SOIL POLLUTION IN INDUSTRIAL AREAS AND MEASURES TO SOLVE IT

ЗАГРЯЗНЕНИЕ ПОЧВ В ПРОМЫШЛЕННЫХ ЗОНАХ И МЕРЫ ПО ЕГО УСТРАНЕНИЮ

Iztleuov Gani - South Kazakhstan State University named after M. Auezov Shymkent city, Kazakhstan

Nabiyeva Gulchehra Mirergashevna -National University of Uzbekistan named after MirzoUlugbek. Tashkent city, Uzbekistan

Berdiyeva Dildora Shodiyarovna -Jizzakh Polytechnic Institute. Djizak city, Uzbekistan

Изтлеуов Гани Молдакулович - Южно-Казахстанский государственный университет имени М. Ауэзова. Город Шымкент, Казакстан

Набиева Гульчехра Мирегашевна - Национальный университет Узбекистана имени Мирзо Улугбека. Город Ташкент, Узбекистан

Бердиева Дилдора Шодияровна - Джизакский политехнический институт. Город Джизак , Узбекистан

Annotation. Soil pollution is the degradation of the upper fertile layer of the Earth as a result of human economic activity, the accumulation of chemicals, changes in composition and deterioration of its quality [1].

Keywords: soil, chemical composition, quality indicators, heavy metals, mineralization, ions, fertile layer.

Аннотация. Загрязнение почвы - это деградация верхнего плодородного слоя Земли в результате хозяйственной деятельности человека, накопления химических веществ, изменения состава и ухудшения ее качества [1].

Ключевые слова: почва, химический состав, показатели качества, тяжелые металлы, минерализация, ионы, плодородный слой.

The causes of soil pollution can be inorganic, organic, biological and radiation. The source is almost always human activity and the result of the

functioning of various enterprises: Municipal enterprises and residential buildings. Food residues, construction waste, sewer runoff. Household waste is concentrated mainly in landfills, pollutants get into the soil. [1-3].

In 2018-2022, developed a set of indicators on the main properties of gypsum soils and seasonal dynamics of biological activity, degradation indicators on the topic “Gypsum soils of the Jizzakh desert and their biological activists” in the Jizzakh region Makhkamova D. Yu.Researcher, Faculty of Biology, National University of Uzbekistan [5]. Researcher Rakhmatov Z.U. conducted research on the topic «Development and implementation of methods, aimed at preserving and increasing the fertility of irrigated soils Jizzakh desert, prevention and control of salinity and improvement all soil properties».The study did not examine these researchers soil contamination of the Jizzakh region with heavy metals [1-5].

From the literary analysis of research works, I revealed following:

The above studies did not examine pollution levels soils of the Jizzakh region with heavy metals and its causes.In the future, it is necessary to develop scientific and practical recommendations for reducing soil pollution in Jizzakh region heavy metals, which is important for the region.

Today Sh. Rashidovsky district is one of the territories where the quality of agricultural land has decreased, the main lands of the region are located near the city center, industrial enterprises pollute the soil with various pollutants, disrupting the natural balance and pollute the ecological environment. Soils of Sh. Rashidovsky district - light gray, average content humus in saline soils is 1-1.5%, in saline soils - 1%, which are considered the most fertile soils in the region. Total the porosity of greygrass soils varies across a range of genetic stages soils (42-56%) depending on the frequency of irrigation.

Soil is the main environment in which heavy metals. Heavy metals fall to the ground as if through atmospheric air and through water. It is a secondary

source of ocean pollution Earth, surface atmosphere. Heavy metals can be assimilated through the soil and into food [6].

Based on monitoring results, 9 elements were found in the soil Periodic tables. Including: Cu, Zn, Cr, Mn, Ni, Co, As, Cd, Pb.

The largest suppliers of metal-containing waste are enterprises for the smelting of non-ferrous metals (aluminum, aluminum oxide, copper-zinc, lead, nickel, titanium-magnesium, mercury and others.), as well as enterprises for processing non-ferrous metals (radio engineering), electrical engineering, instrumentation, galvanic sky andother).

When determining field composition and assessing soil composition Sh. Rashidovsky district during field research conducted in July 2022, 9 samples of soil layers 0-10, 10-20, 20-30, 30-40, 40-50, 50-60 and 50-70 cm samples were taken for 10 grams cup. The hydrogen index of soil composition pH was determined in field conditions. To analyze soil samples, atomic absorption, gas chromatographic, photometric, photocolorimetric, gravimetric, spectrophotometric, titrimetric and others physicochemical methods [5-6].

Mineralization was determined by gravimetric method. Method detection is based on gravimetric determination of dissolved substances and is determined by filtering the sample to a constant weight at low temperature (105-110 °C) for water with low content minerals (105-110 °C) and at 150 °C, evaporation and drying remainder [7-8].

Methods for analysis of heavy metals. Heavy metals detected photometric and photocolorimetric methods. For example, on based on the reaction of the formation of a yellow alkali complex compound in medium of ferric iron, the formation of colored complex compound in the presence of copper xylenol.

Based on the results of field and laboratory studies and observations, the sources and level of soil pollution in Sh. Rashidovsky district.

Based on the analysis, the quality indicators of soils were studied Sh. Rashidovsky district, soil contamination with heavy metals. During the survey,

soil contamination with heavy metals analyzed the concentration of heavy metals in the soil in layers (0-10, 10-20, 20-30, 30-40, 40-50, 50-60, 60-70 cm) agricultural land. Analysis of soil contamination with heavy metals at the study site in the Sh. Rashidovsky district shows that the most pollutants were found in soil samples. Analysis of soil contamination with heavy metals in the territory shows that a slight increase in the maximum permissible concentration for soils was observed for honey, zinc, chromium, manganese, nickel, cobalt, arsenic, cadmium, and lead. The excess occurred mainly in the upper layer of 0-30 centimeters. The concentrations of all other heavy metals do not exceed the MPC, which confirms the conclusions made in the review section of the study about the low information content of heavy metals in environmental monitoring. Currently, in world practice for environmental refining of fertile soils is increasingly used mineral aluminosilicate adsorbents: various clays, zeolites, zeolite-containing rocks, etc., which are characterized by high absorption capacity, resistance to influences environment and can serve as excellent carriers for fastening to the surface of various compounds during their modification. To reduce the negative impact of heavy metals on light-gray lands of the Sh. Rashidovsky district it is necessary:

-application of mineral fertilizers (for example phosphate, reduces toxicaction of lead, copper, zinc, cadmium);

-growing crops that are resistant to pollution.Improving their reclamation status, soil fertility and increasing crop productivity is recommended application of composts prepared from bird droppings, phosphogypsum and glauconite.Identify the optimal components for preparation of ameliorants and organomineralcomposts, determine their absorption capacity in relation to heavy metals and their influence on chemical, physico-chemical, physical and agrochemical properties of ordinary terraced irrigated soil in laboratory and field experiments.

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