
General Effects of Fluorine and Its Compounds on Livestock.

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Abstract: *The article studies the pathological processes that occur as a result of the specific properties of fluorine and its compounds, which are wastes of the Tajik aluminum plant, in the general effects on the organism of large horned animals.*

Keywords: *man-made, ecological, fluoride, hydrogen fluoride, pathological, fluorosis, osteomyelitis, gonodotoxic, emriotoxic, immunotoxic.*

Introduction

In accordance with the law of the Republic of Uzbekistan "on protection of nature", in the legislation of the Republic of Uzbekistan "on Environmental Control" and in the "strategy of action of the Cabinet of Ministers in five priority areas of development of the Republic in 2017-2021", the implementation of large-scale measures to ensure environmental safety and prevent the occurrence of [1;2].

The environmental circumstance in a few districts of the Republic of Uzbekistan can be recognized as basic. As a result of human action, different contamination of the environment is far reaching. One of such districts is the Surkhandarya locale, since the chemical ventures of the armed force states are found another to its domain. Sources of discharge of fluoride into the environment there are

aluminum plants, for illustration, the Tajik aluminum combine and other undertakings of vitality and chemical industry, all these ventures are destructive to the environment: this leads to changes within the properties of soil and water, which in turn contrarily influences plants, creatures and individuals. [4]. As a result of fluoride inebriation, changes within the teeth of creatures can be partitioned into three stages.

The first stage. The first clinical signs are observed on the front labial surface of the tooth enamel in the form of strictly symmetrical black and brown pigment spots, and on the cutting teeth from 3-4 months.

The second stage. Approximately from the age of 1,5 years is characterized by the loss of the natural appearance of the wool coating in the animal. In addition to pigmentation in the enamel of teeth, erosion and many brown spots are observed. Milk teeth become unfit before the deadline.

The third stage. It is observed mainly in older animals and is characterized by a living weight loss. Pigment stains, which are symmetrically located on the entire surface of the cut tooth enamel, are from light yellow to Brown. Raydi three of the cutting teeth deformation. The high concentration of fluorine disrupts the formation of prisms and the mineralization of the enamel.

The purpose of the study: To determine the pathological processes that occur as a result of the general effect of fluorine and its compounds in the waste of the Tajik aluminum plant on the organism of large horned animals.

Materials and methods: Quantitative indicators of fluoride and its compounds in large horned animals are determined using fatometric and chromatographic methods. Biochemical and immunological indications in the blood of cattle are carried out using a biochemical analyzer VA-88A.

Results of the study: the Long district of the Surkhandarya region is 13 km away from the Tajik aluminum plant, and the Sariasiya district is 21 km away. The composition of harmful waste, separated from the Tajik aluminum plant, consists mainly of fluoride, hydrogen fluoride, sulfur dioxide, nitrogen and uglerod oxides and harmful dust. Studies have found that the amount of these toxicants is higher than the norm in the regions of the uzun and Sariasian regions.

The basis of the harmful waste separated from the Tajik aluminum plant was the substance fluorine, which showed that its amount was several times higher than that of meyori when examined. Such a high amount disrupts the metabolism of calcium in the body of animals, leading to the occurrence of fluorosis, disease (violation of mineral, carbohydrate and protein metabolism in the body's digestive system), as well as ostemoliation, infertility, pulmonary edema, skin burns, necrosis processes.[5].

Hydrogen fluoride has also shown to be higher than Meyer. It is a powerful poison for the body of animals and has the property of providing a dangerous effect. Also in its action there are

effects on reproductive activity, ganadotoxic and embryotoxic. It manifests its cumulation property and mutagenic effects in the body.[3].

Main part

The basis of the pathological processes that occur among cattle and poultry infected under the influence of chikindis of the Tajik aluminum plant is the formation of diseases such as flyuoroz, osteomoliation, hypovitaminosis A, dyspepsia, skin diseases, poisoning, infertility, as well as seed plague.[6;8].

The water norm of the ftor was 0,7-1,5 mg/l, when examined showed a high of 1,7 mg/l. As a result of this effect, it leads to the formation of fluorosis in the body, the disease (which disrupts the metabolism of minerals, carbohydrates and proteins in the body's digestive system), as well as the processes of ostemoliation, infertility, lung edema, burns in the skin, necrosis, and also disrupts the metabolism of calcium.

Hydrogen fluoridining air purifier norm 0.1 mg / m³, tekstilganda esa 0.11 mg / m³, ekanligini comforter. Pile riser and risk affect native plants. Reproductive activity, the influence of ganadotoxic and embryotoxic, cumulation features and kinematics of etgic. Zalyarnik and racing Killik belong to the class I bassalilik.

Yirjik branched animals relative to the structure and phosphorus material of the diamond bourgeoisie buzilish zharenlari is exported by the burlganligi kuzatildi. In particular: cornices made up cardinals amount of norm 9.5-13.1% chip need, tekstilganda esa 7.9%, iodine low, koh component of phosphorus amount etc 4.2-6.5%, tekstilganda 2.9% cornice organization, iodine low ecanidin cursate.

The content of fluoride in cow's milk was 2.5 mg / kg in the norm, and 3 mg / kg (above the norm) when tested.

The content of fluoride in the feed, especially in coarse weeds, was 20 mg / kg, and when examined, it was 20.2 mg / kg, ie above the norm.

It is known that fluorosis occurs mainly in animals with disorders of the enzyme system, mineral, carbohydrate and protein metabolism, as well as injuries to the liver. As a result, there are changes in the composition and immunological parameters of animal blood. [7]

Blood counts of large horned animals exposed to fluoride

Table 1

Blood counts	Statistics		
	M	±M	%
Erythrocytes (10 ¹² / l)	6.10	0.19	95
Leukocytes (10 ⁹ / l)	14.40	3.72	148
Hemoglobin (g / l)	148.8	6.1	106
Met hemoglobin (%)	21.9	5.0	209
Acetylcholinesterase activity (mmol / ml / minute)	1.79	0.12	166
As AT activity (mmol / hour / liter)	0.86	0.04	54
ALAT activity (mmol / hour / liter)	1.44	0.20	70
Total protein (g%)	7.90	0.23	101
Albumins (g%)	2.60	0.25	87
Globulins (g%)	2.91	0.11	116
Number of head of animals	5	5	5

From this table, it can be seen that the number of erythrocytes in the blood of cattle in the territory, the activity of transaminases in the serum, as well as a decrease in the amount of albumin in the protein content, significantly higher levels of leukocytes and globulins, as well as metgemoglobin, and also increased the activity of acetylcholinesterase.

Such changes in the blood, as indicated above, indicate the state of Anima in animals, and in the activity of the liver, indicate that jerks occur. In the end, these changes lead to the fact that various disorders occur in the metabolism of carbohydrates and proteins in the body.

The results obtained from the experiments conducted by US and the literature data on this issue indicate that from the waste of the Tajik aluminum plant, in particular, the effect of fluoride compounds, chronic poisoning among these animals, that is, the manifestation of fluorosis.

Immunological indicators of the blood of cattle in the experiment

Table 2

Immunological indicators	Statistics		
	M	±M	%
T-lymphocytes (nis,%)	44.4	1.8	88
T-lymphocytes (mut, 10 ⁹ / l)	4.11	0.72	91
V-lymphocytes (nis,%)	30.1	2.98	138
В-лимфоцитлар (мут, 10 ⁹ /л)	1.17	0.14	78
V-lymphocytes (mut, 10 ⁹ / l) Phagocytic activity of neutrophils (NST-test,%)	7.2	1.2	58
Number of head of animals	5	5	5

Such immunological indicators detected in the blood of animals showed that there were some disturbances in the activity of the tissue and humoral immune system. In particular, changes in the relative and absolute values of T-lymphocytes and absolute values of V-lymphocytes and similar decreases in phagocytic activity of neutrophils and increases in relative values of V-lymphocytes indicate a decrease in overall resistance to various infectious and invasive diseases in such animals. leads to an increase in susceptibility.

Due to the influence of aluminum plant causes a decrease in the number of cattle head in livestock farms by 20 percent, including cows by 7 percent, calves by 11 percent, and milk and meat production by 18 percent.

Conclusion

1. The Tajik aluminum plant showed that the waste products are long in fluorine and its compounds, and the amount in the regions of the Sariosian districts is high.

2. Such changes in the indicators of the blood of cattle, which are under the influence of harmful wastes of the Tajik aluminum plant, indicate that the state of animeya in the organism of these animals, as well as injuries in the functioning of the liver, occur. As a result, this leads to the fact that in the body of animals there are disturbances in the metabolism of carbohydrates and proteins

3. Such violations in the immunological indicators of animals in the experiment lead to a decrease in the overall resistance of the organism of these animals totiradi and, as a consequence, to an increase in their susceptibility to infectious and invasive diseases.

4. It was found that the organism of cattle under the influence of fluoride causes a high degree of occurrence of fluorosis, osteomoliation and other similar diseases.

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