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PRESERVATION OF MEDICINAL PLANTS FROM THE NEGATIVE IMPACT OF ENVIRONMENTAL PROBLEMS

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Summary: *The development of the prospects for the use of medicinal plants in modern Uzbekistan is relevant from the point of view of improving the economy of the regions, improving the quality of life of the population and improving the health of the nation. To solve these problems, it is necessary to combine three scientific areas within a single program: economic, biomedical and agro-industrial. Among the main directions of the prospects for the use of medicinal plants in modern Uzbekistan, an integrated approach is assumed, including three main directions: ecological, biochemical, pharmacological and technological, reflecting the scientific direction and use of the gifts of nature.*

Keywords: *resource science, medicinal plants, environmental problems, ecoanalytical monitoring*

The nature of the interaction of society with the environment has recently caused concern in the general public. The human habitat is becoming more and more polluted, and its ability to self-regulate dramatically decreases. Such diseases are widespread that were previously either not observed at all or were of a local nature. They are called "diseases of civilization". Both natural and social environments need to be protected and improved. A person experiences a feeling of discomfort and gets sick both from a violation of the ecological balance in nature and from the clogging of the social environment.

The ecological state of the Republic of Uzbekistan is of utmost concern. Soil, air and water are polluted. Extraction of minerals is carried out irrationally, nature is becoming scarce. Nature also suffers from the intensive collection of fodder, medicinal, edible herbs and shrubs. Intensive collection of raw materials, unregulated grazing, and recreational pressure on landscapes lead to a reduction in the country's biomass stock. The level of ecological

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culture of the whole society plays an important role in preserving the natural environment and solving environmental problems. For the formation and development of an ecological culture among the population, it is necessary to create a special methodology of ecological education, based on which and with the help of which people could control their actions and actively form an ecological culture.

Our republic is an agro-industrial one. Of the 25 million hectares of agricultural land, 3.7 million hectares are irrigated arable land, where we receive over 97% of all crop production. Weather and climatic conditions and soil and water resources of Uzbekistan favor the cultivation of cotton, grain, vegetables and melons, fruit and other crops. Due to the efficient use of land, it is possible to get 2-3 harvests per year.

The development of industry and agriculture, the active development of natural areas lead to a violation of the ecological balance, a catastrophic reduction in the ranges and numbers of many wild species. Preservation of the gene pool of rare and endangered plants is a global problem, actively developed in all regions of the world. The flora of Uzbekistan numbers more than 4400 species of higher vascular plants, many of which are on the verge of extinction. 321 rare species are included in the national Red Data Book. In this regard, the conservation and reproduction of rare and endangered plant species of the flora of Uzbekistan, both in situ and ex situ, is an urgent problem. The most important role in the ex situ conservation of endemic and rare species of the natural flora of Uzbekistan belongs to the Tashkent Botanical Garden, which was created in 1950. The Flora of Uzbekistan lists 30 species of the Iridaceae family. According to modern data, taking into account the recently described taxa, 47 species of this family grows in the country, seven of which are included in the Red Book of Uzbekistan.

The soil and climatic conditions of the Botanical Garden are described in detail in the work of I. V. Belolipov (1989). The garden is located in the north-eastern part of Tashkent at an altitude of 480 m above sea level. The soil is an ancient irrigated typical gray soil. The climate of Tashkent is sharply continental, characterized by dryness, significant daily temperature fluctuations, hot summers, dry warm autumn and moderately cold winters. The absolute minimum temperature is ...- 25.8 0 C, the absolute maximum is ... + 44.6 0 C.

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Winter is short, usually mild, with short frosts and frequent thaws. Snow cover is usually unstable and forms several times during the winter. Vegetative winters are frequent.

Spring usually comes in the second half of February - early March and is characterized by extremely unstable weather. Date of the latest spring frost is 13.05. The average annual relative air humidity is 59%, in July it drops to 22%.

Due to the small amounts of precipitation and drought in the winter-spring period, a dangerous situation has developed with the breeding of locusts, especially in the Kashkadarya, Surkhandarya, Samarkand, Jizzakh, Bukhara regions and the Republic of Karakal-Pakstan. A massive outbreak of the Moroccan locust continued in the border areas in the Kashkadarya, Surkhandarya and Jizzakh regions, as well as in the Fergana Valley, there were many cases of flocks of locusts. In the fight against the pest on 193 thousand hectares, tractor sprayers were used, 86 thousand hectares - motor and knapsack sprayers, 94 thousand hectares - motor hang-gliders, 149.8 thousand hectares - ULV sprayers for motor vehicles. A total of 575.5 thousand hectares were treated against locusts. The state allocated budgetary funds in full for the control of locusts, and as a result of the treatments, no cases of damage to cotton and other crops were allowed.

The level of ecological culture of the whole society plays an important role in preserving the natural environment and solving environmental problems. For the formation and development of an ecological culture among the population, it is necessary to create a special methodology of ecological education, based on which and with the help of which people could control their actions and actively form an ecological culture. Uzbekistan has always expressed its concern about the consequences of the impact of emissions of aluminum production both on the environment and on the health and gene pool of the population. Back on November 17, 1994, in Tashkent, Uzbekistan and Tajikistan signed an agreement on cooperation to improve the ecological situation in the territories influenced by the activities of the aluminum plant in Tursunzade. Unfortunately, a number of measures of the agreement have not been fulfilled by the Tajik side.UNEP representatives, along with other international experts, personally got acquainted with the specific facts on the spot and saw with their own eyes the consequences of the industrial activity of the aluminum plant. And the facts say the following: the enterprise emits into the atmosphere about 22 thousand tons of pollutants,

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including 120 tons of the most dangerous and harmful to human health and the environment, hydrogen fluoride.

A significant part of these emissions is carried away by air flow for 18-19 hours a day towards the Sariasy, Uzun, Denau, Altynsai, Shurchinsky, Kumkurgan districts of the Surkhandarya region of Uzbekistan, where more than 600 thousand people live.Scientists, ecologists and specialists have proved that the accumulation of fluorides in the environment of this region causes degradation of flora and fauna, upsets the balance of synthesis and mineralization processes, and contributes to the emergence of mutational processes. Fluoride compounds cause the spread of fluorosis, anomalies in the development of the musculoskeletal, respiratory, and endocrine systems. The birth of children with birth defects has become common here. It is especially alarming that from year to year in the area of influence of the enterprise, the incidence is growing, the number of premature births and miscarriages, congenital malformations and stillbirths increases.

Due to the limitation of water inflow into the Aral Sea, a huge saline desert area was formed - Aralkum. According to the literature data, the territory of Aralkum reaches 5.5 million hectares, of which about 3.5 million hectares are the territory of the Republic of Uzbekistan.

The chemical composition of plants growing in the described territory is practically not studied. In the course of preliminary studies, it was found that about 226 plant species grow in the Aral Sea region. In addition to medicinal value, these plants also have great potential for use in the national economy. These plants have adapted to unfavorable natural conditions, a difficult ecological situation and, accordingly, contain physiologically active compounds that allow them to adapt to stressful situations.

In connection with the above, it becomes relevant to control macro- and microconcentrations of hydrogen fluoride, which is one of the most important safety problems in its production and protection of environmental objects. The solution of the listed tasks of quickly establishing the degree of hazard and harmfulness of hydrogen fluoride in air mixtures is possible only through the development of new express methods with the necessary dynamic parameters and metrological characteristics.

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The most correct and correct solution to the problems posed for the rapid and accurate determination of hydrogen fluoride in air is the creation and use of simple, highly available and cheap sensors. In this regard, the task of developing effective methods based on semiconductor effects and the creation of devices for monitoring hydrogen fluoride on their basis is an urgent problem of modern analytical chemistry and ecology. To detect hydrogen fluoride in air, various methods are used, the choice of which is due to the impurities that accompany hydrogen fluoride in air and air mixtures.

Today, in addition to the main, traditionally used plants, the study of new, fertile plants rich in nutrients and medicinal substances is an urgent task. In particular, plants of the genera LyciumruthenicumMurr. andNitrariaschoberi L. growing on the Ustyurt plateau have a height of about half a meter, and the height of the population growing on the territory of Aralkum reaches 2-3 meters. An acceleration of vegetation and generation (growth, development, flowering, fruiting) of the described plants is also observed.

Based on these prerequisites, the creation of new substances on the basis of comparative studies and determination of the relationship between the chemical composition of components of various nature, their biological activity, physicochemical characteristics of high molecular weight compounds of the plant population LyciumruthenicumMurr. andNitrariaschoberi L. in the South Aralkum region is a very urgent problem.

The institutes of the Academy of Sciences are entrusted with the task of developing the scientific foundations for the cultivation of medicinal plants, technologies for deep processing of plant raw materials, and also, together with the State Committee for Nature Protection, take a set of measures to study biodiversity and strengthen the protection of endangered wild medicinal plants, as well as their restoration through the construction of natural plantations ... The Research Institute of Plant Industry is entrusted with the tasks of growing medicinal plants, conducting scientific research in the field of selection and seed production of medicinal plants, and developing agrochemical cartograms.

One of the ways to preserve and reproduce the gene pool of medicinal plants is their introduction into culture. The process of introduction (introduction into culture) is very complex, lengthy and depends on many factors: the origin of plants, their ecological nature, climatic and geographical conditions of the natural area and the area of introduction, etc.

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Therefore, not all plants are successfully introduced in our zone. The introduction of medicinal plants into the culture involves a wide range of breeding work in order to obtain highly productive forms and varieties of valuable species.

The urgent task of preserving the natural gene pool of plants is the creation of gene banks, that is, the preservation, under certain conditions, of the entire seed pool of wild plants in order to prevent the irreversible disappearance of one or another species. This is also prescribed in the decree. The creation of gene banks involves a deep study of all issues of seed storage: temperature regimes (for example, alfalfa seeds tolerate prolonged heating up to 100 degrees without signs of damage, while others, on the contrary, are very sensitive to heating), air humidity, the nature of the environment (for example, clover seeds meadow can be kept in an alcoholic solution without loss of germination), etc.

Large reserves of protection and rational use of natural stocks of medicinal plants are available at the stage of plants' transition from the place of their growth to the place of processing to obtain phytopreparations. First of all, this refers to the correct collection and drying of plants. When collecting raw materials, it is necessary to know not only the distribution, stocks and productivity of species, but also their ability to restore the natural state of vegetation after harvesting. Insufficient knowledge of these features, and most importantly, poor organization of procurement work, often after several years of operation, lead to significant or complete depletion of the former thickets. Special measures are needed to rationalize the procurement of medicinal plants, subordinate them to any one department that strictly adheres to the rules for collecting medicinal species, which is also provided for in the decree.

The colossal possibilities for the rational use of medicinal plants lie in the technological methods of their processing. Sometimes a drug is extracted from the plant, and the rest goes to waste. Striving for an economical technology, scientists are following the path of developing methods for the complex deep processing of medicinal raw materials. For example, the roots and rhizomes of licorice are processed using a combined technology into dry extract, flavonoid (liquiditone, flacarbin) and triterpene preparations (glycyram, glycyrrinate).

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One of the modern ways to save stocks of wild rare and endangered medicinal plants is plant tissue culture. Reproducing in an artificial environment, cells produce alkaloids, terpenoids and other compounds necessary for medicine. So, for example, codeine from poppy, digoxin from foxglove, scopolamine from datura, flavonoids from Scutellariabaikal, panaxosides from ginseng, etc. are obtained in the world. Undoubtedly, this method will be given more and more attention in Uzbekistan in the future.

Greening plant protection is also achieved by improving the range of pesticides, introducing the safest and most effective ones. This task is subordinated to the activities of the State Commission for Chemicals and Plant Protection. The State Chemistry Commission includes representatives of the Ministry of Agriculture and Water Resources, the Ministry of Health, the State Committee for Nature Protection, the Republican Center for Plant Protection and Agrochemistry and other interested institutions. Currently, the "List of pesticides and agrochemicals permitted for use in agriculture of the Republic of Uzbekistan" includes 327 drugs, including 240 imported and 87 domestic, of which 105 are insectoacaricides, 71 herbicides, 25 fungicides, 61 disinfectants, 3 nematicides, 1 biological product, 5 types of pheromone traps, 24 defoliants, 24 growth stimulants, 1 rodenticide, 10 insecticides against stock pests, 8 biofertilizers and 4 mineral fertilizers. On average, these drugs belong to the III hazard class.

Thus, the solution of issues related to the use of plant protection products today and in the future should go along the path of creating and applying high-precision and ecologically closed technology, careful selection of protection means, creating forms of use, taking into account the critical ecological situation in the region.

Bibliography:

1. Mc.Kenna G.F., Taylor A., Gipson B.S. Futher studies of plant extracts in cancer chemoterapy // Texas Rep. Biol, and Med.- 1959-Vol. 17-№ 1 p. 123-133
2. Newton J. The physik garden // Garden West magazin, Canada. 1991. -Vol. 5, N7. - P. 18-19
3. Fluck H. Medicinal herbs and their uses. W. Foulsham CO. LTD, England, 1976. - 188 p.
4. Carr A., Cassidy C., Cohen E. Rodale's illustrated encyclopedia of herbs, Rodale Press, Emmaus, Pennsylvania, 1987. 545 p.
5. Черняева Е.В. О русских садах // Ландшафтный дизайн. 1997.-№ 1.-С.37- 39.
6. Фетисов А.А., Сокольский И.Н., Гарбузова В.М. Запасы дикорастущих лекарственных растений северных, центральных и юго-западных районах Мое. обл. // Растительные ресурсы. 1990. - Т. 26. - Вып. 1. - С. 41 - 46 .
7. Тюрина Е.В. Выращивание лекарственных растений в саду. -Новосибирск: Кн. Из-во, 1992. 159 с.