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Pomegranate varieties different development stages transpiration of speed to himself special features

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Annotation. To increase the biomass of a plant organism by 1 g, approximately 500 g of water should be absorbed by the root system, assimilated by the plant and released into the atmosphere from the surface of its vegetative organs. Therefore, the study of the water regime is necessary for the formation of high crop productivity.
To this end one of the main indicators of the water regime in different pomegranate varieties - the speed of transpiration in assimilative organs was studied.

Key words: Leaf, transpiration rate, temperature, pomegranate plant,

Introduction. Water is the main part of plants and they play an important role in life activities [3]. The place of water in the life of plants is extremely necessary, 70-95% of the composition of plant tissues consists of water, its amount in seeds is sharply reduced and is from 5 to 15% . Water is the main mass in all organs of the plant: in the leaf-90%, in the branch-70-80%, in the root-50-60%, in the seed-10%, in the vacuole-98%, in the cytoplasm-80%, in the shell-50 Water is found around %. There is a lot of water in some wet fruits: tomato-94%, watermelon-92% [4,5].

To increase the biomass of a plant organism by 1 g, approximately 500 g of water should be absorbed by the root system, assimilated by the plant and released into the atmosphere from the surface of its vegetative organs. Water has its own properties, due to which it is of great importance in all processes of cellular life. Even a slight violation of the water regime causes serious changes in metabolism [5].

It is known that leaf transpiration is one of the important and necessary physiological processes in plants, which protects them from excessive heat and dehydration in dry and hot weather conditions, as well as the movement of water and water-soluble substances throughout the plant body , is important in gas exchange[1,2]. The temperature of a highly transpiring leaf is approximately 7°C lower than that of a non-transpiring wilting leaf[2].

The plant's water consumption for transpiration is mainly determined by solar energy and soil moisture. The rate of transpiration varies depending on the time of ear and day, meteorological conditions, biological characteristics of plants, growth technology and other factors. [6].

Based on the above information, we studied the transpiration rate during the development phases of pomegranate varieties.

Object and methods of research. Research was conducted in pomegranate orchards in Taraqli neighborhood of Sherabad district of Surkhandarya region in 2021-2023. The soil and climatic conditions of the studied experimental area are typical for the arid, very hot summer subtropics of Sherabad district.

Kazakh pomegranate and Dashnabad varieties of pomegranate planted according to the scheme of 6x4 m as objects of research. Crops maintenance to do in the region recommendation done to events according to done increased.

The rate of evaporation of water from pomegranate leaves was determined by the method of fast withdrawal on a torsion balance (Ivanov method) [7]. The experiment was conducted three times from 8 am to 8 pm.

Received experimental information mathematician and statistics again work modern computer programs using done increased.

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Research results and its discussion. Studies have shown that the rate of transpiration of pomegranate leaves is significantly dependent on the phases of plant development, and it was noted that the development is at the maximum level during the period of formation of generative organs , that is , during flowering and fruiting periods. (Table 1).

Table 1

Daily variation of transpiration rate in leaves of different pomegranate cultivars , g / m^2 hour

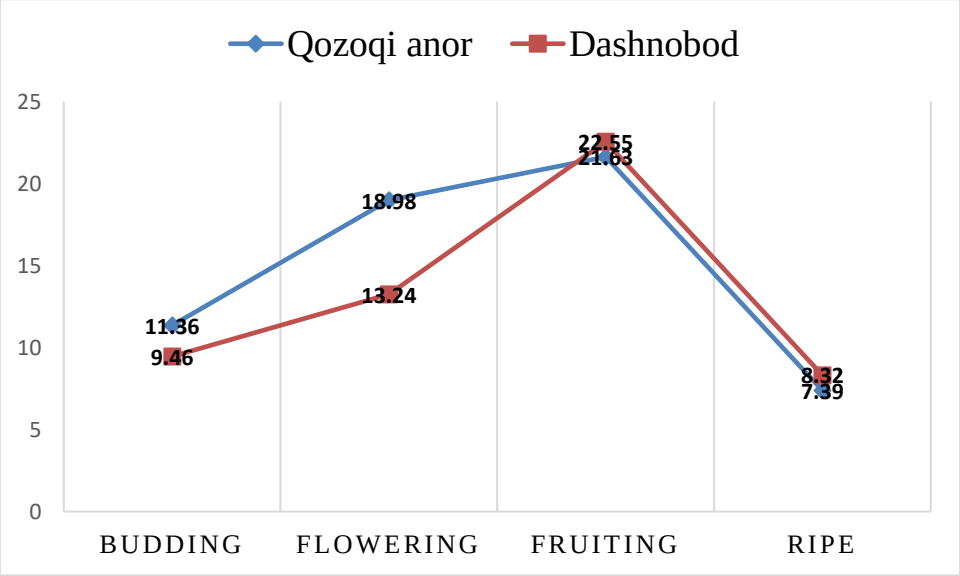
Pomegranate varieties	Budding	Flowering	Fruiting	Ripe	Average
Qozoqi anor	11.36	18.98	21.63	7.39	14.8
Dashnobod	9.46	13,24	22.55	8.32	13, 4

Received information that's it research shows ears during o ' average in the account pomegranate varieties g ' to increase phase transpiration intensity (mg H_2O / cm^2 / hour) 11,36 in Kazakh pomegranate ; Dashnabad 9,46 in variety ; bloom stage while transpiration intensity Kazakh pomegranate at 18,98; Dashnabad – 13,24; Fruit cultivation stage Kazakh pomegranate transpiration intensity 21,63; cooked reach 7,39 at the stage ; Dashnabad – 22,55; cooked reach stage – 8,32 g did.

It is determined that transpiration maximum intensity all pomegranate in varieties fruit to give phase observed , of the fruit to ripen stage while being studied of plants transpiration intensity little by little decreases (Fig. 1).

Figure 1.

Transpiration rate during the season , g/ m^2 hour



Research the results analysis to do water mode being studied indicators wide in the circle variability showed that the first in line in the regions long term evolution in the process different the environment conditions ecological of the formed type and physiological plasticity depends ..

So as above data that's it shows that pomegranate in the plant transpiration intensity Hot in conditions of growth to the conditions looking , pomegranate from 9.46 g H_2O/cm^2 / hour up to 22.55 g H_2O/cm^2 / h changed stands.

Summary. Thus, the conducted research allows us to come to the conclusion that in pomegranate plants, as in other agricultural crops. The rate of transpiration of crop leaves directly depends on the location on the

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plant, time of day, temperature increase and relative humidity. The intensity of transpiration of pomegranate leaves increases with increasing temperature and decreasing relative humidity.

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