

SELF-DEFENSE CAPABILITIES OF PLANTS.

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Abstract: This article examines the growth conditions of plants and their defense capabilities. The protection of plants from environmental factors that are unfavorable for them, as well as anatomical changes in their bodies, are presented.

Keywords: survival, adaptation, adverse conditions, protection, growth, development.

The endurance and productivity of plants in adverse natural conditions are determined by their protective and adaptive properties and a number of characteristics. Different plant species ensure their endurance and survival in adverse natural conditions mainly through the following methods.

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In our conditions, annual plants, such as carrots, potatoes, and similar vegetables, overwinter as underground fruits after completing their ontogenesis, that is, they enter a dormant period. Perennial plants overwinter as underground tubers, such as bulbs and rhizomes. Deciduous trees and shrubs shed their leaves to protect themselves from the cold of winter as much as possible.

Protection of plants from unfavorable factors in the environment creates anatomical changes in the body, for example, cuticle, thick skin, firmness tissue, etc. The plant creates special organs that provide its own protection - stinging hairs, loops, and performs movement and a number of physiological reactions.

Protective substances include glue, phytoncides, toxins, and protective proteins. Plants protect themselves by producing the following changes when exposed to adverse environmental conditions:

1. The size of the leaves on the stem decreases, even the stem becomes leafless, for example, in saxaul.
2. A waxy coating - cuticle is formed on the leaves.
3. The top and bottom of the leaf are covered with soft, thick hairs.
4. The epidermis on the leaf deepens.

5. The stem and leaves become juicy and fleshy.

6. Turgor decreases in the leaves.

Plants have many different physiological mechanisms that help them survive adverse environmental conditions. A striking example of this is the ability of succulent plants to minimize water content in their bodies, and desert plants to survive even in the most adverse conditions.

High temperatures do not dry out and survive as a result of intense light, cold temperatures or a greater increase in the concentration of salts than before due to changes in many physiological processes in autumn Biennial and perennial plants. The formation of resistance to the factors of unfavorable conditions that occur in plants that are harvested by planting in agriculture, it is determined resistance in the cells of the plant. They should create metabolic products that are necessary for the conditions of the changed environment. Plants spend their unfavorable conditions for themselves at best during the Holda tinim period. The first call for a plant about the need to go to the state of tinim is a decrease in the period of daylight. In the cells of the plant, the prvard begins to undergo biochemical changes that lead to the accumulation of the resulting substances.

The protection of plants from factors that are unfavorable to the environment itself produces anatomical changes in the body such as cuticle, thick bark, consistency tissue, etc. The plant forms special organs that provide protection in itself-burning hairs, loops, carries out reactions to movement and a number of Physiology, and protective substances form, for example, glue, phytoncides, toxins, protective proteins. Plants are protected by generating the following changes when unfavorable conditions occur for the external environment itself.

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As a result of high temperatures, strong illumination, and excessive concentration of cold salts, many biennial and perennial plants do not wither and survive due to changes in physiological processes. The development of tolerance to adverse conditions in agricultural crops is determined by the tolerance of these plant cells. They need to create metabolic products necessary for the changed environmental conditions. Plants best survive unfavorable conditions for themselves during the dormant period. The first signal for a plant that it needs to go into dormancy is a decrease in the length of daylight hours. Biochemical changes begin in the plant cells, which lead to the accumulation of substances that are stored as a result of the process. The amount of water in cells and tissues decreases, protective structures begin to form. Growth-inhibiting substances increase. This preparation is manifested in the fact that in perennial plants, for example, in vegetable crops, the growth of root crops occurs, and in annuals, the ripening of seeds occurs.

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