

ABIOTIC FACTORS AND SCIENTIFIC-PRACTICAL SIGNIFICANCE OF THEIR STUDY

Adizova Hamida Rakhimovna.

hamidaadizova2019@gmail.com

Fayziyeva Flora Abdullayevna.

Florafayziyeva2019@gmail.com

Republic of Uzbekistan, city of Bukhara

Bukhara State University

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INTRODUCTION

The declaration of 2023 as the "year of attention to people and quality education" in our country has assigned very important and strategic tasks to the intellectuals working in the higher education system. One of them is to ensure that every trained specialist in the university has a deep knowledge of the secrets of his respective science, especially environmental science. These specialists take part in maintaining the stability of the region's economy, first of all, in stabilizing the total volume of products produced in agricultural sectors and their continuous increase.

It is known that all the different organisms found on earth do not live by themselves, their reproduction, development and distribution are influenced by environmental factors. Animate and inanimate forces of nature surrounding living organisms, affecting them in various ways, the components of which are not a simple natural landscape, but interconnected natural ecological factors to which organisms adapt.

Abiotic factors are properties of inorganic nature that affect living organisms directly or through other factors. Temperature, humidity, light, air pressure, salinity, water flow, wind, radioactive radiation, topography, etc. are abiotic factors. Light is considered one of the main abiotic factors and has a great influence on the vital activity of plants. Photosynthesis occurs only in light, therefore. photosynthetic plants exist only in light. Typically, only 1% of the sunlight falling on a plant leaf is absorbed, the rest being reflected back or dissipated as heat. The plant uses not only direct light, but also diffused light. Directly falling light kills the plant's chlorophyll granules and cytoplasm and has a negative effect on the plant. Diffuse light is useful, and the plant absorbs light completely, because diffuse light consists of yellow-red rays. Lighting conditions are unique in each zone of the globe. Deserts, steppes, high mountain regions are strongly provided with light, on the contrary, caves and basins are poorly provided with light.

Therefore, each place has plant species that are adapted to the light. Plants are divided into 4 ecological groups depending on their light requirements, as well as the anatomy and morphology of the plant organism under the influence of light.

Heliophytes are light-loving plants, where the compensation point is higher, since the process of photosynthesis has priority over the process of respiration. Because when the lighting is strong, excess lighting does not hinder it. Branches grow slowly in heliophytes. The activity of growing buds is low. As a result, they are short. It has the shape of a pillow in mountain conditions. Leaves are usually thick, dense, epidermal cells without chloroplasts. The upper epidermis of the leaf, where sunlight falls, is covered with cuticle. Mesophyll is columnar and porous parenchyma is evident in the leaves located horizontally on the branch. The chloroplasts in the small cells of the intercellular space in the mesophyll are small and very numerous. Sciophytes are heat-loving (shade-loving) plants, in which the process of photosynthesis occurs faster than respiration. This process starts as soon as the lighting starts. This process takes place quickly, despite the fact that sunlight has a strong effect and causes a decrease in photosynthesis. These plants are below the compensation point when the light is short and at other times when the light is low.

In sciophyte plants, the leaves are thin, and their epidermal cells contain chloroplasts. The upper side of the leaf is covered with epidermal cuticle. In leaf mesophyll, differentiation is not clearly shown, columnar and porous parenchyma tissue is not clearly expressed. The intercellular space in the mesophyll is large, large-sized cells have large chloroplasts, there are not many of them. Facultative sciophytes are also called umbropatients, and they are shade-loving plants. This group of plants can grow in strong light and shade for a long time. Most of this group of plants has great environmental plasticity. This group of plants is higher than respiration since the process of photosynthesis is low. Photosynthesis does not decrease even with an increase in the intensity of illumination.

Today, it is not difficult to find civilized, intelligent people who think about the future of the biosphere, not only today, but also tomorrow. Today, the fate of the biosphere is accepted by the world community as a natural, man-made, spiritual element. It is not a secret to many people that social problems are closely related to environmental problems, so modern ecology, in turn, loses its meaning without sociology, political science, ethics, spirituality and other social sciences. From the above-mentioned, it is logical that the function of ecology in shaping the worldview is derived, that is, a person must feel that he is a part of nature, show his influence on natural processes, and take into account economic and ecological interests. The worldview-forming function originates, that is, the person himself

it is necessary to feel that it is a part of nature, to show its influence on natural processes, to take into account economic and ecological interests. The set of environmental knowledge of students is enriched by the concepts of climatology, agroclimatology and bioclimatology (climate, agroclimate, bioclimate). It is known that agricultural sectors its development depends on the location of each region, and also primarily on its climate.

Therefore, the development of each agricultural sector is directly influenced by the agroclimatic characteristics of the region. Climate refers to the long-term recurrence of the weather in a certain place. Climate, like weather, depends on several factors.

These include:

1. Illumination and heating of the sun
2. Atmospheric circulation
3. Surface structure
4. Near or far of ocean and sea

Russian scientist N.F. Reimers divided the climate into specific classes. (Figure 1). In particular, the climate of geographical zones is represented by arctic climate, taiga climate, tropical desert climate, etc.

Drawing 1

Climate classification (according to N.F. Reimers)

Climate classification

By geographic zones

Lig connected with the Earth's surface atmosphere

Location of air masses over ocean and land

According to moisture or dryness

Arctic climate, taiga and tropical desert climate

Surface climate, free atmosphere climate

Continental, maritime climate and gumid

Agroclimate refers to the participation of climate as an important factor in agricultural production (Reimers, p. 13). It belongs to the category of abiotic factors. Therefore, temperature, precipitation, etc. represent agroclimatic indicators. These are also physiological factors at the same time. For example, atmospheric air or soil relative humidity as an abiotic factor affects (positively or negatively) the time from seed germination to harvest.

Therefore, since climatic conditions are one of the factors determining the characteristics of natural complexes of Bukhara region, we should always analyze the changes in them. It is especially expressed in the desert pasture zone of Bukhara region. Comprehensive study of natural complexes formed under certain meteorological conditions leads to effective use of the natural, economic and social potential of the region.

The region has a harsh continental desert climate. Extreme temperature differences between night and day, summer and winter are characteristic. Especially in the spring months, this tension is more evident. The authors of the article studied the climatic indicators of March for the years 2000-2021. Analysis of the data of the region for 21 years in March

The following characteristics of the weather of the region were observed: the average number of days when the temperature was below 0°C was 4 days. reached Maximum 11 days (2012);

The number of days with chronic temperature below 0°C was 8-11 days (2011, 2012, 2019);

- The last date of March when the temperature was below 0°C was almost repeated in 10 years (2005; 2015);

There are also differences in the periods when the lowest (C) temperature was observed. Last of the month in 2000, 2004, 2005, 2011, 2012, 2015, 2016, 2019 and 2021 a decrease in air

temperature was recorded on the days;

- Uneven distribution of rainfall has been observed over the years. The minimum rainfall was 6.5 mm (2011), the maximum was 47.9 mm (2013, 2021). Above, it was noted that the productivity of regional crops largely depends on rainfall and temperature. Scientific analysis of changes in the climate, mitigating its inconveniences, phytomelioration of areas is an urgent task in the region today.

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