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QUALITY OF MILK FROM THE FARM SADIJANT TO THE IMPACT AREA "PROTON-M" LAUNCH VEHICLE

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In parallel with scientific and technical progress the situation where the life of human being could be in danger has considerably increased. International experience of space exploration suggests that up to 7% of launches space craft terminated by an emergency outcome, and as a result of an emergency fall of launch vehicles (hereinafter LV) there are emergencies arise (hereinafter ES) on the earth [1].

All over the world there is large-scale use and improvement of the launch vehicle. Advanced liquid rocket engines (LREs) are being created by Yuzhnoye Design Office of Ukraine based on the fifty-year experience of rocket engines' and propulsion systems' development. These LREs use both hypergolic (NTO+UDMH) and cryogenic (liquid oxygen+kerosene) propellants. First stage engines have arrangement of thrust from 40 to 250 t, while the upper stage (used in space) engines - from several kilograms to 50 t and are ignition feature. The engines are intended for both Ukraine independent access to space and international market [2]. The advanced liquid rocket engines (LRE) are created by the «Yuzhnoye» Design Bureau on the basis of fifty years of experience in the development of rocket engines and powerplants. These LREs are used as hypergolic (NTO+UDMH) and cryogenic (liquid oxygen+kerosene) propellants. The rockets (rockets and space launch vehicles/SLVs) and satellites (military and civilian) were two early – reach are as for China and represent two in-depth case studies. The initial import of American and Soviet knowledge and technology, combined with national resources focused on centralized leadership, allowed China to master rockets and satellite to be ahead of other systems [3].

The activities of the Baikonur cosmodrome on the territory of Kazakhstan have been carried out since 1965. The main environmental load from the impact of launches is carried by the falling fields of the detachable parts (stages) of launch vehicles (LV). In the separating parts of launch vehicles, up to 1.5-2.0 tons of unused rocket fuel may remain, which is dangerous due to the toxic properties of its components [4-6]. According to the literature, among the most dangerous and important from the point of view of environmental dangers were highlighted compounds such as nitrosodimethylamine (NDMA), dimethylhydrazine (DMHA), formaldehyde, tetramethyltetrazene, 1-formyl-2,2-dimethylhydrazine (FDGH) and 1-methyl-1H-1,2,4-triazole (MTA) [7].

Aerogenic spacing 1,1 dimethylhydrazine during the fall OC stages contributes to the extension of bio geo chemical anomalies outside the area as of falling. 1,1dimethylhydrazine is deposited on the surface of soils and plants in the soil concentration levels can be minimal. 5 km to the South of the range 1,1 dimethylhydrazine were detected in 50% samples of plants, 20 km away. -25%, 40km. by 20%, and the levels of concentration changed from 0.20 to 0.88 mg/kg. The radius of bio geochemical anomalies can reach 40km from the area as of the downs. 40km from South of the range in the village Karsakbay were selected 23 samples of vegetables (potatoes, carrots, tomatoes), a 30% discovered NDMH. The maximum concentrations established in carrots to 0.65mg/kg, in potatoes and tomatoes–0,28mg/kg. Soil garden plots are also so contaminated NDMH.

An assessment of the quality and safety of livestock products from adjacent areas to the impact areas where the "Proton-M" launch vehicle is a pressing problem, as the migration of NDMH through food chains, the contamination of pasture plants, especially in subordinated landscapes where the main hay fields are concentrated, is the cause of pollutant accumulation in domestic organisms Animals. We have made determinations of the parameters of quality and safety of livestock products.

As a result of our research, it has been established that the nutritional value of the milk of the adjacent wintering grounds "Togyzbai", "Zharyk", "Almenbet", "Zhanadil" was reduced due to a lower content of proteins, fats, vitamins and minerals.

The results of the studies showed changes in the qualitative and quantitative composition of amino acids. A low level of essential and non-essential amino acids was established, fluctuations were from 4.7 to 26%, a decrease in the sum of all amino acids by 12.2%, an increase in the ratio of the amount of essential amino acids to non-essential-0.89. The index of nutritional value was minimal for methionine (68%) and phenylalanine 85.4%. A reduced concentration of B vitamins and vitamin C was found from 21.5 to 40.3%.

One of the important roles in the evaluation of biological value is played by mineral composition. Mineral substances are an integral part of meat and the entry into the body is a necessary condition for its normal development and functioning. Microelements are a part of enzymes, hormones, vitamins, pigments and play a decisive role in the functioning of the organism [8]. The content of minerals was reduced: magnesium was reduced by 17.2%. Significant changes were observed for microelements, the zinc content was 22.3%; Copper-by 30%; Iron – by 37.4%, manganese–by 55%. The biochemical composition of the fatty acids of the milk also had deviations. The highest deviation in comparison with the norm is established by stearic acid reduced by 45.2% in palmitic by 38.5% and myristic by 31.2%.

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