SALINIZATION OF CROP FIELDS IN NAMANGAN REGION AND ITS CONSEQUENCES

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Abstract. Assessment of the causes of salinization of irrigated lands in Namangan region, reclamation and agro meteorological problems, and analysis of salinization processes in the south-western regions of the region.

Key words*:* *hydromorphic, soil, salt, concentration, drainage, salt water, salt water, stream, sand, alluvial, pluvial.*

In recent years, the shortage of Water Resources has been increasing year by year due to global climate change, the growth of population and economic sectors, their demand for water.

The average annual amount of water used was 51-53 billion m3, 97.2 percent of which was obtained from rivers and lakes,1,9 percent from collector networks, 0.9 percent from underground and reduced by 20 percent compared to the allocated water intake limit [1]. Therefore, today it is important to identify the cause of the problems that arise as a result of the use of water and water resources and eliminate them.

Data on the degree of salinity in District peasants are given in 1-Val. As is known, water and nutrient elements are absorbed by the root into the plant's suction force evasion. Water is absorbed when the suction power of the plant is greater than the water holding power of the soil. The water holding power of the soil depends on the osmotic pressure of the soil solution.

1-table

Salinization rate of agricultural land irrigated in Mingbulak District of Namangan region in 2019 year [3]

Mass name	Irrigated land area,	On the degree of salinity										saline lands		Moderate, strong and very strong saline soils		
		Not salted		Weak		Average		Strong		Very strong				All compared to irrigated areas		All compared to salted areas
		ga	%	ga	%	ga	%	ga	%	ga	%	ga	%	ga	%	%
Khorezm	3201,0	148.2	4,6	636,5	19,9	2389,9	74,7	26,4	0,8			3052,8	95,4	2416,3	75,5	79,2
Istikbol	4349,0	1103,1	25.4	949,1	21.8	2154,1	49,5	82,62	1,9	60,1	1,4	3245,9	74,6	2296,8	52,8	70,8
Namangan	2487,0	726.9	29,23	764,2	30.73	813,7	32,72	92,0	3.70	90,2	3,63	1760,1	70,8	995,9	40,0	56,6
A.Navoiy	2812,7	1563,4	55,58	435,10	15,47	261,90	9,31	63,80	2,27	488,50	17,37	1249,3	44,4	814,2	28,9	65,2
Giant	4180,0	834,2	19,9	1667.4	39,9	1437,6	34,4	137,6	3,3	103,2	2,5	3345,8	80,0	1678,4	40,2	50,2
A.Temur	2754,0	844.3	30.66	1533,54	55,68	243,8	8.85	132,39	4,81			1909,7	69,3	376,2	13,7	19,7
Gulbog	7275,1	2491,0	34.2	3009,50	41,4	1608,0	22.1	120,0	1,7	46.60	0,6	4784,1	65,8	1774,6	24,4	37,1
Guliston	5215,2	403,2	7,7	1045.8	20,1	3294,5	63,2	395,8	7,59	75,9	1,46	4812,1	92,3	3766,3	72,2	78,3
Fergana	2479,0	95,9	3.9	743,8	30,0	1470,2	59,3	120,6	4.8	48.5	2,00	2383,1	96,1	1639,3	66,1	68,8
Total:	34753,0	8210,1	23.62	10785,0	31,03	13673,7	39,35	1171,2	3,37	913,0	2,63	26542,9	76,4	15757,9	45,3	59,4

With an increase in salt and a decrease in moisture, the water holding power of the soil increases. For this reason, the water absorption by the plant worsens, despite the fact that it is sufficiently moist in the soil, the plant can not absorb as much as it needs. As a result, the life conditions of the plant become sluggish, its development slows down and its yield sharply decreases (Table 2).

2-table

Decrease in crop yields due to the amount of salt in the soil, on account of % compared to the control value [5]

Type of crop	**The amount of salt in the soil (in relation to the dry mass, %)**				
	0.1 control	**0.3**	**0.6**	**0.9**	**1.2**
	Not salted	Less salted	Moderatel y salted	Strongly salted	Very strongly salted
Cotton	100	94	50	22	6
Wheat	100	80	39	15	0
Mecca for grain	100	95	46	0	0
For Mecca silos	100	98	72	57	35
Alfalfa	100	96	73	53	39
Day careerist	100	98	84	53	46
Potatoes	100	90	68	0	0
Tomatoes	100	98	74	54	34
Peas	100	66	27	0	0
Sweet pepper	100	71	43	39	0
Eggplant	100	92	74	48	32
Beet	100	95	88	73	66

Based on the data of Table 2, the graphs of the decrease in the yield of plants grown in saline soils (Figure 1) show that salinity sharply reduces the yield of all crops. Especially in the autumn, for maize cereals, the salinity of potatoes, peas and sweet cranberries is extremely low.

To quantify the dependence of the yield on salinity, regression equations and correlation coefficients of the correlation between them were calculated (Table 3). The fact that the correlation coefficients of Bunda are between 0.96-0.99 once again confirms that salinity is the strongest factor determining yield and the need to take this into account.

3-Table

The dependence of the yield of various crops on salinity

№	Type of crop	Regression equation	Correlation coefficients
1	Cotton	y=-93x+112	-0,98
2	Wheat	y=-94x+105	-0,985
3	Mecca for grain	y=-105x+114	-0,962
4	For Mecca silos	y=-61x+110	-0,99
5	Alfalfa	y=-59x+109	-0,993
6	Day careerist	y=-55x+110	-0,97
7	Potatoes	y=-104x+116	-0,954
8	Tomatoes	y=-63x+111	-0,991
9	Peas	y=-93x+96	-0,95
10	Sweet pepper	y=-82x+101	-0,973
11	Eggplant	y=-65x+109	-0,995
12	Beet	y=-32x+104	-0,99

As you know, the first signs of damage caused by salinity are:

- late germination of seeds;
- irregular growth of a plant or delay in its development;
- the dark color of the leaves to enter the soil;
- the square of the leaves and the clamp between the branches located on the stems When the situation worsens, the leaves turn yellow and shed. Usually several methods of combating salinity are used. planting salt-resistant varieties of echinacea;

In this regard, many years of experience in cooperation with the Gulistan State University of the International Institute for Water Resources Management has been instructive. For example, in the experiment conducted at the victory Water Consumers Association in Boyovut District of Sirdarya region, the amount of salt in the control and experimental fields was on average 212-217 t/ha at a depth of 2 m.

The next year, the amount of salt in the control field increased by an average of 306 t.

When the Shirinmiya plant was planted in the harvested field and cotton, the yield reached from 8.5 ts/ha to 26.5 ts/ha, and in cotton from 3.3 to 19.1 ts / ha [4].

In the mingbulak district (also in the Pop district), the fact that the arable land is next to Syrdarya causes the proximity of groundwater to the surface of the Earth, which almost negates the effectiveness of salt washing (2-4 photos). Therefore, here it is necessary to use methods of obtaining dressing without watering, taking into account the porosity of the soil. Considering that 60 % of the water given to irrigation in the bun is spent on evaporation, it is possible to use the mulching method with the help of polyethylene film to reduce it.

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