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THE ANATOMICAL STRUCTURE OF THE LEAF OF THE INDIGOFERA PLANT

Abstract: To monitor the growth and development of *Indigofera* in the soil and climatic conditions of the Navoi region, as well as to conduct research and experiments on plants to study the impact of environmental factors on plants. Carrying out phenological observations. The medicinal properties of the plant are also studied in the literature.

Key words: *indigofera*, growth, anatomic, phenological, physiological indicators.

Language: English

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Introduction

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The study of promising plants for the national economy and their zoning in different regions of the country is now becoming increasingly important. One of such promising dyeing plants is the *indigofera* plant, the study of its ecological properties is one of the urgent tasks. However, some of the secrets of growing this crop and getting dye from it remain a mystery even today.

The purpose of the study is to study the anatomical structure of the leaves of the *Indigofera* plant grown in the experimental field in order to study the properties of dyeing and to determine their ability to dye and adapt to drought conditions on the basis of their diagnostic features.

To study the morphological and anatomical structure of the leaf, it was fixed in 70% ethyl alcohol. The epidermis of the leaf was studied on the basis of paradermal and transverse incisions, while the transverse incision of the leaf was studied from the middle part of the leaf. The structure of basic tissues and cells was described on the basis of the methods of

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K. Esau (1969), N.S. Kiseleva (1971), Epiderma-SF Zakharevich (1954). The anatomical preparations were prepared by hand, stained with methylene blue, and hardened with glycerin-gelatin. The microphotos were taken using a computer microphotograph, a Conon A123 digital camera and a Motic BI-220-3 microscope.

The leaf is the vegetative organ of the plant and performs the functions of photosynthesis, transpiration and gas exchange.

The leaf of the indigofera belongs to the group of complex leaves, i.e. it has 3-5-7 leaves in a single leaf band, it belongs to the series of single-leaved patsy leaves.

The structure of the leaf blade is kidney-shaped, located on a small 2-3 mm leaf band. The upper leaf is larger than the lower leaves. The upper part of the leaf is covered with fine hairs, the color of the leaf is dark green.

In the cross section of the leaf, the leaf has a long ribbon-like structure. The flesh of the leaf (i.e., mesophilic) is composed of 2 rows of columnar cells at the top of the leaf and 1 row at the bottom.

In the mesophyll of the leaf, that is, in the columnar cells, it can be observed that there is a large amount of black matter.

In the small leaves of the leaf blade, too, a similarity can be seen when cut, as in the large leaf.

In the leaf section, their mesophyll is distinguished by its thinness and thickness.

When the epidermis of the leaf was torn off, it was observed that the epidermal cells in the upper part of the leaf were larger than in the lower part.

Leaf blades can be found both above and below the leaf. Depending on the location of their epidermal cells, they can be classified as type 2. That is (gemiparatsitnye and paratsitnye) structure. That is, it is so named because it is surrounded by 3-4-5-6 side cells around the mouth.

When the lower and upper layers of the leaf are peeled off, the (T) -shaped hairs can be observed under a microscope, and a large number of round hairs can be observed in the cross section.

In summary:

It was found that the leaves of the indigofera plant contained large amounts of black matter. This can be observed in all large and small sized leaves.

From the leaves of the plant *Indigofera tinctoria* L can be obtained a lot of Indigo dye, which is world famous for its other organs of the plant and is called the "king" of dyes.

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