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**SCIENTIFIC AND PRACTICAL IMPORTANCE
OF EFFICIENT USE OF WATER IN IRRIGATED LAND****Abdullayeva S, Inoyatov I**

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Abstract. Demand for water is growing in Uzbekistan as the population grows and the economy grows rapidly. The most fertile land in the country is irrigated. They are now irrigated in the old-fashioned way. In terms of losses, about 50-60% of the water taken from the river evaporates before it reaches the fields and plants. the issue of economical use, especially the introduction of water-saving technologies in irrigation of crops is urgent.

Keywords: Water, water users' association, arable land, land, reclamation, irrigation methods.

**НАУЧНО-ПРАКТИЧЕСКОЕ ЗНАЧЕНИЕ
ЭФФЕКТИВНОГО ИСПОЛЬЗОВАНИЯ ВОДЫ НА ОРОШАЕМЫХ ЗЕМЛЯХ**

Аннотация. Спрос на воду в Узбекистане растет по мере роста населения и быстрого роста экономики. Самые плодородные земли в стране орошаются. Сейчас их поливают по старинке. По потерям около 50-60% воды, взятой из реки, испаряется, не дойдя до полей и растений. остро стоит вопрос экономного использования, особенно внедрения водосберегающих технологий при поливе сельскохозяйственных культур.

Ключевые слова: Вода, объединение водопользователей, пашия, земля, мелиорация, способы орошения.

INTRODUCTION

The role and importance of the agricultural sector in ensuring food security of the world's population is growing day by day. In particular, the rational use of available resources and opportunities in our country, the guaranteed supply of agricultural products to the population, further increase productivity and interest, the introduction of scientific advances and modern approaches to the field is an urgent issue. It is also important to use the available resources wisely and use the irrigated land wisely. Knowing how to use the irrigated land will help to maintain the quality of the land. Being aware of the groundwater level, the reclamation status of the water used, the adaptation of the crop type to the land used and the climatic conditions will help to achieve the expected yield. Ekin dala In order to ensure the rational use of water used for irrigation, farmers and dehqan farms should establish a contractual relationship with their Water Consumers Association (SIU) for the supply of water and its terms. In order to ensure the proper organization of water supply, each SUI must have its own irrigated water supply system. They must have developed clear plans for the use of water for the fields. They must also set up a pre-settlement account between the association and the farmers. must be fully equipped with measuring facilities.

At the same time, in order not to leave the water for irrigation of the population unattended, each citizens' assembly should sign a service contract with the SIU and appoint neighborhood mirabs. Each water consumer (farmer) must submit a written application to the SIU for water five days before irrigation. If the water taken from the canal in the SIU area is

distributed evenly in small amounts, the absorption and evaporation of water will increase, the total amount of water used to irrigate each hectare will increase, and the irrigation time will increase. and when irrigation is carried out in turn, a large amount of water first one field then another field and then another field.

MATERIALS AND METHODS

As a result, irrigation is faster and water consumption in irrigation canals is reduced by 30-35%. In current practice, the following water-saving methods are available.

Irrigation with short furrows: In this method, the length of furrows (distance between two furrows) is set at 50-60 m depending on soil conditions. This drastically reduces the amount of water discharged, resulting in a uniform wetting of the edges along the entire length. As a result, the amount of water supplied to the field is reduced by 15-20%.

Intermittent irrigation: In this method, water is given to the field not from each ditch between the plots, but from one ditch, leaving the next ditch dry. the total amount of water used for irrigation is reduced by 20-25%.

In areas with high slopes, in order to achieve a uniform humidification of the field and reduce runoff, a large water flow is first sent to the field, and as the water reaches the end of the field, water consumption is sharply reduced, ie water is sent to the field in alternating flow. decreases.

RESULTS AND DISCUSSION

In irrigated lands with low slope, it is also possible to dampen the end of the ridge by blocking the end of the ridge to prevent runoff. This will reduce the total water supply by 15-20%. The length of the egats and the water consumption in the egats play a special role in the division of the arrows. Part of it is wasted by soaking the soil in the head of the field. , in areas with poor water absorption, heavy soils should not exceed 60-70 meters, and in fields with row spacing 90 cm should not exceed 60-70 meters. A uniform wetting of the field ensures high productivity. A uniform wetting of the soil along the entire length of the slope ensures a high yield. , 8 l / s, 0.3-0.4 l / s in light and medium sandy soils and 0.1-0.2 l / s in heavy sandy and clayey soils.

In the rational use of water, it is important to carry out irrigation not from each ditch, but from the ditch. Irrigation rate is usually set at 600-800 m3. Irrigation by the juice method plays an important role in the efficient use of water. When applied, manure not only nourishes the cotton, but also acts as mulch. When irrigating with juice, special attention should be paid to the complete mixing of water from the ditch with manure. In addition to juice, old mulch, paper, straw or various algae can be used as mulch. For irrigation, non-traditional water resources. In particular, the use of wastewater, sewage and drainage water can reduce the amount of water used for irrigation. The salinity of the water is 3 g / l. It is recommended to mix it with fresh river water. The amount of fresh water used for irrigation can be reduced by 15-25% due to the use of drainage water for irrigation.

CONCLUSIONS

It is known that cereals, including winter wheat, enter the milky ripening period in May. Otherwise, due to lack of water, grain grains may be empty and the scales may not weigh down. During this period, depending on soil moisture, the irrigation rate for winter wheat should be set at 700-800 m3 / ha. creates a moderate microclimate. The duration of irrigation should be 8-12

hours, depending on the mechanical composition of the soil, the slope of the area and the rate of irrigation. In some areas with large slopes, the duration of irrigation should not exceed 16-18 hours. , cultivation and mowing) are carried out in a timely manner, and most importantly, if irrigation is approached responsibly, the desired crop will undoubtedly be grown. Therefore, the organization of scientific and practical research in this area requires the testing of new modern innovative technologies in irrigation and the introduction of large areas. p depends on the efficiency of irrigation technologies.

Used literature

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). Aphorisms of Farming in the Method of Kidroponics. *International Journal of Discoveries and Innovations in Applied Sciences*, 1(6), 133-135.
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. 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.
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. Juraev, F. U., Ibodov, I. N., Juraev, A. J., Najimov, D. K., & Isoyeva, L. B. (2021, October). Development of procedures for corn varieties irrigation as main crops. In *IOP Conference Series: Earth and Environmental Science* (Vol. 868, No. 1, p. 012089). IOP Publishing.
9. Jalilovich K. J. et al. ANALYSIS OF AVAILABLE EARTH QUAKING MACHINES //Emergent: Journal of Educational Discoveries and Lifelong Learning (EJEDL). – 2021. – T. 2. – №. 07. – C. 1-4.
10. Saylixanova M., Davronov A., Isaeva L. PROBLEMS OF IMPROVING IRRIGATION TECHNOLOGY //МОЛОДОЙ ИССЛЕДОВАТЕЛЬ: ВЫЗОВЫ И ПЕРСПЕКТИВЫ. – 2020. – C. 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 mineralizatsii 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. - Austria 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*, (21-3), 35-37.
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 irrigated 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 AGROTEKNIKASI //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. – T. 2. – №. 07. – C. 14-22.
26. Ruziyeva M. A., Najmiddinov M. M., Sobirov K. S. COMPARATIVE ANALYSIS OF METHODS FOR MEASURING BURNUP OF SPENT FUEL ASSEMBLIES BETI //Oriental renaissance: Innovative, educational, natural and social sciences. – 2022. – T. 2. – №. 5. – C. 385-389.
27. Ro'Ziyeva M. A., Najmiddinov M. M. Sho'rlik darajasi turlicha bo'lgan suvning jamadon tipidagi ko'chma quyosh suv chuchiktgich qurilmasining unumdorligiga ko'rsatadigan ta'siri //Science and Education. – 2022. – T. 3. – №. 4. – C. 218-221.