RESEARCH JOURNAL OF TRAUMA AND DISABILITY STUDIES

Volume: 2 Issue: 5 | May – 2023 **ISSN: 2720-6866**
http://journals.academiczone.net/index.php/rjtds

ECOLOGICAL BIOTECHNOLOGY OF WASTEWATER TREATMENT

Yuldoshov Laziz Tolibovich
Bukhara State University B.f.f.d.(PhD)

Rakhmadova Manija Nodir qizi
Student of Bukhara State University

Yarashov Azamat Bakhriddin o'g'li
Master of Bukhara State University

Annotation
The article presents data on the growth, development and reproduction of the high-water plant in the communal farm wastewater of little ryaska and the study of the level of purification of waters from organo-mineral impurities.
Keywords: High water plant, small ryaska, breeding, communal farm, wastewater, pollution, organic and mineral substances.

Introduction

In Uzbekistan, ryaska (Lemnaceae) is a green plant that grows on the surface of water and has 3 different species.The most common of these is the little ryaska. All tasks are considered valuable feeders for agricultural animals, herbivorous fish.

In this regard, experiments were carried out in the wastewater of communal farms and agricultural enterprises in the Bukhara region with the aim of increasing the ryaska plant in the wastewater, clearing the waters of various impurities and obtaining a large amount of biomass.

In laboratory conditions, experiments were carried out in 20-liter aquariums under 3 different conditions. That is, wastewater, 75%+25% vodoprovod water, wastewater 50%+50% vodoprovod water. The physico-chemical composition of wastewater of 3 different variants was determined and ryaska was planted with a count of 100 g/m2 per option. The development of the ryaska plant in the wastewater of the municipal enterprise is shown in Table 1.

Table 1

Development of a small ryaska plant in the wastewater of municipal enterprises

T/r		Variant types	The development of ryaska days, on the account of g/m2					
			1	2	3	4	5	6
1		Wastewater+ryaska	100	130	290	390	640	780
2		Wastewater 75%+25% tap water	100	165	228	360	510	630
3		Wastewater	100	175	260	310	325	390

PUBLISHED UNDER AN EXCLUSIVE LICENSE BY OPEN ACCESS JOURNALS

Volume: 2 Issue: 5 | May – 2023 ISSN: 2720-6866
http://journals.academiczone.net/index.php/rjtds

		50%+50% tap water						

The growth and reproduction of small ryaska in municipal wastewater produced 780g on the surface of wastewater for 6 days, 630G when diluted 25%, 390g when diluted 50%, biomass.

Their physico-chemical composition was determined in Table 2 until the ryaska plant was planted in the wastewater.

Table 2

Physico-chemical composition of municipal farm wastewater until the ryaska plant is planted

Indicators in the composition of wastewater	**Wastewater**	**Wastewater +floodwater 3:1**	**Wastewater +floodwater1:1**
Temperature, C0	22	22	22
Light, luks / ming	14	14	14
pH	6,5	7,0	7,0
Hanging substances, mg / l	155,0	125,0	70,0
Color of water	sariq	sariq	sariq
Smell of water, ball	5,0	4,0	3,0
Oxygen content dissolved in water, mg / l	yo‘q	yo‘q	yo‘q
Biochemical oxygen expenditure, mgO2 / l	155,4	105,5	80,5
Oxidation state, mgO2 / l	144,5	110,5	74,8
Ammonia, mg / l	6,0	4,5	4,0
Nitrites, mg / l	0,4	0,2	0,2
Nitrates, mg / l	4,5	3,5	2,0
Sulfates, mg / l	95,8	58,5	40,0
Chlorides, mg / l	75,2	48	34
Water hardness, gr / l	2,5	2,0	1,5

Municipal wastewater does not contain oxygen, the biochemical coagulation of oxygen is 155.4; 105.5; 80.5 mgO2/l, the oxidation state is 144.5; 110.5; 74.8 mgO2/l, the amount of minerals is shown in the table.Jadval-3

Physico-chemical composition of municipal wastewater after planting the ryaska plant

Indicators in the composition of wastewater	**Wastewater**	**Wastewater +floodwater 3:1**	**Wastewater +floodwater1:1**
Temperature, C0	22,5	22,5	22,5
Light, luke / ming	14	14	14
pH	7,5	7,0	7,0
Hanging substances, mg / l	yo‘q	yo‘q	yo‘q
Color of water	tiniq	tiniq	tiniq

PUBLISHED UNDER AN EXCLUSIVE LICENSE BY OPEN ACCESS JOURNALS

Volume: 2 Issue: 5 | May – 2023 **ISSN: 2720-6866**
http://journals.academiczone.net/index.php/rjtds

Smell of water, ball	yo‘q	yo‘q	yo‘q
Oxygen content dissolved in water, mg / l	9,0	8,8	9,0
Biochemical oxygen expenditure, mgO2 / l	11,5	9,5	9,0
Oxidation state, mgO2 / l	14,5	19,8	17,4
Ammonia, mg / l	yo‘q	yo‘q	yo‘q
Nitrites, mg / l	yo‘q	yo‘q	yo‘q
Nitrates, mg / l	yo‘q	yo‘q	yo‘q
Sulfate, mg / l	62,8	62,4	54,8
Chlorides, mg / l	64,5	58,4	44,5
Water hardness,	2,2	1,8	1,6

As a result of the active development of the ryaska plant in wastewater, the color of the waters became clear, the smell disappeared, the environment neutralized, the amount of water-dissolved cislarode increased by 80-85%. Biochemical oxygen consumption and oxidation levels decreased to 90-95%. Completely absorbed by the ammonia, nitrites, nitrates, aquatic plant contained in the waters.

As a result of the experiments carried out, the small ryaska plant in the wastewater of communal farms developed with activity to produce a large amount of nutrient-rich biomass. In the active development of Ryaska, it was found that by enriching wastewater with oxygen dissolved in water, water can be purified from organo - mineral substances by up to 90-95%. The biomass produced has been applied as feed in fisheries and poultry. Purified water, on the other hand, is used for irrigation of agricultural crops and for use as secondary water to the enterprise.

Literature used

1. Muzaffarov A.M., Taubaev T.T., Abdiev M. Ryaski i metodы ix massovogo kultivirovaniya. Tashkent, 1970 g
2. Taubaev T.T. Flora i rastitelnost vodoemov Sredney Azii. Tashkent, 1970 g
3. Taubaev T. T., Buriev S. Biologicheskaya ochistka stochnыx vod. Tashkent. 1980 g.
4. Lure Yu.Yu. Analiticheskaya ximiya promыshlennыx stochnыx vod. M. 1984 g
5. Stroganov N.S., Buzinova N.S. Prakticheskoe rukovodstvo po gidroximii. M.1980 g
6. Buriev S.,Rashidov N.,Xayitov Yo.,Yuldoshov L. Ishlab chikarish korxonalari oqava suvida yuksak suv o‘simliklarini ko‘paytirish. O‘zbekiston florasi bioxilma-xilligi va undan oqilona foydalanish muammolari. Samarqand -2011.

PUBLISHED UNDER AN EXCLUSIVE LICENSE BY OPEN ACCESS JOURNALS