ENVIRONMENTAL PRINCIPLES OF URBAN HOUSEHOLD WASTEWATER TREATMENT UNDER THE INFLUENCE OF EICHHORNIA CRASSIPES.

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Аннотация. *Ушбу мақолада Хоразм вилояти Урганч шахар хўжалик-майиший оқова сувларида лаборотория шароитида эйхорния(Eichhornia crassipes) ўсимлигини кўпайтириш ва унинг сувни тозалаш даражасини ўрганиш мақсадида олиб борилган илмий тадқиқот натижалари баён қилинган.*

Калит сўзлар. *Эйхорния, оқова сув, биологик тозалаш , микроблар,биомасса,экологик мувозанат,лотус,элодия,гидрилла,пистия.*

Enter. Water is such a necessary mineral that it is one of the most necessary things in the life process of a person, in addition to consuming it, he also cooks the necessary food products with water, water occupies the first task in cleaning work. In addition, water is the source of life for plants. It plays an important role in the growth and development. If water is not used sparingly, the cost of the products will increase, at the same time, the amount of harmful substances released into the atmosphere through water will increase, and the ecological balance will be disturbed.[1]

Contaminated industrial and agricultural wastewater is being discharged into some open water bodies. If the contaminated water is not cleaned in time, it can become a source of various diseases, germs and harmful substances. The problem of rational, complex use and protection of water is becoming one of the most urgent and important scientific and technical tasks of today.[2]

Material and methods. Lotus (Nelumbo nucifera), hydrilla (Hydrilla verticillata), chlorella (Chlorella vulgaris Beige), elodea (Elodia canadensis Michx.) and ryaska (Lemna minor L.), eichhornia (Eichhornia crassipes), pistia (High water plants such as Pistia stratiotes L.) and Azolla (Azolla carolipiapa Willd.) can be used.

Eichhornia crassipes plant was planted and propagated in the wastewater from household enterprises of Urganch city, Khorezm region, in

order to purify the wastewater by biological method and reuse it in the national economy, experiments were carried out in laboratory conditions.

The trunk of plants of the genus Eichhornia grows 10-20 centimeters in height, sometimes it can reach 1 meter in favorable conditions. It is a semi-submerged, upright floating perennial aquatic plant. Thick glossy leaves can reach 12-15 cm wide and 30-50 cm long. The length of the roots can be 50-60 cm and more. The most common type is thick-stemmed eichhornia (Eichhornia crassipes Solms) [3]. Experiments were conducted in this way.

In determining the productivity of the plant, V.M. Katanskaya's recommendations were used [4]. The growth and development of Azolla in wastewater was determined by weighing the resulting biomass. Physico-chemical composition of wastewater, composition before planting and after planting, general hydrochemical Yu.Yu. Lure and N.S. It was determined on the basis of Strogonov methods[5][6].

Research results. Initially, eichhornia plant with a biomass of 150 g/m2 was planted in the municipal wastewater in laboratory conditions. Experiments were carried out in different variants, that is, in the aerotank, the wastewater before treatment was diluted with 25% and 50% tap water, and eichhornia was planted in the aquariums.

The results of 7 days of experiments were analyzed. During this time, the growth of Eichhornia in wastewater was good. At the end of the experiment, the biomass of Eichhornia was 910.0 g in the first round, and the daily growth was 108.5 g, in the second round it was 845.0 g, and the daily growth was 99.3 g, and in the third round it was 750.0 g. , and its daily value was 85.6 (Table 1).

Dynamics of growth and development of Eichhornia in Urganch urban household wastewater (day 7).

Table 1

№	Types of experience	wet biomass of Eichhornia, g/m2				
		Planted hornia at beginning	**Diary Warm up**		**Daily nass**	**Total nass**
		G	G	%	G	G
1	Wastewater 100%, hornia planted	150	108,5 ±0,48	72,3 ±0,42	760,0 ±0,78	910,0 ±0,93
2	Waste water 75%, water 25%, hornia planted.	150	99,3 ±0,72	66,2 ±0,24	695,0 ±0,68	845,0 ±0,88

3	Waste water 50%, water 50%, hornia planted.	150	85,6 ±0,34	57,0 ±0,42	600,0 ±0,54	750,0 ±0,74

The experiments were continued for 1 month (30 days) and the growth, development, production of biomass and water purification level of Eichhornia in the wastewater were monitored. The following changes were observed in the physical and chemical composition of the wastewater. (Table 2).

Changes in the physico-chemical composition of Urganch municipal wastewater before and after planting Eichhornia crassipes.

Table 2

T/r	Indicators	Until the experiment: Wastewater composition	After the experiment: Wastewater composition
1.	rN	6,0±0,07	7,0±0,08
2.	Smell, score	5,0±0,03	No
3.	Color	Red	It's a stream
4.	Temperature, 0C	25,0±0,25	26,0±0,21
5.	Suspended substances, mg/l	92,0±3,2	No
6.	Oxygen dissolved in water, mg/l	No	5,7±0,16
7.	KBS5, mgO2/l	121,4±3,9	24,4±1,5
8.	Oxidation, mgO2/l	104,6±3,3	26,0±0,68
9.	Ammonia, mg/l	6,0±0,14	No
10.	Nitrites, mg/l	0,08±0,001	No
11.	Nitrates, mg/l	5,2±0,12	No
12.	Chlorides, mg/l	58,5±1,9	42,3±1,6
13.	Sulfates, mg/l	47,5±1,8	25,6±1,5
14	Phosphates mg/l	8,3±0,06	2,4±0,03
15.	Plant biomass, g/m2	150±5,6	2704±7,3

Conclusion: The experiments carried out in laboratory conditions were continued for 1 month (30 days), and when the growth, development, production of biomass and the level of water purification of Eichhornia in urban household wastewater were monitored, it was found that it accumulated biomass from 150 to 2704 g on 1 m2 of water surface, and it

also contained organic waste water. - it was determined that the degree of purification from mineral substances reached 92%. It can be seen that the biological treatment of wastewater under the influence of high plants is a low-cost, convenient, economically effective and most importantly ecologically safe method.

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