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LITERATURE ANALYSIS ON THE STUDY OF THE PHYSIOLOGY OF THE COTTON PLANT

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Abstract
This article provides information on the physiological characteristics of the cotton plant, analysis of studies on the use of species, botanical description, characteristics, and cultivation technology.

Keywords: Cotton, genus, species, physiological, biological, subgroup, anatomical, organic, infectious, gossypol.

G'O'ZA O'SIMLIGINING FIZIOLOGIYASINI O'RGANISH BO'YICHA ADABIYOTLAR TAHLILI

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Annotatsiya
Ushbu maqolada g'o'za o'simligining fiziologik hususiyatlari tur turkumlari foydalanish bo'yicha tadqiqotlar tahlili, botanik tavsifi, xususiyati, yetishtirish texnologiyasi bo'yicha ma'lumotlar keltirilgan.

Kalit so'zlar: G'o'za, turkum, tur, fiziologik, biologik, kenja turkum, anatomik, organik, infeksion, gossipol.

Аннотация
В статье приведены сведения о физиологических особенностях хлопчатника, анализ исследований по использованию видов, ботаническое описание, характеристики и технология выращивания.

Ключевые слова: Хлопок, род, вид, физиологический, биологический, подгруппа, анатомический, органический, инфекционный, госсипол.

Introduction

Cotton is the most important of the cultural plants grown in our country. First of all, it produces cotton fiber, which is considered a valuable raw material for almost all branches of industry, and

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cottonseed oil, which is widely used in the food industry and other industries, is obtained from its seeds.

The main part of vegetable oils produced in our country is cottonseed oil. Kunjara, obtained from the seed, is a valuable protein-rich feed for livestock. Proteins and many other chemical substances are obtained from gossypol purified seed flour for technical purposes and in the food industry and medicine. Various organic acids are obtained from goza leaves. Stems and pods are a source of furfurol, which is widely used in the production of synthetic resins and plastics.

The task of cotton physiology and biochemistry is to comprehensively study the life processes of the cotton plant and its interaction with the environment. Studying beauty from this point of view is not only theoretical, but also of great practical importance. This situation allows to control the growth and development of the plant in order to get the maximum yield from the crops and improve the quality of the soil. In the last thirty-forty years, the physiology and biochemistry of goza has developed very quickly. In this field, a lot of work has been done in the interpretation of photosynthesis, respiration, accumulation and movement of substances, nutrition through roots and leaves, and other processes.

In this brochure, the metabolism of seeds during storage and germination; carbon nutrition of the plant; to the connection between the rate of photosynthesis and the yield of cotton; the need of cotton for various mineral nutrients and the effect of ulam on the physiological and biochemical processes occurring in the plant; water exchange in cotton and its water regime; the resistance of cotton to soil salinity and infection with infectious diseases; Special attention was paid to the formation and shedding of cotton fruit organs, the chemical composition of the seed, the appearance of gossypol and organic substances in cotton.

Literature Analysis and Methodology

The composition of seeds contains various chemical compounds, the most important and most common of which are proteins and fats. In addition to these, seed contains less organic compounds, such as nucleic acids, carbohydrates, vitamins, pigments, phosphotides, phytohormones, phenolic compounds and other various substances. At the same time, a number of mineral elements: phosphorus, calcium, magnesium, potassium, sulfur; Among microelements: copper, zinc, manganese, boron, cobalt, etc. Proteins are important chemicals that make up the bulk of the seed composition.

As in the seeds of other plants, the main part of seed proteins is made up of albumins, glutelins and other similar proteins in the form of reserve substances. The amount and ratio of proteins found in the seed depends on the type of plants, variety, growing conditions and agrotechnical factors. The formation of complex organic compounds from carbon dioxide and water under the influence of sunlight in the green leaves of plants is called photosynthesis. Photosynthesis is the only means of converting solar energy into chemical energy on Earth. Organic compounds formed in this process are, firstly, a source of energy for living organisms, and secondly, they are material for the formation of new, more complex organic substances. At the same time, free oxygen is released into the atmosphere during photosynthesis.

It is known that cotton photosynthesis is an important process related to the life activity of cotton, i.e. growth and development. This process is important from both the physiological and

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biochemical point of view. Photosynthesis is first of all connected with the metabolism of cotton, the structure and function of the plant cell. Chlorophyll pigments combine with proteins and lipids in chloroplasts to form a complex compound. In the process of photosynthesis, chlorophyll is considered not only as a substance that absorbs solar energy, but also as a participant in other biochemical processes. The first products formed in the process of photosynthesis, that is, organic compounds, first accumulate in chloroplasts. The speed of absorption and assimilation of carbon dioxide gas from the air is related to the speed of the dark reactions of photosynthesis. The assimilation process depends on the supply of the cell with mineral elements, the amount of chlorophyll, the amount of water, the size and age of the leaf, the intensity of sunlight and other factors.

The information about the nutrition of cotton grown in the conditions of Uzbekistan with mineral elements, the composition of mineral elements in different organs of cotton was first obtained by B.V. Rogalsky, Ya.I. Chumanov, P.V. Protasov, M.A. Belorusov. Chemical elements that are important for the growth and development of cotton, like all cultivated plants, form two large groups. It is known that the group of macroelements includes elements such as nitrogen, phosphorus, potassium, calcium, magnesium, sodium, and sulfur. Of these, nitrogen, phosphorus and potassium are recognized as the most important elements. Microelements such as iron, zinc, lead, copper, manganese are important in the life of plants and make up 0.001-0.0001% of plant mass. One or another of the macro and microelements mentioned above are often similar to each other in terms of physiological effects.

Results and Discussion Experiment

At the meeting of President Shavkat Mirziyoyev on July 27, 2022, dedicated to the issues of cotton care and ensuring productivity in extremely high air temperatures, the "dolzarb 30-day" month was announced. Monthly lasted from July 15 to August 15. During the month, special attention was paid to the irrigation of cotton varieties.

Water is very important during the growing season of cotton. Therefore, if there is enough water, all phases of the cotton go normally. If there is not enough water, it stops growing, bearing fruit, begins to wither, and even dries up. The withered cotton drops its stalks and flowers. The water requirement of cotton crops depends on climatic conditions, soil water capacity, fertility, depth of seepage water, salinity level, used agrotechnics, and biological characteristics of the cultivated cotton variety.

Irrigation rates (the amount of water used for one irrigation) are determined taking into account the development periods of cotton. The rate of irrigation is 500-600 m3 per hectare before cotton blooms on light (sandy and sandy) soils, 700-800 m3 per hectare during the flowering-budding stage, and 600 m3 per hectare until cotton blooms on medium sandy soils. -700 m3, 800-900 m3 in the flowering-bud bearing phase, 700 m3 in heavy sandy soils with deep seepage water until cotton blooms, 1000-1100 m3 in the flowering-bud bearing period, fresh and in partially saline soils, where seepage waters are relatively close, it should be 700-800 m3.

Cotton watering periods can be determined according to the external symptoms of the plant: before flowering, in the hottest part of the day (at 14-15 hours in the afternoon), if the leaves do not lose their flexibility, that is, their midrib does not crack when folded. if there is, it is necessary to irrigate

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the field. The fact that most of the leaves start to turn black also means that cotton should be watered.

Before cotton blooms, the plant's need for watering is determined by the level of soil moisture. For this purpose, soil is dug from a depth of 15-20 cm, made into a round shape by hand, and thrown to the ground from a height of 1.5-2 m. If the soil does not spread, it means that there is enough moisture, if it spreads, it means that you need to water quickly.

Integration

Botanical description. The root system is strongly developed, has a taproot, widely branches, penetrates 2.4-2.6 m into the earth's crust, the main part of the root is located in the arable layer of the soil. The stem grows upright, branches, 70-150 cm tall. From the axils of the lower leaves, straight, long-growing (monopodial) branches develop, which emerge from the main stem at an acute angle. In terms of structure, it is similar to the main stem, if for some reason the main stem is damaged and dies, it can replace it. The leaves are alternate, thin or thick, often green, with 3-7 lobes. The first true leaf appears 7-10 days after sprouting, the second 4-5 days after germination. Genetic description. Varieties. Since the 20s of the 20th century, more than 800 G. varieties were created, of which about 130 were regionalized (80 from medium fiber varieties, 50 from thin fiber varieties). The main varieties planted since 1990: medium fiber cotton varieties S-4727, S-6524, 175-F, An-Boyovut 2, Namangan 77, Aq oltin, ANO Uzbekistan 3, Tashkent 6, Chimboy 3010, 138-F, Kyrgyzstan 3, Yulduz, Bukhara 6 and others; from thin fiber varieties Termiz 24, Ter-miz 31, Surkhan 5, 6249-V, 9883-I, 9871-I, S-6037, 6465-V and others. Biological properties. The minimum temperature for the beginning of the life activity of the seed is 10-12°. When there is sufficient moisture, aeration, and light, the temperature starts at 13-14°; 5-7-15 days after sowing the seeds, sprouts sprout almost completely. Approximately one month after sprouting, the first pod is formed, and after another 25-30 days, the flower appears. G. A self-pollinated plant (cross-pollination is rarely observed). Depending on the biological characteristics of the variety, the first bud ripens and opens 50-60 days after flowering.

Polyploidy (poly- Many and wool. {ploidy} eidos - appearance, form) is a 3 or more times increase in the number of chromosomes in the cells of living organisms compared to their haploid amount. Such a cell or an organism developed from it is called polyploid. When the number of chromosomes increases by 3 times, it is called triploid, when it increases by 4 times, it is called tetraploid. A polyploid organism is larger and stronger than the parent organism. Uzbekistan occupies one of the important places in the world in the selection of cotton. That is why great importance has been attached to the creation of cotton varieties in our country. Academician J.A. created the cotton genetic collection. The services of Musayev and his students are great. Our scientists have created many varieties of cotton that are fertile and resistant to wilt disease. Among them, the wilt-resistant varieties "Tashkent1", "Tashkent2", "Tashkent3" created by academician Sadiq Mirakhmedov, and the productive varieties of cotton "AN402", "Samarkand3", "Yulduz" by academicians Nabijon Nazirov and Oston Jalilov are famous. In the following years, the scientists of our republic created new and promising varieties of cotton "Bukhara9", "Bukhara102", "Namangan34" and "Omad". There are more than 250 grape varieties in

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Uzbekistan. People's breeder, father Rizamat Musamukhamedov, who achieved great success in the field of viticulture, and his students created several varieties of grapes. Among them, such varieties as "Rizamat", "Gultish", "Sahibi", "Hilali" are noteworthy. Horticulture is the main branch of agriculture in Uzbekistan.

On the basis of folk selection, white apple, red apple, Namangan apple, Targil apple, Qazi table apple varieties, peach varieties "Vatan", "Lola", "Anjir peach", "Zarafshon", "Farhod", "Zargaldok" varieties, as well as different varieties of apricots, almonds, walnuts, and pomegranates.

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