



## WINTER WHEAT GROWTH AND DEVELOPMENT WITH RESPONSE TO DIFFERENT FACTORS

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**Abstract.** This article about the environmental factors which affects to the plant growth and development and explains the protective and adaptive mechanisms to get the yield. Response of the plant during the different growth phases salinity stress.

**Keywords.** Stress, environmental factors, physiological, resistance, plant, .

Plant organisms in natural conditions are very often exposed to adverse environmental factors. The ability of plants to resist extreme growing conditions, adapt to them and at the same time maintain their life potential is one of the determining conditions for the existence of plants and depends on the ability to implement protective and adaptive mechanisms, that is, to adapt to a variety of stressful influences. Plant organisms have a wide range of protective and adaptive reactions that contribute to the development of their resistance to various environmental stress factors. Consideration of the totality of adaptive processes developing in plants in response to damaging effects makes it possible to identify common nonspecific physiological and biochemical defense reactions, which include shifts in hormonal balance that contribute to changes in the structure and function of cells and contribute to switching the functional activity of cells into normal conditions on the so-called stress routines.

Some environmental factors affects to the plant growth and development and finally to yield of the crop. Salinity, drought, oxygen and nutrient balance are major environmental factors. Adaptation of plants to new environmental conditions is achieved through modification and genotypic variability, that is, by restructuring of the complex of physiological, biochemical and morphoanatomical signs of the plant itself in ontogenesis and the formation of new norms of reactions in phylogenies. If with the help of the modification variability of the plant adapt to those environmental conditions that are most significant in the process of their individual development, then the genotypic population flexibility and selection provide adaptation to long-term changes in environmental factors. Salt tolerance is the ability of a plant to withstand saline conditions and the least damage to carry out growth, development and reproduction. How it is known that any organism is a self-regulating system. The variability of this system, the ability to adapt to external influences - the most important element of the characteristics of general biological properties of a plant organism. More stable forms often have a reduced productivity, which is also



explained by a lower level of metabolism in them. An inverse relationship was found between the degree of resistance of the organism and metabolic rate. However production needs sustainable, environmentally plastic and highly productive varieties. And modern selection strives to create such varieties with high productivity, salt tolerance, immunity, winter hardiness and drought resistance. The influence of salinity in different phases of development on morph biological features of wheat. It has been shown that resistance to salinity increases with the development of the plant in ontogeny. A study was made of the effect of salinity on the characteristics productivity of wheat in laboratory and field conditions. As a result different degree of influence of salt on the studied traits was revealed.

At the present time, in order to meet the growing demand for food products of the world population, extensive work is being carried out to increase the yield and quality of grain crops, including soft wheat. A total of 724 million tons of grain was grown in the world, more than 6.6 million tons of which was produced in Uzbekistan.

The creation of intensive varieties of soft wheat adapted to cultivation in Uzbekistan, the fact that the technology of their cultivation has not been sufficiently developed in accordance with the biological characteristics of each discovered variety, is the reason for the decrease in productivity in some farms. In order to work on such shortcomings, consistent scientific research is being conducted in the fields of farmers in the Khorezm region on the selection of suitable varieties of wheat for each region, testing of new varieties.

In particular, among the samples of the soft wheat collection, the study of varieties that are productive, resistant to diseases and pests, climate and soil conditions of the region is being continued. Sometimes they distinguish biological and agronomic salt resistance of plants. Biological salt tolerance is the ability of plants to accumulate organic matter through the full cycle of their development in highly saline conditions. Growth, development and fruiting processes are very low in this plant. The concept of "biological salt tolerance" is very close to the concept of "halotolerance". The winter resistance of winter wheat was studied in Uzbekistan by G.A. Lavronov, A. Amanov, as well as in the irrigated lands of Uzbekistan by Keldiyorova Kh. Kh., Khadjayev J. Kh., Siddikov P. I., Khalilov N., Bobomirzayev. They found that the amount of sugar in the leaves of "Krasnodar-99" and "Chillaki" varieties of wheat is less than in the accumulation node. (Uzbekistan Agriculture and Water Management. 2022). Sultanova determined the lack of moisture and nutrient elements during the period of tillering, stem elongation and heading of plants leads to a decrease in the number of spikes and grains in the ear (Sultanova 2010). The scientific research on the environmental factors affects is ongoing and more research for winter wheat done in laboratory and field experiments.





**LITERATURE:**

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