

WATER AND FERTILIZER REQUIREMENTS OF “PORLOQ-1” COTTON VARIETIES IN WEAKLY SALINITY SOILS

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ПОТРЕБНОСТЬ В ВОДЕ И УДОБРЕНИЯХ СОРТОВ ХЛОПКА “ПОРЛОК-1” НА СЛАБОЗАСОЛЕННЫХ ПОЧВАХ**КУЧСИЗ ШЎРЛАНГАН ТУПРОҚЛАРДА ПОРЛОҚ-1 ҒЎЗА НАВИНИНГ СУВ ВА ЎҒИТГА БЎЛГАН ТАЛАБЧАНЛИГИ**

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ANNOTATION

This article describes the influence of irrigation method and mineral fertilizer rate on the cotton weight and productivity of “Porloq-1” cotton variety in slightly saline soils.

АННОТАЦИЯ

В статье рассмотрено влияние способа орошения и нормы минеральных удобрений на массу и продуктивность хлопчатника сорта “Порлоқ-1” на слабозасоленных почвах.

АННОТАЦИЯ

Мазкур мақолада Порлоқ-1 ғўза навини кучсиз шўрланган тупроқларда парваришланганда суғориш тартиби ва маъдан ўғитлар меъерининг бир дона чанокдаги пахта вазнига ва ҳосилдорликка таъсири баён этилган.

INTRODUCTION

Creating, planting and putting into practice cotton varieties suitable for the climate and soil conditions of our country is the main task of today's cotton farming. Fast ripening, productive, cotton fiber that can meet market requirements, resistant to diseases and pests, suitable for different salinity soils, water, drought, temperature, harem, specialists, breeders are conducting research and making great progress, especially on resistance to relative air humidity [4].

It is necessary to carry out a system of agro-measures for the maintenance of foza varieties, taking into account the climate, soil, melioration, and hydrogeological conditions of the regions. In the care of cotton varieties, the division of the territory into reclamation zones and hydromodule zones, it is very important to take into account stress factors (heat, extreme temperature, lack of water, etc.), resistance to wilt and other diseases and pests.

Therefore, in each region, only in the climate, soil, melioration, hydrogeological conditions of this region, cotton varieties with different ripening speed should be conducted separately for the regions of the light gray and desert regions, and the development of a system of agro-

measures for their care, selection of high-quality, quick-maturing cotton varieties in these regions and their introduction into production is one of the urgent problems facing the science of cotton growing and waiting for its solution.

In 2016-2018, in order to positively solve the above-mentioned issues, in the Badikhon district of the Surkhondarya region, research was carried out in 2016-2018 on the development of agrotechnical measures for the optimal care of the medium-fiber "Porloq-1" variety of cotton in the conditions of weakly saline medium-sandy light-colored gray soils.

EXPERIMENTAL METHODOLOGY

In 2016-2018, the research work was carried out in the conditions of the "BEKTEPA MERSAJ" farm in Bandikhon district, Surkhondarya region, in the conditions of light gray soils, where the level of low-fertile seepage waters is located at a depth of 1.5-2.0 meters.

In our experiments, taking into account the fertility level of the soil, in the rates of two different mineral fertilizers N_{150} , P_{105} , K_{75} ba N_{200} , P_{140} , K_{100} kg/hect, soil moisture in two different watering regimes is 65-65-65% compared to ChDNS; in 70-75-65%, studied(2).

RESEARCH RESULTS

When determining the changes in agrophysical properties of the soil during the growing season, the volume mass of the soil was 1.31-1.32 g/cm³ at the beginning of the growing season in the plowing layer (0-30 cm) in the conditions of light gray soils. 1.34-1.34 g/cm³ in the under-driving (30-50 cm) layer, 1.36-1.37 g/cm³ in the 0-70 cm layer, 1.37-1.38 g/cm³ in the 0-100 cm layer, at the end of the growing season, in the options where irrigation was carried out in the order of 65-65-65% in relation to ChDNS, this indicator was 0.04 g/cm³ in the driving layer of 0-30 cm, 0.05 g/cm³ in the under-driving layer (30-50 cm), 0 - 0.05 g/cm³ in the 70 cm layer, 0.04 g/cm³ in the 0-100 g/cm³ layer, 0.04 g/cm³ in the 0-30 cm layer. An increase of 0.06 g/cm³ in the 30-50 cm layer, 0.05 g/cm³ in the 0-70 cm layer, and 0.04 g/cm³ in the 0-100 cm layer was observed.

When soil moisture before irrigation was 65-65-65% compared to ChDNS, the volume mass of soil at 70-75-65% differed by 0.01 g/cm³ in plowed and under-plowed layers.

As a result of the analysis of the research work carried out in the conditions of weakly saline low-yielding light-colored gray soils of Bandikhon district of Surkhondarya region, it was found that as a result of each agrotechnical measures, a small difference in volume weight was observed at the end of the season. Soil permeability was determined based on 6-hour observation. The water permeability of the soil was determined at the beginning of the season in the experimental field conducted in 2017. In the experimental field, the beginning of the water permeability of the soil at the beginning of the application period was in the range of 325 m³/hect in the 1st hour, 720 m³/h in the 6th hour, and the average in the 1st hour was in the range of 120 m³/h. By the end of the operation period, it was found that 108 m³/hect, and 147 m³/hect at 70-75-65%, compared to the beginning of the operation period, were transferred less water than at the beginning of the operation period. The results obtained from the conducted research showed that the volume weight of the soil increased and the water permeability decreased with the increase of the irrigation method from 65-65-65% to 70-75-65%. The medium-fiber "Porloq-1" cotton variety was irrigated 2 times in the 0-2-0 system when the soil moisture before irrigation was 65-65-65% compared to ChDNS, and the amount of seasonal

water was 2120 m³/ha, and when it was irrigated in the order of 70-75-65%, it was 0. It was irrigated 3 times in the 2-1 system, and the amount of seasonal water was 2680 m³/hec.

The Porloq-1 cotton variety is located at the level of 1.5-2.0 meters of light gray water in Surondarya region in the soil, the weight of cotton in a bag took the irrigation of the soil moisture in the order of 65-65-65% in relation to ChDNS, the rate of mineral fertilizers N₁₅₀, P₁₀₅, K₇₅ kg/hec ва N₂₀₀, P₁₄₀, K₁₀₀ 5.0-5.2 g per kg/hec, irrigation was carried out in the order of 70-75-65%, and when mineral fertilizers were used in the same way as above, this indicator was 5.3-5.5 g. The rate of mineral fertilizers when irrigation is carried out in the order of 65-65-65% in September according to the growth and development of cotton N₁₅₀, P₁₀₅, K₇₅ kg/hec ва N₂₀₀, P₁₄₀, K₁₀₀ кг/га when used, the plant height was 109.5-114.5 cm, the yield branch was 13.0-14.5 pieces, the number of pods was 7.3-8.3 pieces.

At 70-75-65% of the irrigation regime, the growth of cotton is 6.8-9.4 cm in comparison to 65-65-65%, the yield is 1.6-1.1 pieces, the boll is 0.3-0.5 the grain was high. In our research, in the conditions of the light gray soils of Surkhandarya region, where the water level is 1.5-2.0 meters deep, the standard of mineral fertilizers is 65-65-65% of the irrigation order of Porloq-1 cotton variety N₁₅₀, P₁₀₅, K₇₅ кг/га қўлланилганда 27,6 ts/hec yield was obtained, when the rate of mineral fertilizers N₂₀₀, P₁₄₀, K₁₀₀ kg/ha was applied, it was 33.3 tons/hec, and an additional yield of 5.7 tons/hec was obtained.

Cotton weight and yield per boll of irrigation and feeding rates

Variant	The rate of mineral fertilizers is pure kg/he			The weight of cotton in one skein is g. 2017			Productivity by years (2016-2018)			
	N	P	K	1-picking	2-picking	avarage	2016	2017	2018	2019
65-65-65% moisture relative to ChDNS of the soil										
1	150	105	75	5,7	4,3	5,0	25,4	27,6	24,6	25,9
2	200	140	100	5,9	4,4	5,2	29,6	33,3	28,7	30,5
70-75-65% moisture relative to ChDNS of the soil										
3	150	105	75	6,0	4,6	5,3	26,6	28,6	25,9	27,0
4	200	140	100	6,2	4,8	5,5	31,1	34,7	30,1	32,0

The rate of mineral fertilizers at 70-75-65% of the irrigation regime N₁₅₀, P₁₀₅, K₇₅ kg/hec and N₂₀₀, P₁₄₀, K₁₀₀ kg/ha yielded 28.6-34.7 t/hec compared to 65-65-65% irrigation method and 1.0-1.3 t/ha higher yield was obtained due to irrigation at 70-75-65%.

CONCLUSION

As a result of the research, it was concluded that in the soils where the low-fertility seepage water is located at 1.5-2.0 meters, the irrigation procedure is 70-75-65%, the norm of mineral fertilizers N₂₀₀, P₁₄₀, K₁₀₀ kg/hec 34.7 tons/ha is obtained when applied.

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