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ENHANCEMENT OF NATURAL SCIENCE THROUGH INDIGENOUS MEDICINAL PLANTS

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Abstract:
In the article, the use of more extensive information about local medicinal plants in the course of natural sciences in elementary grades is presented . Explaining to young students how useful and healing local plants growing in the territory of Uzbekistan and their effective use are of urgent importance today. The demand for medicinal plants growing in the territory of Uzbekistan is increasing day by day.

Keywords: Local, medicinal flora, natural science, plants

ENTER. In the territory of Uzbekistan, many plants are distinguished by their medicinal properties. Today, 750 species of more than 4,300 plants belonging to the local flora are considered medicinal, 112 of them are registered for use in scientific medicine, of which 70 species are actively used in the pharmaceutical industry. In 2019, 48 million USD worth of processed medicinal plant products were exported. In the history of mankind, natural medicines made from natural plants have been used as a remedy for many diseases. There are many manuscripts that have been preserved to this day about the preparation of medicines five thousand years ago. Medicinal products obtained from plant raw materials have been used for many centuries. Today, many works are being carried out in our country on the preparation of naturally growing medicinal plants, cultivation and organization of plantations in 2020. Adoption of the decision PQ-4670 of the President of the Republic of Uzbekistan Shavkat Mirziyoyev of April 10 "On measures for the protection of medicinal plants growing in the wild, cultural cultivation, processing and rational use of available resources" , now it is explained how to carry out systematic work on medicinal plants . Creation of a favorable environment for the further development of cultivation and processing of medicinal plants, meeting the demand of the domestic market, export to other countries, as well as the rational use of the gifts of our mother nature were reflected in this device. Also, decisions were made on the establishment of plantations of saffron, saffron, and other medicinal plants. Medicinal plants have been used for centuries to treat people and animals, and to prevent diseases. A sick patient runs to the pharmacy and tries to take the recommended medicine. We forget to turn to nature's blessings in time. For example, there are even people who are not aware of the many features of the common namat that grows in Uzbekistan. Namatak is the most effective medicine to rid the human body of colds. The effects of natural medicinal plants may not be immediately apparent. Medicinal herbs gradually help the human body. Medicinal herbs are recommended to be used not only when sick, but also as a preventive measure. According to the current legislation, the task of increasing the production of local medicines by 3 times until 2026 is set. It is also envisaged that domestic products will occupy 80% of the domestic market. The program of targeted investment projects for the next 5 years in the pharmaceutical industry has been approved. It is planned to increase the volume of production of medicines by 3 times with the relevant documents. The flora of Uzbekistan is very rich and colorful. The juxtaposition of deserts and steppes, mountains and hills, lowlands and rivers creates a wonderful landscape. It may seem incredible , but in fact, compared to the neighboring regions of Central Asia , the number of plants per unit of area in the mountains of Uzbekistan is several times greater [1].

ANALYSIS OF LITERATURE ON THE TOPIC. In the 1st book of Ravshan Hamdamovich Ayupov entitled "Natural remedies", (2020. - 37 pages). This booklet provides detailed information on the healing properties and uses of various natural remedies. It is well known to the practitioners of folk medicine and traditional medicine that natural remedies strengthen the immune

[1]REFERENCES 1. B.Yo. Tokhtayev, TX Mahkamov, AA Tolaganov, AI Mamatkarimov, AV Makhmudov, MO'. Allayarovlar Instruction on "Organization of plantations of medicinal and nutritious plants and preparation of raw materials" - Tashkent, 2015.-137 p.

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system, help to strengthen the body in general, increase the protective functions of the human body and accelerate the recovery process. In external use, they have effects against various diseases, strengthen the body, accelerate the healing of wounds, and fight against colds. The book is intended for all people who want to effectively use the healing benefits of medicine . However, this booklet is not a health care guide, so all the recommendations in it should be carried out in consultation with the attending physician. By providing more information about local medicinal plants in school textbooks, we can preserve our local plants and use them effectively.

Jorayeva, M.A. Atlas of medicinal plants (study guide /MA Jo rayeva . Tashkent: Noshir publishing house, 2019. 264 p.) contains extensive information about natural herbs, their effects in various diseases, and "unique recipes". given information. Our people will also get information about where to find marijuana in this work. "Atlas of Medicinal Plants" not only provides a large amount of information, but is enriched with a color picture of each plant.

If this manual is given to the young students as a resource, the students will strengthen their knowledge. In the new generation textbooks, we will witness the sentences "Let's collect information as homework for students". This manual can be a useful resource for students .

ET Berdiev, ET Akhmedov. Natural medicinal plants (Tashkent, UzR FA Minitipografiyasi, 2017. - 252 pp.) educational guide on the medicinal properties of local and introduced medicinal trees, shrubs and herbs found in the mountain, forest and sand-desert forests of Uzbekistan and information about their importance in maintaining human health. The results of scientific research conducted within the framework of scientific projects, the results of scientific and practical work on the cultivation of medicinal plants, production experiences and other scientific and historical sources on the use of medicinal plants, as well as Internet information, were used in the preparation of the training manual. The author, candidate of agricultural sciences, associate professor Berdiev ET, led and participated in the following scientific-research institute of Uzbekistan on the topic VII.1.10 "Razrabotat sposoby razmnojeniya i agrotechniku sozdaniya promyshlennyx nasajdeniy barbarisa, shipovnika i oblepikhi v gorax Sredney Azii" practical project, QXA-7-0697 Scientific-practical project on the topic "Selection of fertile and large-fruited forms of breadfruit and development of vegetative propagation methods", QXA-7-0697 "Biodiversity, selection of promising forms of sorghum, zirk and chakanda in Uzbekistan, selective evaluation and development of propagation methods", KXI-5-029-2015 "Growing seedlings of promising forms of Chakanda and establishing a mother plantation" and QXI-5-050-2015 "Establishing a mother plantation based on promising forms of the Eastern sedge " The results of research conducted within the framework of innovative projects at the Tashkent State Agrarian University were widely used.

RESEARCH METHODOLOGY . The world of medicinal plants of our republic, especially their tree and shrub species, has a diverse and rich gene pool. In their scientific study, the famous academician A.P. Orekhov's students were academicians OS Sodikov and S.Yu. The Yunusovs achieved great success. In the study of medicinal plants of the Republic of Uzbekistan, identification of reserves, cultivation, introduction, preparation of raw materials, study of biochemical composition, QZ Zakirov, Kha.A. Abduazimov, PX Yoldoshev, NK Abubakirov, A.Ya. Butkov, IKKomilov, KX Khojimatov, II Maltsev, II Granitov, A.G Kurmukov, IV Belolipov, RL Khazanovich, MB Sultanov, FS Sadriddinov, PK Zokirov, SS Sahobiddinov, XX Kholmatov, Yu.M. Murdakhayev, B.Yo. The services of Tokhtaev and others are significant. Today, the interest in medicinal plants is growing more and more, due to the global pandemic, people are paying special attention to health , increasing awareness of health secrets, aging and chronically ill people are preferring natural means to activate the immune system. , the absolute harmlessness and usefulness of natural remedies has caused a sharp increase in the amount of investments in scientific research in this field and the demand for medicinal plants in international markets. In particular, in 2020, the turnover of medicinal plant-based products in the countries of the world amounted to 100.9 billion dollars, and the annual growth was 7.2%. Uzbekistan is considered to be a region rich in medicinal plants, naturally and geographically, about 1200 of the 4500 species of tall plants naturally present in the republic have medicinal properties. In recent years, in our country, great importance has been attached to the development of medicinal and spice plants, especially to the effective and productive use of natural resources. During the past period, 9 clusters of medicinal plants were established, and they are growing chamomile, cowberry, lemon grass, peppermint, licorice, saffron and other medicinal plants. As a result of their activities, raw materials and processed products of medicinal plants worth 1.7 million US dollars were exported to 4 foreign countries in 2021. Today, as a result of increased attention to the field and rational use of available opportunities, more than 100 types of

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medicinal plants are allowed to be used in official medicine in the republic, and the main part of these medicinal plants are naturally growing plants. The raw material reserve of these naturally growing medicinal plants is limited, and one of the urgent problems is to protect them, study their bioecological properties, develop scientifically based methods of proper use of raw materials and reproduction. Therefore, it is necessary to supply the needs of the pharmaceutical industry in Uzbekistan with raw materials of medicinal plants, to enrich the local flora with new types of plants and to develop technologies for their cultivation. In particular, at the beginning of 2020, there were 27 types of medicinal plant plantations on a total of 11,500 ha of land in all regions of the republic, and during 2021, medicinal plant plantations were planted by 162 subjects on 15,800 ha. 17.3 thousand tons of raw materials of 45 types of medicinal and spice plants, which are popular in domestic and foreign markets, were grown. The export potential of the industry is being strengthened along with the expansion of cultural plantations of medicinal plants and the increase in production volumes. At the end of 2020, more than 16,000 tons of medicinal plant raw materials and processed products worth 50.0 million US dollars were exported to 29 foreign countries, and by the end of 2021, this indicator will increase. products worth 55 thousand dollars were exported to 37 countries of the world. Today, it is necessary to educate young people about medicinal plants and to teach them how to use them effectively. For this, it is necessary to enrich and improve natural sciences through local materials.

ANALYSIS AND RESULTS. The rich flora of the country includes more than six thousand different plants , including medicinal plants. Such herbs are environmentally friendly and are used as raw materials for the production of food, aromatic and pharmaceutical products. Complex processing of plant materials is carried out in accordance with all modern regulations, within which extraction, purification, concentration, standardization are carried out that meet all international quality standards of production. The most common medicinal plants in Uzbekistan are basil (basil), cilantro (coriander), dill, mint, sebarga. Wild plants can be found in the plains and mountains, and can be bought in markets and pharmacies. The local people know beforehand about the miraculous power of such plants. They are eaten, added to food as a spice, brewed into tea, used as medicine, and also used in cosmetology. In pharmacies and cosmetic stores, you can buy herbs, special herbal tinctures, herbal preparations, various useful additives, essential oils, etc. Each product contains natural minerals, vitamins and biologically active substances.

1. Basil (basil). Basil is a fragrant plant that is not demanding and grows in almost every home. Around the world this plant is known as basil, but in Uzbekistan it is called basil. Basil is a natural antibiotic and is used as an antipyretic and anti-bacterial agent. It has been used since ancient times to treat colds caused by various pathogens. The substances contained in this plant reduce muscle pain, prevent inflammation, remove phlegm from the bronchi and lungs, and fight cough and runny nose. In addition, basil is actively used in the production of perfumes and essential oils. There are several types of basil and each of them has its own taste: licorice, lemon, clove, broad-leaf.

2. Coriander grows easily and freely in Uzbekistan. The plant has excellent cleansing properties. Substances contained in the plant help remove heavy metals from the body and neutralize their harmful effects. Coriander seeds are also great for water purification. To do this, you just need to throw a packet of seeds into a bowl of water in a short time.

3. Fennel. Fennel fruits are very useful. It contains powerful substances such as anti-cancer agent anethole, vitamin C, blood cholesterol-lowering fatty tissue. In addition, fennel reduces stress, calms the nervous and digestive systems, and successfully fights colds, stomatitis, and pharyngitis. Fennel has almost no contraindications, so it can be easily added to food given to young children and pregnant women.

4. Peppermint. Peppermint is a component of essential oil (menthol). Peppermint tea is an effective tool in the fight against disorders of the gastrointestinal tract. Peppermint calms the nervous system, relieves pain and removes excess water from the body.

5. Sebarga. Sebarga can be found all over Uzbekistan, but the most important thing is that it is more abundant in places with very high humidity. In the territory of Uzbekistan, several types of sebarga grow at the same time, each of them is widely used in traditional medicine. Tinctures are prepared from red rose and used in diseases of the spleen. Meadowsweet is used for bronchitis, cough, anemia, malaria, asthma. White sebarga is used as a tonic, pain reliever and strengthening medicine. (Fig. 5)

There are 10-12 thousand species of medicinal plants on earth . Chemical, pharmacological and medicinal properties of more than 1000 plant species

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have been investigated. There are 577 species of medicinal plants in Uzbekistan . Of these, 250 species are currently used in scientific medicine. The effect of medicinal plants on the body depends on the amount of compounds in their composition. These compounds accumulate in different amounts in different parts of the plant. The necessary parts of the plant for the preparation of medicine are collected at different times. For example, bark, buds are taken in early spring, leaves are taken before or after flowering, flowers are in full bloom, fruits and seeds are ripe, and underground organs (roots, rhizomes, and bulbs) are taken in early spring or late fall. Active substances of medicinal plants are alkaloids , various glycosides (antroglycosides, glycosides affecting the heart, saponins, etc.), flavonoids, coumarins, astringent and other mucilaginous substances. May contain essential oils, vitamins, resins and other compounds. Preparations rich in antibiotics and phytoncides are prepared from many plants that destroy microorganisms and viruses. Usually, closely related chemical compounds belonging to the same group are found in the same family or genus, while some chemical compounds can be found in plants belonging to different families, which are not close to each other. Wild plants are used to treat various diseases. In the present era, the types of medicinal plants have increased, and folk medicine has been enriched with medicinal plants. Most of the medicinal plants used in scientific medicine are derived from plants that have been used by people for centuries. Medicinal plants used in folk medicine cannot be used in scientific medicine. Among the medicinal plants in Uzbekistan, there are more pomegranates, bitter gourds, almonds, medicinal gourds, walnuts, jag-jag, zubturum, frankincense, hyssop, amonkara, pistachio tree, sachartqi , tea grass, shildirbash, sweet miry. , wormwood, yantok, red sedge, sedge and others are spread. Pel'terin tanat and extract are prepared from pomegranate peel. Medicinal cauliflower preparations are used as expectorants and softeners, jaw-jaw and lagochilus medicines stop bleeding, and medicines made from pistachio and tea grass are used to treat medaichak diseases. 2 different descriptions of medicinal plants are accepted:

1. Depending on the composition of active substances - alkaloid, glycosidic, essential oil, vitamin, etc .;
2. Depending on their pharmacological properties - sedative, pain reliever, hypnotic, as well as affecting the cardiovascular system, stimulating the central nervous system, lowering blood pressure and other medicinal plants.

In chemical and pharmaceutical factories in Tashkent, various medicines are prepared from medicinal plants grown and grown in Uzbekistan. For example, psoralen, used in the treatment of dysentery, rutin, which acts like vitamin A, galantamine alkaloid, strophanthine, cymarin, cardiac glycosides, and other preparations were obtained from saffron. As mentioned above, products of about 250 plants are currently used in medicine. 48% of the indicated medicinal plant products are made from wild plants, 30% are prepared in medicinal plant fields of farms located in different soil and climate conditions. The remaining 22% make up the "mixed" group, that is, medicinal plant products of this group are collected from plants that grow both wild and in plantations. Further, it is expected that the weight of medicinal products made from medicinal plants of the "mixed" group will increase year by year in the total amount of collected medicinal products. For what reasons is the production of medicinal plants grown in irrigated fields increasing year by year from the amount of products produced in general? There are many reasons for this, the main ones are as follows:
1. Year by year, as the need for medicinal plant products grows, the amount of preparation of their raw materials also increases. This, in turn, leads to the reduction of a number of medicinal plants in their breeding places , as a result of which their raw material production is sharply limited or completely destroyed. cause it to stop[7].

As a result of extensive processing of the above-ground part and bulb of the bozubang and gorse growing wild in Uzbekistan, their stock (amount) has greatly decreased in the place of natural growth. That is why these plants are now included in the "Red Book" of Uzbekistan. Therefore, their natural raw material has been stopped at the place of growth and is being cultivated in farm fields and where they grow wild. Many such examples can be cited.

1. As a result of the regular increase in the demand for medicinal plant products and the fact that it cannot be met at the expense of wild plants, these plants have to be grown in irrigated regions.
2. Sometimes there is a great demand for rare medicinal plants, but they are wild, in inconvenient places for collection (for example, belladonna, which grows in the mountainous regions of the Caucasus and the Crimea , etc.) or in small quantities, if it grows scattered in large areas (for example, medicinal valerian, which is widespread in the European part of Russia, but rarely found, etc.), this medicinal

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more expensive than cultivation on irrigated land preparation of plant products falls. Therefore, it is advisable to grow such plants in farm fields.

3. The difficulty of preparing raw materials of medicinal plants growing wild, the complexity of using agricultural machinery to collect them.

Medicinal plant products grown in plantations can be harvested using various mechanisms under favorable conditions and during periods when effective chemical biologically active substances are abundant.

4. If an expensive medicinal product, which is very necessary for medicine, is made from plants growing in countries with tropical or subtropical climates that are not found in our Republic , it is advisable to grow these plants in our country as much as possible.

Agrotechnics of medicinal plants to be planted anew is being developed at VILR and its experimental stations, partly in botanical gardens of the Academy of Sciences (FA), universities and higher educational institutions. In this field, the service of VILR and its experimental stations is great, they developed agrotechnical rules for growing a number of tropical and subtropical medicinal plants imported from abroad in the climate of the former Soviet Union. The following medicinal plants are grown in farms located in different regions (zones) of our country: cinchona tree, coca bush, aloe species, orthosiphon, dichroa, big kella , sano (cassia) species, Mexican bangidevona, kalanchoi species, shy mimosa, dark red passiflora, species of rauvolfia, pink catharanthus, round-leaved stephania, species of eucalyptus, lobed ituzum, etc.

Medicinal plants grown in irrigated fields are very different from medicinal plants growing wild, which means that the cultivated medicinal plant product does not contain any admixture of foreign plants. Medicinal plants grown on the basis of agrotechnical rules are fertile and rich in biologically active substances. It is possible to increase the productivity of planted medicinal plants and the amount of biologically active chemical compounds in them by selecting high-yielding varieties of medicinal plants, crossing them or obtaining polyploid (increasing the number of chromosomes) varieties. For the reasons mentioned above[8]. However, the cultivation of some medicinal plants and the preparation of their products are economically cheaper than harvesting the products of medicinal plants that grow wild.

Medicinal plants in Uzbekistan are mainly grown in farms belonging to the Ministry of Agriculture and Water Management located in different soil and climate regions. Medicinal plants were cultivated for the first time in the Republic of Uzbekistan in 1973 in Bostanliq district of Tashkent region. Later (in 1978) in the Pop district of Namangan region, a farm named Ibn Sino was established for the cultivation of medicinal plants. Peppermint, medicinal marmarak (mavrak), medicinal clove, na`matak, bitter wormwood (erman), pieced ituzum, small-flowered tograykhan and other plants are grown in these agricultural fields. The products collected from them were sent to supply pharmacies of Uzbekistan and to the Shymkent chemical pharmaceutical plant and other enterprises. Currently, special farms for growing medicinal plants have been established in Bukhara, Kashkadarya, Samarkand , Surkhandarya and Tashkent regions.

Conclusions and recommendations. In conclusion, we can say that there are many medicinal plants in the territory of Uzbekistan and their importance for us is very great. But in recent times, improper use of these plants and ruthless cutting of them is the reason for the decrease in the number of these plants. Pupils need to have the necessary knowledge to know the types of local plants and analyze their characteristics. Natural sciences are held twice a week[9]. Theory and practice are carried out together. It is effective to provide information about local medicinal plants in the classes and organize various excursions. Basil is the only medicinal plant that grows in every Uzbek household. We cannot say that readers have enough information about its useful features. Integrating native plants in the natural sciences is most effective in imparting this knowledge. Explanation of medicinal plants using the "cluster" method:

The most important task ahead is to preserve and increase the number of such rare and medicinal plants. It is necessary to create the necessary ecological conditions for them and increase the areas where they grow and create special plantations. This allows us to increase the raw materials in our pharmacological base and further develop our medicine. Ecology is a daily problem. The impact of nature on the environment is increasing year by year. The nature of Uzbekistan is rich in flora and fauna. Therefore, it is effective to integrate the natural sciences through local materials in order to inculcate the rich nature of Uzbekistan and local plants in the minds of students.

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