



POSSIBILITY OF USING BIOTECHNOLOGY TO CLEAN POLLUTED WATERS

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Abstract:

One of the universal problems facing mankind is effective and rational use and protection of water resources. The Republic has developed a method of biological treatment of collector-drainage water polluted by mineral fertilizers and nucleic chemicals, with the help of natural reed plants, cut off from the waters edge urut, growing tall thin leaves.

Keywords: Nucleochemicals, salinity, collector-drainage water, concentration of impurity that requires maximum value, microorganisms, pesticides, organochlorine, DDT nutrients.

Introduction

Currently, up to 23 km³ of collector-drainage water is discharged from irrigated lands into the rivers of Central Asia, which leads to an increase in the water in the river. The main consumers of the Amu Darya and Syr Darya are agriculture, which uses about 90% of the water. This is 95-111 km³/year of water resources of the basin. In recent years, the water level in the lower part of the Amu Darya and Syr Darya rivers has decreased due to an increase in non-returning water. Not only has the water level in the rivers decreased, the mineralization of water and polluting agrochemicals has increased. The discharge of industrial, municipal and agricultural waste into the water basin of the upper and middle reaches of the river, has become accustomed to negative consequences downstream.

The agricultural country of Uzbekistan is considered the most advanced irrigation zone, the maximum is usually used mineral fertilizers and nuclear chemicals. As a result, the land is polluted, since the replacement of planting is not maintained, the necessary microorganisms in the soil are reduced. The increase in irrigated land increases the volume of drainage water. In addition, drainage water contaminated with fertilizers and nuclear chemicals pollutes the water basin.

Research Methods

Mineralization of water in the Naryn and Karadaryan section of the Syrdarya basin is 0.3-0.45 g/l, Bekabot section mineralization is 1.2 -1.4 g/l. When in the lower part of the basin, also increasing various nuclear chemicals, its mineralization is 10-15 g/l. Pollution of surface water bodies, pollutes groundwater, is characterized by an increase in the form of Cl, SO₄²⁻, Ca, Fe and other components. Two different levels of groundwater pollution. The first was the deterioration of water quality in the form of (MPC) against the principle of natural values in the range of changes in several different components. This rate of change is classified as groundwater pollution in the initial stage. The second form of pollution is a very dangerous pollutant composition and concentration (DPC), the standard range of elements such as groundwater are polluted [1, 2].

Results

In the Research Institute of Irrigation and Water Problems, a scientific study on biological purification of drainage water was developed. In this laboratory work, experiments were carried out in aquariums. These experiments are based on plant growth in natural lakes and collectors. The experiments showed that reeds, urut, growing thin leaves was cut off from the edge of the water, glacinth plants, the content of drainage water organochlorine pesticides DDT, biogenic substances, α and γ HCSH ability to clean pollutants. Experience in the open air in 20 liters. aquarium, in 6-foot trays, and they have all kinds of aquatic plants, reeds, raet stand heads and the product of grown. Plants tried to swallow dirt up to 2 hours after the start. After 52 days, α -TXSG decreased from 0.1 to 0.0003 mg/l in water, plant root in 54 mg/kg and 34 mg/kg of impurities, reducing



pollution. As can be seen from the above values, collector-drainage waters are purified after a certain period from organic pollution [2, 3].

Before using wastewater and drainage water for irrigation, their quality, that is, to determine their suitability for use. Such an overestimation of the possibility of using water in Central Asia, but many scientists that the conditions of the relevant methods assessed the following parameters: by the ionization coefficient; by the coefficient Irrigation (alkaline); by the sodium-adsorption index.

Conclusions

In conclusion, it can be said that the growth of natural plants such as glacinth, reed, kamish, urut, small leafy plants biologically cleans collector-drainage waters polluted with fertilizers and nuclear chemicals. As a result, there may be opportunities to solve the problems of water shortage in agriculture and industry to meet consumer demand for water, and the economy in the waters of the river will be provided.

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