IRRIGATION OF COTTON BY WATER-SAVING METHOD

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ABSTRACT

This article is mainly written about the distinct advantages and disadvantages of resurstejamkor irrigation technologies in Goose irrigation. It is also written that the economy of Water Resources will be if drip irrigation works are carried out.

Keywords: *irrigation, norm, mineral, fertilizer, resource, range, productivity.*

АННОТАЦИЯ

Эта статья в основном написана о явных преимуществах и недостатках технологий орошения resurstejamkor при орошении гусей. Также написано, что экономия водных ресурсов будет, если проводить работы по капельному орошению.

Ключевые слова*: орошение, норма, минерал, удобрение, ресурс, ассортимент, продуктивность.*

INTRODUCTION

Along with the increasing demand for water resources in many parts of the world, including our country, the shortage of water is also increasing year by year. Bunda has a deep sense of water shortage, especially its consumers, which are located at the bottom of rivers and away from the canal and other water sources.Increasing the amount of harvest from irrigated areas on the basis of economical and effective use of Water Resources in the Republic, expanding the production of food products in this regard, effective work is carried out to further improve the living standards of the country's population by improving its quality and filling the domestic market.In the following years, a large-scale work is carried out on the effective and targeted use of water in our republic.

Serious attention is paid to raising the culture of water use under the leadership of our esteemed compatriot, accelerating reforms in the water economy, strengthening the material and technical base of the sphere. Extensive work is being

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carried out on advanced methods of irrigation of crops, including the introduction of drip irrigation technology.

DISCUSSION AND RESULTS

In the drip irrigation system, the technology of caring for the soil includes the following basic indicators: the use of high-yielding and fast-growing varieties suitable for different soil climatic conditions, the rational system of processing between the main, hay-picked and row to the soil, the planting of high-quality seeds, the stratification of mineral fertilizers, the system of fully automating the, spraying and defoliation with the help of gauze, harvesting cotton with the help of machines. This technology is actually adopted and is compatible with irrigation technology through a widely used rut. The main difference of the drip irrigation system is that during the growing season, a certain part of the mineral fertilizers and herbicides are allowed to be combined with irrigation to the plant, and not processed in a row.

The soil of the experimental area is a medium sand, the depth of groundwater is 1,5-1,7 meters, during the period of application of porous growth is 1,6-1,9 meters and is less saline. According to the results of the experiment, the drip irrigation system has some advantages over raked irrigation, the economy of 45-50% of irrigation water, as well as mineral fertilizer 40-50% were determined from the research. It was also determined that the number of processing between rows decreased by 2,75 Times, water consumption to 1 m3/ha for the cultivation of cotton crop to 85 s/Ha.

From the agrophysical properties of the soil in drip-irrigated fields: lightening of the bulk weight, improved water permeability were observed. It was also determined that harmful, water-soluble salts accumulate poorly in the root-dispersed layer, the absorption of nutrients by the plant due to the dissolution of mineral fertilizers by water increases and the increase in the yield elements. Productivity increased to 7,4 s/M when drip irrigation was observed. In addition, the process of salinity in the soil, on account of the constant retention of moisture in the drip-watered areas, did not suffer from wilt disease, creating a very small amount.

Experiments on the development of an optimal irrigation and feeding procedure for drip irrigation of the goose were carried out in the areas where it was previously watered. In the experiments, humidifying pipes with a length of 170 meters, laid to each owner, with a maximum slope of 0,015, with a large slope, were installed along the slope of the maximum slope of the slope of 0,006, which was ploughed in the first year after the three-year bed, as well as humidifying pipes with a length of 60.

Experience system

Options	rrigation method	Irrigation took moisture of the soil, compared to CHDNS, %,	Annual norm of mineral fertilizers, in kg/ ha
	hrough rut ontrol)	70-75-70	N240, P170, K120,
	Drip irrigation system	70-75-70	N240, P170, K120,
	Drip irrigation system	70-75-65	N240, P170, K120,
	Drip irrigation system	70-80-65	N240, P170, K120,

Experiment areas were grown with medium-coarse mechanical content, medium – fiber Steam-6 grade of porous in the range of 60 cm, humidifier-pipes based on Izroil technology were delivered 1,2 meters from the rear of the tractor. In experiments, the goose was planted in 4 rows, each option (delyanka) in 8 variants.

All field and laboratory studies were conducted on the former Uzbek methodological manuals. In the Haydov layer (0-30 CM), the volume weight of the soil is 1.38-1.41 g/cm3, while in the haydov layer (30-50 cm) this indicator is slightly increased to 1.49-1.58 g/cm^3, the relative weight and total porosity indicators are 3.14-3.21 g/cm^3 and 51.3-47.1% respectively in these layers.

The hydrophysical parameters of the soil are as follows, the limited field moisture capacity (CHDNS) in 0-100 CM part of the soil layer is 20,3-21,4, the natural moisture content is 17,2-18,5% in the hay layer, and in the subsurface layer is 18,3-20,8 %. The order of irrigation of the porous is formed due to the amount of moisture received from the irrigation set in the experimental system and the approximate layer of soil 0-50 CM. The data obtained indicate the high efficiency of drip irrigation compared to irrigation through the rut. In particular, if brutto water is spent on seasonal 6300 m3/h in irrigation through the rut, we can observe that in drip irrigation water is spent on 2 and 3 variants to 2730 m3/h, and in the fourth variant (70-80-65) to a total of 2980 m3/h in the norm. Thus, in the order of 70-75-70% of drip irrigation, 57% of water is economized, in the order of 70-80-65% of drip irrigation.

The procedure for mineral nutrition of the geese depends on the solubility property of mineral fertilizers. The full norms of mineral fertilizers with hard-to-

ground phosphorus (ammophos) and potassium (potassium chloride) in the water are laid before the drive, based on the experimental system. Nitrogen fertilizers (ammonium nitrate) are given by irrigation water using a gidro fertilizer device installed at the pump station. Gidro fertilizer ejektor is manufactured in principle and its construction is transplanted from an irrigation machine that rains KI-50 “Raduga".

Drip irrigation system should ensure that the entire part of the watering hole is moistened in one tekist. Such humidification creates conditions for the uniform operation of the droppers when the pressure is ensured only by the presence of a certain indicator (1,0-4,0 atm) in the head part of the water supply pipes to the field.

It is required to keep the system in constant control to prevent a well developed malfunction. As a result of cracks and malfunctions, which can lead to a decrease in the pressure in the closed system, it is necessary to quickly fix the areas where the gearing is disrupted and the water flows in the hopper. During irrigation, the filters that hold large and small particles in the water must be cleaned and washed current. If necessary, watering pipes are also washed. To do this, the plugs at the end of all the pipes are removed and the water from the outlet is drained through the throwing arc. It should always be checked that the irrigation pipes are correctly located between the rut, on the soil of the Waterproofers.

CONCLUSION

The features of agrotechnical care using new technology drip irrigation systems with intensive prospects for porcine and crops entering its complex in the conditions of old irrigated Meadow Marsh soils are described above. The high efficiency obtained in these experiments in the field of water saving has also proved itself positive in terms of the environment. Productivity increased to 7,4 s/M when drip irrigation was observed. In addition, the process of salinity in the soil, on account of the constant retention of moisture in the drip-watered areas, did not suffer from wilt disease, creating a very small amount.

Meadow Marsh soils are widely distributed in the region, along with irrational erosion and flowing water, the mine is washed into the waters of Oghuz. Therefore, first of all, it is desirable to build a drip irrigation system on the territory of self-soil, where the surface of the groundwater is located.

REFERENCES

1. Jurayev, A. Q., Jurayev, U. A., Atamurodov, B. N., & Najmiddinov, M. M. (2021). Scientific Benefits and Efficiency of Drip Irrigation. *Journal of Ethics and Diversity in International Communication*, *1*(6), 62-64..

2. Murodov Otabek Ulugbekovich, Kattayev Bobir Sobirovich, Saylichanova Maftuna Komiljonovna, & son of the Islamic Charter of Prayer. (2020). Smart irrigation of agricultural crops. Middle European Scientific Bulletin, 3, 1-3. https://doi.org/10.47494/mesb.2020.3.16

3. Jurayev, A. Q., Jurayev, U. A., Atamurodov, B. N., & Najmiddinov, M. M. (2021). Cultivation of Corn as a Repeated Crop. *European Journal of Life Safety and Stability (2660-9630)*, *10*, 49-51.

4. Atamurodov, S. U. (2022). IMPLEMENTATION OF IMPROVEMENT OF EMOTIONS BASED ON NATIONAL AND UNIVERSAL VALUES TO PRIMARY SCHOOL STUDENTS THROUGH PHYSICAL EDUCATION AND SPORTS ACTIVITIES. *Mental Enlightenment Scientific-Methodological Journal*, *2022*(2), 10-23.

5. Murodov Otabek Ulugbekovich, Saylichanova Maftuna Komiljonovna, Kattayev Bobir Sobirovich, Muzaffarov Mukhriddin Murodovich. Determination of efficiency of groundwater use in irrigation of millet planting, Euro-Asia Conferences, 2021/3/31, 131-134.

6. Jo'rayev, U. A., Jo'rayev, A. Q., & Atamurodov, B. N. (2021). Application of Provided Irrigation Technologies in Irrigated Agriculture. *International Journal of Development and Public Policy*, *1*(6), 164-166.

7. Atamurodov, B. N., Ibodov, I. N., Najmiddinov, M. M., & Najimov, D. Q. The Effectiveness of Farming in the Method of Hydroponics. *International Journal of Human Computing Studies*, *3*(4), 33-36.

8. Jurayev, A. Q., Jurayev, U. A., Atamurodov, B. N., & Najmiddinov, M. M. (2021). Aphorisms of Farming in the Method of Kidroponics. *International Journal of Discoveries and Innovations in Applied Sciences*, *1*(6), 133-135.

9. Jurayev, A. Q., Jurayev, U. A., Atamurodov, B. N., & Najmiddinov, M. M. (2021). The Main Purpose of Drip Irrigation in Irrigation Farming and Its Propagation. *European Journal of Life Safety and Stability (2660-9630)*, *10*, 46-48.

10. Saylixanova M., Davronov A., Isaeva L. PROBLEMS OF IMPROVING IRRIGATION TECHNOLOGY //МОЛОДОЙ ИССЛЕДОВАТЕЛЬ: ВЫЗОВЫ И ПЕРСПЕКТИВЫ. – 2020. – С. 405-407.

11. JURAYEV U., KHAMIDOV M. Influence of phytoremediation plants on soil salts //Kiev, Ukraine. – 2012.

12. Khamidov, M.K., Balla, D., Hamidov, A.M., Juraev, U.A.Using collector-drainage water in saline and arid irrigation areas for adaptation to climate Chang. 2020. IOP Conference Series: Earth and Environmental Science 422 (1), 012121

13. Xamidov M.X., Joraev U.A. Sniceniya mineralizasii gallektorna-drenajnix VAD / / Agrarnaya Nauga. 2016. № 6. C. 2-3.
14. Khamidov M.X., Juraev U.A. Influence of phytoremediation plants on soil salts / / innovative technologies in water management complex. – Ukraine, Rovno, 2012. - What? 32-34.
15. Balla Dagma, Ahmad Namidav, Khamidav Muhammadghan, O.About us Improvement of drainage water quality through biological methods: a case study in the Bukhara region of Uzbekistan // European Science overview. - Ausrtia Vienna. – 2016. Page not found (05.00.00. №3).
16. Fazliev, J., Khaitova, I., Atamurodov, B., Rustamova, K., Ravshanov, U., & Sharipova, M. (2019). EFFICIENCY OF APPLYING THE WATER-SAVING IRRIGATION TECHNOLOGIES IN IRRIGATED FARMING. *Интернаука*, *21*(103 часть 3), 35.
17. Murodov Otabek Ulugbekovich, Saylichanova Maftuna Komiljonovna, Kattayev Bobir Sobirovich, Muzaffarov Mukhriddin Murodovich. Determination of efficiency of groundwater use in irrigation of millet planting, Euro-Asia Conferences, 2021/3/31, 131-134.
18. Murodov O.U., Kattaev B.S., Saylichanova M. K. // The use of sprinkler irrigation in the cultivation of agricultural crops // " Proceeding of the ICECRS.Conference of Management of Islamic Education Leadership in the Era of Revol 4.0 4.0 "conference. - Indonesia 2020.
19. AQ Jurayev, UA Jurayev, BN Atamurodov, MM Najmiddinov, Scientific Benefits and Efficiency of Drip Irrigation, Journal of Ethics and Diversity in International Communication 2021/12/2 62-64 st.
20. UA Jurayev, AQ Jurayev, BN Atamurodov, Application of provided irrigation technologies in irrated agriculture, International Journal of Development and Public Policy, 2021/12/1 164-166
21. AQ Jurayev, UA Jurayev, BN Atamurodov, MM Najmiddinov,Cultivation of Corn as a Repeated Crop, European Journal of Life Safety and Stability (2660-9630) 2021/11/29 49-51 st.
22. Атамуродов Б. Н. и др. ИССИҚХОНАЛАРДА ПОЛИЗ ЭКИНЛАРИ УЧУН ГИДРОПОНИКА УСУЛИ САМАРАДОРЛИГИ ВА ФОЙДАЛИ ЖИХАТЛАРИ //ЖУРНАЛ АГРО ПРОЦЕССИНГ. – 2020. – Т. 2. – №. 3.
23. Жураев А. К., Саксонов У. С. BUXORO VOHASIDA KUZGI BUG ‘DOYNI SUG ‘ORISH MUDDATLARI VA ME ‘YORLARINI ILMIY ASOSLASH //ЖУРНАЛ АГРО ПРОЦЕССИНГ. – 2019. – №. 6.

24. Жураев А. К., Саксонов У. С. BUG ‘DOY O ‘SIMLIGINING BIOLOGIYASI HAMDA AGROTEXNIKASI //ЖУРНАЛ АГРО ПРОЦЕССИНГ. – 2019. – №. 6.
25. Kurbanmuratovich M. R. et al. RESULTS OF APPLICATION OF SOFTENING SPHERICAL DISC WORKING ORGANNI IN FRONT OF THE BASE SMOOTHING BUCKET //ResearchJet Journal of Analysis and Inventions. – 2021. – Т. 2. – №. 07. – С. 14-22.
26. N., Atamurodov B., et al. "The Effectiveness of Farming in the Method of Hydroponics." *International Journal of Human Computing Studies*, vol. 3, no. 4, 2021, pp. 33-36, doi:10.31149/ijhcs.v3i4.2026.
27. Атамуродов, Б. Н., Фазлиев, Ж. Ш., & Рустамова, К. Б. (2020). ИССИҚХОНАЛАРДА ПОЛИЗ ЭКИНЛАРИ УЧУН ГИДРОПОНИКА УСУЛИ САМАРАДОРЛИГИ ВА ФОЙДАЛИ ЖИХАТЛАРИ. *ЖУРНАЛ АГРО ПРОЦЕССИНГ*, *2*(3).
28. Фазлиев, Ж. Ш., Хаитова, И. И., Атамуродов, Б. Н., Рустамова, К. Б., & Шарипова, М. С. (2019). ТОМЧИЛАТИБ СУҒОРИШ ТЕХНОЛОГИЯСИНИ БОҒЛАРДА ЖОРИЙ ҚИЛИШНИНГ САМАРАДОРЛИГИ. *Интернаука*, (21-3), 78-79.
29. Ro’Ziyeva, M. A., & Najmiddinov, M. M. (2022). Sho’rlik darajasi turlicha bo’lgan suvning jamadon tipidagi ko’chma quyosh suv chuchiktgich qurilmasining unumdorligiga ko’rsatadigan ta’siri. *Science and Education*, *3*(4), 218-221.
30. Ruziyeva, M. A., Najmiddinov, M. M., & Sobirov, K. S. (2022). COMPARATIVE ANALYSIS OF METHODS FOR MEASURING BURNUP OF SPENT FUEL ASSEMBLIES BETI. *Oriental renaissance: Innovative, educational, natural and social sciences*, *2*(5), 385-389.