GALAXY INTERNATIONAL INTERDISCIPLINARY RESEARCH JOURNAL (GIIRJ)
ISSN (E): 2347-6915
Vol. 10, Issue 4, April. (2022)

IMPACT OF TAJIK ALUMINUM PLANT WASTE ON PRODUCTIVE ANIMALS

Laziz Khalilov
Master, Samarkand State University
Veterinary Medicine of Livestock and Biotechnologies

Yunus Salimov –
Scientific Adviser, Samarkand State University
Veterinary Medicine of Livestock and Biotechnologies

SUMMARY

The article found that a number of diseases are caused by the harmful effects of inorganic dust, sulfur dioxide, fluoride, hydrogen fluoride and other similar substances from industrial wastes on the animal body.

Keywords: industrial waste, inorganic dust, sulfur dioxide, fluorine, hydrogen fluoride, pathology.

Аннотация

В статье установлено, что ряд заболеваний обусловлен вредным воздействием на организм животных неорганической пыли, диоксида серы, фтора, фтористого водорода и других подобных веществ промышленных отходов.

Relevance of the topic

In recent years, due to the expansion of mining and processing of industrial raw materials in the regions, a large amount of harmful toxic waste is released into the atmosphere.

The number of chemical compounds produced in the chemical industry worldwide now exceeds 500,000, of which about 40,000 are considered harmful to humans and animals. Sadly, some 12,000 of these chemicals contain hereditary toxins.

One of the most important tasks today is to study the effects of industrial waste on the environment and living organisms.

Research object and methods

Hazardous waste from the Tajik aluminum plant, large horned cattle. When monitoring the status of industrial emissions: multigas “OPTIMA-7” from the gas analyzer, in determining the level of toxicity and danger of ecotoxicants: L.I. Medved et al (1986) classification, blood counts: BK-6190 using an automated hematology analyzer, and effects on animal reproduction: I.V. Sanotsky et al was carried out using the following methods.

Analysis of the obtained results

Harmful emissions from the Tajik aluminum plant in the Surkhandarya region are mainly fluoride, hydrogen fluoride, sulfur dioxide, nitrogen and carbon monoxide, and harmful dust. The main representatives of fluorine are: studies have shown that it is high in water and nutrients. As a result, fluorosis (disrupts the metabolism of minerals, carbohydrates and proteins in the body's enzyme system), as well as osteomyelitis, infertility, lung tumors, skin burns, necrosis, disrupts calcium metabolism. Class I in terms of toxicity and hazard.

Hydrogen fluoride also showed high levels in the air

It is a powerful poison and has dangerous effects on the body. It has ganadotoxic, embryotoxic and mutagenic effects on the reproductive function of animals. Has cumulative properties. Class I in terms of toxicity and hazard.

Inorganic dusts have been shown to be 1.06 times higher than normal

Such harmful dust carries and spreads germs as well as vomit eggs. It also causes bronchitis, conjunctivitis, dermatitis, allergies, poisoning and oncological diseases. Class III in terms of toxicity and danger. Most of the chemical toxins enter the body through the respiratory tract, gastrointestinal tract, skin and mucous membranes.

High levels of these chemical wastes and harmful dusts have been found to have carcinogenic, teratogenic, embryotoxic, and allergic effects on livestock and poultry. Studies have shown that a variety of pathological processes occur in the immune system and reproductive function of productive animals. In particular, due to the immunodepressive effects of chemical toxicants on the immune system, the overall resistance in the body decreases, resulting in increased susceptibility of local animals to infectious diseases.

In animal reproduction, there is a significant increase in fertility, miscarriage, stillbirth and postpartum mortality.

There are also cases of infertility and infertility in females, and diseases such as sperm in males. The main organs in which chemical toxins accumulate in animals are: liver, spleen, heart muscle, kidneys, lungs, adipose tissue, muscle tissue, tooth and bone tissue, blood, mammary glands, and gastric mass.

Analysis of serum micronutrients in cattle showed that the protein, carotene, phosphorus, reserve alkali and calcium were lower than normal. (Table 1)

Table 1. The amount of trace elements in the serum of cattle.

Checked	The norm is mg/kg	When checked	About the norm
Protein	7,2-9,5	5,25-6,77	low
Carotene	0,4-2,2	0,2-0,3	low
Phosphorus	4,2-6,5	3,2-3,4	low
Alkali in reserve	55-62	41-44	low
Calcium	9,5-13,1	7,8-8,0	low

These levels in the blood serum indicate that pathological processes are taking place in the animal's body.

CONCLUSIONS

1. Among the livestock exposed to hazardous waste from the Tajik aluminum plant are fluorosis, osteomalacia, hereditary diseases, diseases of the nervous system, respiratory system, digestive and metabolic disorders, diseases of the reproductive organs and poisoning. showed.
2. The effects of harmful chemical toxins on the body's immune system, leading to a decrease in overall resistance, increase the susceptibility of animals to infectious diseases.

REFERENCES

1. Гильдиева М.С. Мутагенная активность экотоксикантов, наследственный и спорадический канцерогенез и его коррекция. Ташкент, 2010.
2. Iskandarova Sh.T. ,,Районирование территорий Республики Узбекистан. Мед. журнал Узбекистана" Toshkent 2003. №6 – С 24-28.
3. Онущенко Г.Г. Некоторые аспекты охраны здоровья и окружающей среды в разработке проекта экологической доктрины России. Здравоохранение Российской Федерации. М-2002. N2-C3-8.
4. Haitov V.R., Salimov Yu. va b. ,,Kimyoviy vositalar ta'siridan hayvonlar organizmida yuzaga keladigan immun yetishmovchiliklarni oldini olish va davolash bo'yicha tavsiyanoma". Samarqand 2018.
5. Шафрин Л.М Токсичные промышленные отходы. Государ. мед.университет им. Д.Галицкого, г.Львов.2001
6. Шушарин А.Н Экологические послествия техногенных эмиссий. Промышленной токсикологии.2015.
7. Yuldasheva S.Sh., Jumaeva F.M. ,,Antropogen omillarning atrof-muhitga ta'siri. Respublika ilmiy amaliy konfrensiya. Tosh DAU, 2000 y.