00	0,05
4	Hg	0,00	0,03
5	Cu	1,6	5,0
6	Zn	4,1	70,0

According to table. 5 found that the content of heavy metals in the studied meat samples is within the normal range.

The composition of heavy metals in the horse meat studied by us is presented in the table.

Table 6. The amount of heavy metals in horse meat

№	Heavy metals	Physico-chemical index	Norms according to state standards
1	Pb	0,00	0,5
2	As	0,00	0,1
3	Cd	0,00	0,05
4	Hg	0,00	0,03
5	Cu	1,6	5,0
6	Zn	4,1	70,0

Table 7. Proposed CNFEA codes for meat products

Current CNFEA code numbers	Trading name of goods	Suggested code numbers according to CNFEA
0205002000	Freshly chopped and chilled horse meat	0205002001
0205008000	Frozen horse meat	0205008001
1601009100	horsemeat digger	1601009101

During the study of milk samples, several types of animal milk were taken and their quality, fat content, heavy metal content, organoleptic, mineral, vitamin and other indicators were analyzed.
In order to classify different types of dairy products according to the CNFEA and ensure the correct and complete collection of customs duties from them, new code numbers according to the CNFEA of the Republic of Uzbekistan were proposed in subgroup 0401, the results are shown in the table.

Recommended CNFEA codes for different types of milk

Trading name of goods	Suggested code numbers according to CNFEA
volume 2 l and not less	040120910
cow's milk	0401209101
horse milk	0401209102
camel milk	0401209103
sheep milk	0401209104
goat milk	0401209105
other	0401209109
the volume is more than 2 l, etc.	040120990
cow's milk	0401209901
horse milk	0401209902
camel milk	0401209903
sheep milk	0401209904
goat milk	0401209905
others	0401209909

CONCLUSION

World practical experience shows that when determining the composition of meat products in each country, the use of methods of customs examination of goods, in particular, the analysis of their chemical composition, gives effective results. In particular, the GLC analysis showed that the amount of heavy metal salts in meat and dairy products is within the normal range and it was determined that these standards do not pose a threat to human health. The most effective way to detect low-quality meat products imported into the republic is GLC. To protect the economic interests of the republic in international economic relations, new commodity codes have been developed on the basis of the chemical composition of meat products, and comments on their classification have been prepared; we have developed and put into practice effective methods for classifying different types of meat products for customs purposes.

Thus, the methods and results of the determination of salts of heavy metals (Pb, As, Cd, Hg, Cu and Zn) in meat and dairy products were presented. In particular, the content of heavy metals in meat and milk samples met state standards: 3.8% in cow's milk, 4.5% in camel's milk, 1.8% in birch milk and 6.7% in sheep's milk.

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