

ISSUES OF PHYTOMELIORATION IN OPTIMIZING THE GEOECOLOGICAL STATE OF PASTURES

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Annotation. *The article geographically studied the ecological state of pastures in our republic, shows the causes of environmental problems observed in pastures, and measures to maintain their sustainability. The article describes in detail the importance of agrofetocenoses in improving the condition of pastures.*

Keywords: *desert areas, cattle breeding, pastures and hayfields, plants, harmful poisonous plants, nutritious plants.*

Introduction. In the desert regions of our country there are large farms specializing in the breeding of cattle. It is known that karakol breeding is one of the most important branches of animal husbandry in the republic. In Karakol, the main source of food is the natural cover of deserts and hills. Of the 23.1 million hectares of pastures and hayfields in Uzbekistan, 17.5 million hectares are used for animal husbandry as desert pastures. Of these, 37.1% are in a state of crisis, more than 1 million hectares are covered with harmful and poisonous plants, more than 0.5 million hectares are fragrant groves. Due to the influence of these alien non-edible or hardly edible plants, the hay productivity of pastures is sharply reduced.

One of the main reasons for the crisis of these pastures is the misuse of pastures and the spread of frankincense and similar poisonous and harmful plants. It is known that poisonous and harmful plants often grow in deserts and semi-deserts. When these poisonous plants are digested by Karakol sheep, they cause serious illnesses and even lead to their death (*Morozova, 1946*). In addition, the constant use of pastures leads to the fact that pastures become unusable and create conditions for the reproduction of alien and harmful poisonous plants. According to experts (*Shamsuddinov, Ibragimov, Normurodov, Makhmudov*), in order to strengthen the food base of Karakol sheep, their productivity can be increased by planting fertile pasture crops on low-yielding pastures.

According to them, the most effective ways to increase the productivity of desert and hilly pastures are the creation of artificial agrophytocenoses and hedges. These created hedges and agrophytocenoses have a positive effect on the external

environment and ensure a longer retention of moisture in the soil. This work will reduce the wind in winter and help to capture more moisture in the soil by retaining moisture on the hedges. Also, in areas where hedges are installed, the type of herbaceous plants is larger than in open areas, and the forage yield is 2-3 times higher.

Main part: Karakol breeding is an important and significant area of animal husbandry in our republic, which is part of the natural pastures of desert-hilly areas intended for year-round use. However, the extremely low productivity of natural pastures (1.5-3.5 c/ha), their sharp fluctuations over the years and seasons, their crisis at different levels require intensification of research in the field of increasing their productivity.

Although technologies have been developed to create pasture agrophytocinoses suitable for pasture crises, autumn-winter pastures in mountainous areas, individual desert ecological types, based on the ongoing economic, social and organizational reforms in karakol breeding, the need to develop technologies suitable for new forms of agriculture farms is growing. It is also essential to know the customs of extremely complex ecological environments (deserts, hills) and to develop science-based technologies.

In Uzbekistan, herds of cattle, sheep, goats, horse nests, pastures in the hilly and foothill areas are grazed all year round from early seasonal spring to late autumn.

If we take into account that the development of forage crops in the desert occurs in conditions of high solar radiation, scorching heat, extremely limited (poor) soil and air humidity, then the mutual ratio and proportions of each type of agrophytocenosis established in this environment should be ecologically justified and correctly selected.

If we pay attention to the state of research on this important scientific and practical issue today, then the volume of scientific and practical research on improving the condition of natural pastures in the arid regions of Central Asia is limited. However, most of them are devoted to improving the condition of pastures and clarifying the scientific issues of enrichment. Therefore, among the next important tasks, focusing on the study of the optimal composition, types and alternative ratios of life forms of plants (shrubs, semi-shrubs, herbs) in the environment of a certain ecological type of pasture atrophytocenoses (plantations), established in desert areas, and special experimental studies in this regard, should be to fulfill.

On the territory of Uzbekistan, pasture science faces important issues:

1. Accelerating the development of the scientific foundations of the new system and principles of pasture use in the era of new management;

2. To deepen the study of biomorphological, ecological-physiological and economic features of promising phytomeliorants of desert plants, to involve in the study of new species, to improve the zonal systems of desert plant science;

3. Further improvement of pasture phytomelioration technology, taking into account the unique soil and climatic conditions of Kyzylkum.

4. Increasing attention to the issues of proper mechanization of the main phytomeliorative measures and others.

Plant reclamation is an important factor in preventing desertification. Due to the fact that Kyzylkum is a large and promising livestock breeding region of our desert republic under the leadership of P. Korovin, the description of scientific research in the field of phytomelioration of these pastures is of particular importance.

To date, in order to increase the productivity of pastures in Kyzylkum, a large-scale program has been implemented and the following has been achieved:

1. The ecological conditions of the distribution of desert edible plants have been comprehensively studied and their bioecological characteristics have been determined.

2. In the conditions of gypsum and sandy desert, 2000 samples belonging to almost 30 botanical families were tested, and promising phytomeliorants were selected. Basically, the prospects for xerophytic and psammophytic shrubs and semishrubs have been determined.

3. The technology of surface and deep improvement of pastures has been developed.

4. A scientific base has been created for the creation of hedges, pasture agrophytocenoses intended for multi-season use.

In terms of increasing the productivity of pastures in Kyzylkum, it is currently necessary to solve a number of urgent tasks:

1. Creation of special enterprises that increase the productivity of active pastures and grow seeds of important phytomeliorants on the basis of mutual agreements with karakol-breeding farms or farms;

2. Establishment of permanent financing of activities aimed at increasing the productivity of pastures at the expense of centralized funds and local budgets;

3. Another important measure to improve the pasture management service in the Kyzylkum region is the improvement of the meteorological observation service and the provision of specialists who predict the productivity of pastures with existing agrometeorological stations and, if necessary, make a prompt assessment.

According to V. Dalakyan, R. Asanov, L. Kim, who studied plants scattered over pastures:

	Camel-thorn	when budding contains	1 kg of hay	Contains (in gr)
1	Water	193,0	Ash	96,7
2	Protein	99,0 gr	Calcium	11,0
3	Fat	38,0 gr	Phosphorus	1,3
4	Cellulose	345,0 gr	Protein (food unit 0.22)	33
5			Dry matter	807,0

The above-ground stock of false camel's thorn in the Khorezm oasis, depending on the growing conditions, gives 15-2 tsr / dry weight, which makes it the best year-round fodder plant. The cultivation of such nutritious plants on the pastures of our republic allows us to further develop cattle breeding and animal husbandry.

We can see such plants in the table below and some (psamophytic) fodder plants common in sandy deserts:

№	plant name
1	Artemisia diffusa
2	Aeluropus litoralis
3	Ceratoides eversmaniana
4	Carex phosodes
5	Eramopyrum orientale
6	Bromus tectorum
7	Kochia prostrata
8	Haloxylon persicum
9	Alhagi psedalhagi
10	Halothamus (Aellenia)

The results of preliminary observations and calculations show another important fact that promising phytomeliorants (Halothamnus subaphylla Botsch, Ceratoides, Cyperus holoschoenus) are valuable forage species in terms of their ability to adapt to drought and other adverse environmental conditions for keeping in desert areas.

Conclusion: If we talk about the pastures of our republic, then the most optimal way to improve areas in crisis in desert-hilly conditions, that is, covered with harmful plants, is the creation of artificial agrofetocenoses (pastures) from a mixture of shrubs, semi-shrubs and grasses. All sandy massifs in our country are considered the main fodder base for livestock, but the fodder supply is not the same throughout the year, depending on the two seasons. In this regard, shrubs, semi-shrubs, perennial and annual fodder plants are characteristic of sandy deserts.

In the course of research, it was found that 337 species of fodder plants grow in these sandy massifs. Among them, some of the most common plants *Halóxylon*, *Calligonum*, *Láurus nóbilis*, *Carex hordeistichos*, *Ferula*, *Hedéra hélix*, *Salvia*, *Agriophýllum*, *Halothamnus subaphylla* Botsch are the main food for camels and sheep in winter, autumn or early spring and summer. Also, the focus is on the development of agrotechnical foundations for creating optimally structured pasture agrophytocenoses in certain environmental conditions (sowing dates, seed consumption rates, seeding depth, yield, etc.).

Promising phytomeliorants that adapt to local conditions are tested when creating plantations with different life forms and different ratios (minimum, optimal, maximum) of the proportion of edible plants. Various variants of phytomelirants, consisting of shrubs (*H.aphyllum*), semi-shrubs (*Halothamnus subaphylla* Botsch, *Kóchia*, *Verbáscum thápsus*, *Ceratoides*, *Cyperus holoschoenus*), with different proportions of shrubs, semi-shrubs, herbaceous species and the share of agrophytocenoses, are considered. Hedgerows are being built in many places.

When observing the growth, development and yield indicators of the tested species in the experiments, differences in these indicators of the first two-year-old plantations were noticeable.

In our country, a lot of work is being done to protect pastures, ensure their rational use, as well as further develop the cultivation of stinky ferula and the widespread use of resource-saving technologies in pastures.

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