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INFLUENSE OF EXTERNAL ENVIRONMENTAL FACTORS ON PLANTS

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ANNOTATION

The effects of environmental factors can be short-term or long-term. During the evolution, plants have adapted to these adverse conditions. There are specific physiological and biochemical changes in plant tissues, as a result of which the plant adapts to these conditions and the resistance of future generations to adverse,conditions increases,the develop the ability to defend themselves.

Keywords: heliophyte, ssiophyte, photoperiodism, thermoperiodism, thermophilic, psychrophilic, ephemeral, hygrophyte, mesophyte, xerophyte, gidatophyte, hydrophyte,succulent,sclerophyte.

Annotatsiya

Tashqi muxit noqulay omillarining ta‘siri qisqa va uzoq, muddatli bo’lishi mumkin. Evolyutsiya davomida bunday noqulay omillar ta‘siriga o’simliklar moslasha boradi. O’simlik to`qimalarida o`ziga xos fiziologik-biokimyoviy o`zgarishlar ro`y beradi, natijada o’simlik shu sharoitga moslasha boradi va kelajak avlodlarning noqulay sharoitga bo`lgan chidamliligi orta boradi, ya‘ni o’zlarini ximoyalash qobiliyati paydo bo’lib, ular rivojlana boradi.

Kalit so`zlar: geliofit, ssiofit, fotoperiodizm, termoperiodizm, termofil, psixrofil, efemer, gigrofit, mezofit, kserofit, gidatofit, gidrofit, sukkulent, sklerofit.

INTRODUCTION

Adaptation of plants to a specific habitat is called adaptation. The presence of such functions is as necessary as all physiological processes. Metabolic processes in plants that are not adapted to short- or long-term exposure to adverse factors are severely damaged and can lead to their death. Stress is a set of nonspecific changes that occur in the body under the influence of adverse factors, and the strongest influencing factors that cause these changes are called stressors.

MATERIALS AND METHODS

Increasing the winter hardiness of plants under the influence of external conditions is called hardening. He recommended studying this process in two stages. In the first stage, the accumulation of sugars is observed, during which the temperature during the day is around 10-15 ° C and at night around 0 ° C. During the day, the process of photosynthesis takes place, and the sugars formed are used for respiration at night, and the growth of plants is reduced, and the accumulation of sugars in them is observed. In the dry and light autumn, the first stage of

hardening goes very well. Phase II of hardening takes place in plants frozen in weak cold (-2-5 ° C) and they absorb the property of frost resistance. At this stage, there is a link between cold tolerance and dormancy in plants. Growth stops with the onset of the dormant state. Winter wheat hibernates depending on how deep the joints are. 1- severely injured; 2- uninjured. As the condition deepens, the resistance to frost increases. All the water in the plants goes into a bound state, resulting in dehydration of the cell. The cold tolerance of different varieties of winter wheat varies. Of particular importance is the location of the joint-forming stems in the soil.If it is located deeper, it will not be damaged, and if it is located on the surface, damage will be observed. Frost resistance depends on the origin of varieties. For example, varieties of eastern origin are more resistant to frost than varieties of western origin. Vegetable seedlings are grown for two weeks at a temperature above 0 ° C. In this case, the seedlings are hardened, resulting in resistance to cold.Low temperature resistance is understood as the ability of plants to withstand low temperatures (3-5 ° C). Cucumbers, squash, beans can not be hardened, because they die in a few days at the above temperatures. Especially for rice, cotton and melons, if the temperature for a day is 0 ° C + 5 ° C, the plants do not die immediately, they lose their turgor state before, the leaves turn brown spots appear because the breakdown of chlorophyll causes it. The main reason for the death of plants is the stickiness of the protoplasm and a violation of metabolism. Synthetic processes occur as a result of degradation and the breakdown of proteins and the formation of ammonia. Winter hardiness of plants is understood as the successful wintering, ie wintering. In winter, not only can plants die from low temperatures, but such hoi has also been observed due to suffocation, suffocation and other causes. Dimming occurs as a result of plants staying under heavy snow for 2-3 months. The temperature is around 0 ° C because snow is a poor conductor of heat. At this temperature, plants use carbohydrates to breathe, resulting in plants weakening and they quickly die from the development of mold fungi in their tissues. As a result of heavy rains in early spring, water accumulates on the soil surface and bury the plant. In this case, anaerobic respiration of plants is observed due to lack of oxygen. Under the influence of toxins formed under anaerobic conditions, as well as at night when the air temperature drops, the water freezes and the plant body dies. Winter drought causes great damage to plants, especially trees. Under the influence of light and wind, a lot of water evaporates from the body of plants. As the soil temperature is low, the cells become dehydrated because the plants do not have time to cover the water shortage. In order to protect the plants from adverse winter conditions, it will be necessary to collect snow from the fields, apply organic fertilizers (manure) to the soil, and provide the plants with macro-and micronutrients

SALT RESISTANCE OF PLANTS

The resistance of plants to large amounts of salts in the soil is called salt resistance. In areas with hot and dry climates, saline soils are found around the seashore, around salt lakes. The main cause of salinization is sodium salts (NaCl, Na2S04, NaC03). The most harmful of these is soda salinity (NaC03), which accumulates caustic alkali (NaOH) in the soil, which in turn is harmful. Soil salinity can sometimes be magnesium or calcium. The soil can be saline under the influence of several salts, none of which is named after the amount of salts that are more common. Depending on the amount of salt and its distribution in the layers, saline soils are

divided into saline and saline soils. In saline soils, salts accumulate in the lower layer of soil (80 cm). In such soils, although there is no salt in their top layer, the viscosity of the soil increases when they are moistened because they are unstructured, making them impervious to water and air. Saline soils contain 1-3% salt and do not grow crops in them. In saline soils, salts accumulate in the upper layers of the soil as a hard or soft layer. Excess salt in the soil is harmful to most cultivated plants. Plants that grow in such saline soils are called halophytes. Halophytes differ from ordinary plants by their physiological and anatomical features. Halophytes can be divided into 3 groups. The stems and leaves of group 1 halophytes are soft and highly resistant to salts, which accumulate salts in their cells. By creating a high osmotic pressure (100-200 atm), water can be absorbed from saline soils. Examples are alder and black currant. The protoplasm of plants of group 2 has a special focus on the permeability of salts, which constitute the osmotic pressure in them. However, these salts do not accumulate in the organs of plants, but are excreted in the external environment with water using special glands.

CONCLUSION

After studying the characteristics and properties of autumn soft wheat varieties in saline soils, the following conclusions were drawn: Based on the data obtained, it can be said that the salinity of the soil affects the germination of wheat varieties. In the future, local ancient varieties can be used as initial forms during hybridization in order to obtain new genotypes with rays of quality indicators and other economically valuable traits. The most effective environmentally friendly way to increase the resistance of plants to salinity is to create varieties that are resistant to these extreme conditions and to accelerate their introduction into production.

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