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INFLUENCE OF GROUNDWATER SOURCES ON CROPS WITH EAR FOR IRRIGATION

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Annotation. *When autumn crops were cared for by using underground water sources for irrigation with a low level of mineralization in the Bukhara valley and using water-saving irrigation, positive changes were observed in the development of grain growth during seasonal irrigation by adding 50 kilograms of gravel crystals to the soil.*

Key words: *irrigation sources; underground water; temperature; water consumption regime.*

GROUNDWATER is a liquid, solid (ice), vaporized water located in the porous cavities of the rock layers in the upper part of the earth's crust. Groundwater is part of the total water resources and is of great importance to the national economy as a source of water supply and irrigation. The reclamation condition of irrigated lands is determined by the condition of groundwater. Groundwater is studied by hydrogeology. Water can be in a gravitational or free state that is bound by molecular forces and moves under the influence of gravity or pressure difference. Layers of rock that are saturated with unconnected water are called aquifers, and they form aqueous complexes. Groundwater is divided into porous (soft rocks), the gorge (vein) - hard rocks and karst (cave) (cave-karst-lightly soluble carbonate and gypsum rocks) water, depending on the nature of accumulation in water-retaining rocks. Depending on the location, groundwater collects on top of groundwater (see soil water regime), seasonal water (surface water; precipitation or absorption of irrigation water on aeration zone aquifers), groundwater (first waterproof layer closest to the surface), and interlayer (aqueous layers between non-pressurized, pressurized, artesian, waterproof layers).

Relevance of scientific research: If we take the total volume of water on Earth as 100 percent, it is 97.5 percent saline, while freshwater is 2.5 percent. Groundwater

sources are one of the most inexpensive and convenient sources when close to an irrigation area. That is why it is widely used in foreign countries. In particular, 40 % of irrigated land in the United States is irrigated from groundwater, 33 % in the People's Republic of China and 5-6 % in Uzbekistan. To date, the available and limited water resources in the region have been fully distributed and developed between countries. Under the current circumstances, the growing demand for water in the region can be met mainly through the rational use of available water resources and the discovery of internal water resources. Therefore, the development of water-saving technologies is also receiving great attention by scientists. In addition to groundwater resources, surface water is also used to irrigate and water pastures. Currently, 7% of the total groundwater resources are used. It is mainly used in Crimea, Moldova, Ukraine, the Volga region, Kazakhstan, Kyrgyzstan, Turkmenistan, Armenia, Georgia, Azerbaijan, USA, India, Algeria, Italy and other countries. When groundwater is used, its dynamic reserve is used, otherwise it is lost.

One of the factors negatively affecting the current increase in grain yield is the shortage of water during the growing season, and the second is that most farms do not take into account local soil and hydrogeological conditions, real water requirements during the transition phases of their growth and development. Some of the toxic chemicals applied to the soil, weeds and insects applied to the soil during the irrigation of grain are washed into groundwater, leading to the deterioration of their ecological and reclamation status. The above reasons include the efficient use of water resources allocated to irrigated lands, a system of agro-technological measures that do not adversely affect the environmental situation, irrigation methods using hydrogel artificial polymer crystals to create opportunities for rational use of groundwater in the cultivation of cereals [1,2,3,4].

The purpose of the study:

Water sources for irrigation are assessed by the following indicators: water quality, the amount of water flow during the annual and growing seasons, the variation of water flow over the years, water flow regime, level and pressure regime, location relative to the irrigated area. It is characterized by the quality of water, its temperature, the amount of mechanical leaks, mineralization and chemical composition, bacteriological composition. Study of the source of irrigation in the case of high yields from grain fields in relation to its temperature on the basis of experiments on the efficient use of groundwater.

Level of study of research results:

Wheat is an annual plant. Its root system is a poplar root, the main part of which develops in the drive layer of the soil, some roots are 100 sm. pit up to 40-130 sm in height. reaches The transpiration coefficient of wheat is 231-557 (average 400-500), the coefficient of water demand for grain is 60-190 m^3 / ts. is formed. These indicators vary depending on climatic conditions, type and variety of wheat, water supply, the amount of nutrients in the soil. Depending on the natural conditions of the cultivated areas, its autumn or spring varieties are planted on irrigated lands. Autumn wheat is more resistant to cold and drought than spring wheat, it germinates when the soil temperature is 4-5 °C. During the growing season, an effective temperature of 2100 °C is required for winter wheat and at least 1300

°C for spring wheat. The effect of the temperature of irrigation sources on autumn cereal crops is in fact little studied scientifically.

The task of the research:

Based on the experiments conducted, the study of the source of irrigation depends on its temperature in the efficient use of groundwater to create clear guidelines. Water-saving technologies go through certain periods (phases) during the growth and development of cereals, that is, from seed germination to formation. During the developmental stages, morphological changes occur in plants and new organs are formed. Wheat goes through the following phases: germination, accumulation, germination, germination, flowering and ripening, as well as observations and study of the effectiveness of its yield [5,6,7].

Object of research: The farm "Oqil Alisher" was chosen as an experimental plot for the rational use of groundwater in the cultivation of grain crops. Oqil Alisher farm is located in Pakhtaabad district of Gijduvan district of Bukhara region.

The role of drainage varies between the different agroclimatic zones. In the temperate zone, mainly located in the northern hemisphere, the role of drainage is to prevent waterlogging by removing excess surface and subsurface water resulting from excess rainfall. In the arid and semi-arid zone, the role of drainage is to prevent irrigation-induced waterlogging and salinity, not only by removing excess surface and subsurface water but also by removing soluble salt brought in by the irrigation water. In the humid and semi-humid zone, the role of drainage is to prevent waterlogging and salinization to various degrees. About 64% of the drainage is located in the temperate zone, 24% in the arid and semi-arid zone and 12% in the humid and semi-humid zone. Collectors pass through ravines, in areas with high salinity, across the economic boundary. Drains are carried out in the economic plan in the direction of a large slope of the land, parallel to the canals and drainagees, in an upright position, and between the permanent irrigation networks. The cross-section of open-type drainage networks can be trapezoidal, polygonal and parabola. Cross-section elements include the drainage base, width, width of the slope, width of the berm. Drains are often designed in a round shape. Gravel-sand mixtures with a diameter of 0.10-0.15 mm are used as a filter.Drainage pipes will be made of ceramic, polymer, asbestos cement and concrete. The filter plug protects the pipes from mud and dirt particles entering the pipe. Control wells will be constructed to check the operation of the closed drain and to clear the pipes of mud. The control well is installed at the head of the drain and every 200-400 m along its axis.A drainage facility will be constructed at the junction of an open collector with a closed drain.When the slope of the drainage area is small, the control drainage network along the direction of the slope is placed according to the longitudinal scheme.

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