

**BIOTECHNOLOGICAL PRINCIPLES OF WASTEWATER TREATMENT IN FARMS
AND POULTRY FACILITIES OF FERGONA REGION**



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Abstract: This article provides information on the biotechnological basis of wastewater treatment in farms located in Fergana region.

Keywords: water resources, poultry enterprise, wastewater, biotechnological methods, biological treatment, environmental problems.

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INTRODUCTION

Today, the ecological problems associated with the perfect use of the world's water resources, the prevention of pollution of water bodies with various wastes, and the increasing level of re-pollution of clean waters as a result of the ever-expanding production have their own impact on the environment and public health. showing the secret. Therefore, the water coming out of the residential areas, industrial and agricultural enterprises into the natural and artificial water bodies is directly turning into wastewater without treatment. At this point, great attention is being paid to the further improvement of the methods of effective treatment of waste water and the creation of a system of effective use of such water and its implementation.

Due to the large number of harmful compounds in the water polluted by various wastes in the world, due to the violation of the health of the population and ecological balance, it is necessary to create opportunities for water purification using biological methods and the reuse of purified water, to increase the fish productivity of fishing farms and their feed rations. scientific researches are being carried out on studying and studying the biomass of aquatic plants. By reducing the consumption of fresh water, using methods with high economic efficiency, determining the levels of purification of such water and researching the properties of the wastewater generation process and macrophyte plants rich in biologically active substances. efficient reuse in the field of economy, breeding of nutritious higher plant species and obtaining biomass from them, using the obtained biomass as additional feed for fish, and increasing fish productivity acquire important scientific and practical significance.

LITERATURE ANALYSIS AND METHODOLOGY

After the independence of our republic, certain achievements were made in Fergana region regarding the perfect use of waste water resources, its protection, keeping water sources clean and hygienic, and biological treatment of waste water. In particular, it will improve the methods and technology of wastewater treatment in order to reduce the negative impact on the environment in the circulation of water that is polluted and unsuitable for drinking. In the Strategy of Actions for further development of the Republic of Uzbekistan, the tasks of "...further strengthening of food security of the country" are defined. Based on these tasks, he made the physico-chemical composition of wastewater from the cultivation and reproduction of tall water plants (*Pistia stratiotes* L.) and small ryaska (*Lemna minor* L.), agricultural enterprises. Such interrelationships were also noted in control and experimental options planted with pistia (*Pistia stratiotes* L.) and small ryaska (*Lemna minor* L.).

RESULTS

In poultry farms, poultry are given products with various chemical additives, artificial lighting, and artificial heating methods are used. The scientific significance of the research results is observed by planting the pistia (*Pistia stratiotes* 1) plant in the wastewater from the poultry farm. Pistia develops actively and produces a large amount of plant biomass, as well as the degree of purification from organomineral substances.

The growth and development of *Pistia* (*Pistia stratiotes* 4) in wastewater and the level of wastewater treatment are scientifically based.

In the course of the research, comparative analyzes were carried out on diluted options in addition to wastewater. As a result of the conducted research, if the amount of suspended matter was equal to 79.5 mg/l in the water diluted with sewage and tap water (1:1), the seeds in the water planted with pistia (*Pistia stratiotes* L) plant the indicator was found to be -26.2 mg/l, and the indicator in the water planted with small ryaska decreased to -15.8 mg/l.

DISCUSSION

Biochemical treatment of wastewater in farms and poultry enterprises of Fergana region is carried out in air filters (biofilters), aerotanks and biological ponds. Biofilters are reinforced concrete or brick tanks filled with filter material, which are placed in a perforated bottom and irrigated with wastewater. Slag, gravel, plastic, etc. are used to load biofilters. Wastewater treatment in biofilters takes place under the influence of microorganisms that live on the surface of the load and form a biological film. When the waste liquid comes into contact with this film, microorganisms release organic substances from the water, as a result of which the waste water is purified. Aerotanks are reinforced concrete tanks with a length of 30-100 m and more, a width of 3-10 m and a depth of 3-5 m. Wastewater

treatment in aerotanks occurs due to the accumulation of microorganisms (activated sludge). Air and nutrients are supplied to aerotanks for their normal life.

The advantages of the biological treatment method are the ability to remove various organic compounds from wastewater, including toxic substances, simplicity of equipment design and relatively low cost. Disadvantages include high capital costs, the need to strictly adhere to the technological treatment regime, the toxic effect of some organic compounds on microorganisms, and the need to dilute wastewater at a high concentration of compounds.

CONCLUSION

In short, biological methods are widely used for sewage treatment. Industrial wastewater treatment uses more complex plants than domestic wastewater treatment, and similar methods are used. For this, special microorganisms are used, which in the process of life break down complex organic compounds into simple elements (carbon dioxide, water and mineral deposits). Such processing can reduce the concentration of organic pollutants to an acceptable level. Biological methods of wastewater treatment are only part of the wastewater treatment system.

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