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Ecological Characteristics Of Pasture And Fodder Conditions Of Natural Vegetation Of Kyzylkum

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ABSTRACT

Ecological analysis of natural conditions (pasture and forage conditions, vegetation) of the Kyzylkum desert, a large and promising region of karakul breeding in Central Asia in connection with the need to carry out phytomeliorative measures on its pastures.

KEYWORDS

Kyzylkum, desert, pastures, vegetation, salinity, phyto-melioration, ecology.

INTRODUCTION

The Republic of Uzbekistan is one of the independent states in Central Asia, most of which is located in the arid zone.

More than 84% of the agricultural land in the Republic of Uzbekistan is occupied by natural fodder land located in arid conditions.

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The natural vegetation cover of arid lands has been used since ancient times as a cheap pasture for Karakul sheep and camel breeding. Given the current level of development of productive forces, it is this branch of animal husbandry that has been recognized as the most expedient means of agricultural use of vast arid territories.

THE MAIN FINDINGS AND RESULTS

More than 1500 species (flowering plants, algae, fungi, lichens, mosses) of plants belonging to 50 families and 302 genera grow on the natural forage lands of Uzbekistan (Khasanov, 1995). Among them, with varying degrees of completeness for 650 species, there is information on their feeding characteristics, and no more than 120 species have been studied in relative detail.

According to Professor O. Khasanov (1995), the pasture flora of the republic is distributed according to life forms as follows: small trees-9 species, shrubs-114, half-shrubs-26, half-shrubs-53, perennials-835, biennials-116, and annuals-402.

Among the vegetation of the arid zone, the dominant position belongs to ephemera, ephemeroids and subshrubs.

Until now, the bio-morphological, bioecological and structural-functional features of most food plants in arid pastures have been poorly studied.

The food supply in the arid zone of karakul breeding consists of three sources:

1) Natural pastures of deserts and hills
2) Improved pastures
3) Forage harvested and purchased for additional feeding during critical periods of their maintenance.

In turn, the distinctive features of the karakul pasture are the following:

A) The livestock is kept on grazing throughout the year - natural pastures with a seasonal nature of use;
B) The nature of livestock maintenance and the system of pasture use are determined by periodic fluctuations in yields over the years and seasons;
C) Water cut (provision of drinking water for livestock and population) of the territory is very important in the rational use of pastures;
D) Livestock in certain seasons and lean years is driven away from the main territory.

The whole variety of natural vegetation of the Kyzylkum desert used as pasture can be combined into 4 types of pastures: ephemeral, semi-shrub-ephemeral, shrub-herbaceous and saltwort (Amelin, 1943; Morozov, 1940; Gaevskaya, 1971).

The floristic composition of Kyzylkum ephemeral pastures is made up of ilak, kongurbash, yaldyrbash. In addition, grasses (arpagans, aegilops) are noted in the herbage; annual legumes, crucifers and representatives of other families.

Most of the ephemeral species are most valuable in the spring during the growing season, when they contain the highest amount of vitamins and are an excellent, juicy nutritious food.

The semi-shrub-ephemeral type of pastures is considered no less important. Their herbage is usually two-tiered: in the upper tier there are half-shrubs (wormwood, saltwort, syngren).

The lower tier consists of ephemerals and ephemeroids - desert sedge, bulbous

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bluegrass, less often - silt and others from the cruciferous, leguminous family.

Shrub and grassy pastures in the sandy desert are extremely valuable forage lands. A variety of life forms, multi-temporal and almost year-round vegetation, seasonality of eating and other household amenities make it possible to practically use them for grazing all year round. They are characterized by a multi-tiered composition of the vegetation cover: trees and shrubs make up the upper tier; this layer exceeds 2 meters or more, shrubs and some perennial grasses make up the middle layer (0.5-1.5 m); the lower tier consists of ephemerals – ilak, kongurbash, etc.

Saltwort pastures in Kyzylkum do not form separate isolated large tracts. Halophytes are interspersed in small areas in other variants of pastures. These lands are good pastures in the pre-random and breeding periods. They are represented by annual and perennial saltwort species. This is a woolly hodgepodge, cartilaginous hodgepodge, donashur, etc.

The main form of pasture management in Kyzylkum is specialization in the production of karakul products (trunks, meat, and wool).
By the summer, the protein content decreases significantly, in the fall it decreases more than 2 times, and the fiber content increases. By winter, the content of crude protein drops to 4-7.5%, and the total nutritional value of feed is barely 18-20 feed units.

Overloading pastures can lead to rooting or weed overgrowth. The optimal load with a yield of 2-3 c / ha is recognized as 5-6 ha per conditional sheep (Nechaeva; 1954, Gaevskaya; 1971).

Shrubs, semi-shrubs in the herbage of arid pastures occupy the uppermost layer and are valuable for providing sheep in the autumn-winter period. Among them there are species that are eaten all year round; many species promising for introduction into culture or already introduced into culture.

Depending on the place of growth, year and species, the yield of the fodder mass of shrubs and semi-shrubs varies within wide limits; in average harvest years, the value of their fodder mass is 1.5-3 c / ha of the consumed mass.

The forage group is usually referred to in the pasture-zoo-technical literature as coarse grasses or coarse grasses - these are herbaceous perennials that vegetate for a long time and give relatively high pastures of relatively low-nutritional forage mass.

On desert pastures, representatives of this group are selins, feather grass, wheat grass, ferula, tournefortia, heliotropes, camel thorn, kavrak and others.

Ephemera and ephemeroids are one- and perennial herbaceous plants, timed to vegetate in a humid and favorable time (spring) of the year.

Their vegetation usually begins in autumn, in the winter cold time it often stops or stops; they develop most luxuriantly and intensively in spring, and with the onset of water deficit in the meter-deep soil layer, they manage to complete their growing season. After drying, some of them break off and disappear from the grass stand and are used in the form of debris during grazing, called “khas” by the local population, others remain dry for a long time and are called “standing hay”.

The amount of forage reserves of ephemeral pastures is determined by the hydrothermal

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conditions of the spring period, and varies greatly from large to negligible (less than 0.5 c / ha), it can decrease by 15-20 times in relation to the maximum value.

Some researchers (Gaevskaya, 1971), for the conditions of the foothills, indicate the following values in relation to the average year: a very productive year-250%, a productive year-160%, an average-100%, a lean-50% and a very poor-25%.

Annual hodgepodges are long-term vegetative herbaceous plants with a high content of mineral salts. All the variety of these species growing on saline soils is subdivided into dry and juicy hodgepodge.

Their differences in economic terms lies in the fact that the first are eaten by sheep during the entire growing season, and the second after the termination of the growing season and drying out.

In the Central Asian deserts, there are more than 700 species of halophytes, most of which belong to the family of hazeaceae.

Fleshy leaves and stems (balykkuz, donashur, haridandan) are inherent in succulent hodgepodge, while dry hodgepodge (kumarchik, seta, sagan) have juicy shoots, leaves and are high in fiber.

Annual hodgepodge is a seasonal (autumn-winter) feed.

Their average productivity is low (3-5 centners / ha), but varies in different years within significant limits.

100 kg of dry feed contains 40-50 feed units; the utilization rate is not more than 30%.

Among the species growing on arid pastures, it is still necessary to separate into a separate group - harmful and poisonous plants that cause one or another harm to animals, spoil the quality of the product or adversely affect their health until their death.

They talk about a group of harmful and poisonous plants found in the desert pastures of Uzbekistan; some of their features should be noted: their harm is manifested not for the entire growing season, but only in certain phases of development. In particular, Taeniatherum crinitum Nevski. (kyltyk) causing injury to the oral cavity in the phase of ripening of ears. In the green state, this species is completely harmless and well eaten by livestock.

Most representatives containing toxic substances are also dangerous during the active growing season (buttercups), while after the completion of their growing season they practically become safe for animal health. Our information about the fodder plants of desert pastures will obviously be incomplete if we do not emphasize the distinctive features of the Karakul pasture breeding in general. They tend to:

- The livestock is kept on pasture for almost all year round with a seasonal pattern of using grass stand;
- The nature of sheep keeping and the system of pasture use is conditioned by periodic fluctuations in the yield over the years and seasons of the year;
- Very important, essential for the use of pasture grassland is the water content of the territory;
- In some years, forced moving of livestock outside the main pasture area is practiced.

As a rule, the rational use of forage lands dictates the need for their seasonal use: in

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spring and summer - on ephemeral, shrub-grassy pastures; in autumn and winter - on semi-shrub-ephemeral, saltwort pastures.

The consumption of forage plants on arid pastures is determined by a number of anatomical, morphological and biochemical features, the composition of the community, animal species, mineralization of drinking water, etc. Also, the nutritional value of pasture fodder varies greatly from season to season.

Pasture forages, which in spring consist of ephemeral and ephemerids on most types of pastures, are not only as nutritious as the best meadow and mountain grasses, but also more often have a higher content of digestible protein, carotene and phosphorus.

The authors proceeded from the fact that knowledge of some nonspecific aspects of food species is of certain interest to the reader and expands his horizons.

CONCLUSION

1. Among a wide variety of ecological conditions, two types of deserts stand out here - sandy, distinctive and relatively favorable, and gypsum - with its characteristic ecological regime and tough.
2. Natural types of Kyzylkum pastures are characterized by low yield of forage mass, sharp fluctuations in years and seasons of the year, negative dynamics of the nutritional value of forage throughout the year (from spring to winter).
3. In the extreme conditions of the Kyzylkum desert, first of all, the effectiveness of phytomeliorative measures is determined by the scientifically based selection of phytomeliorants, the use of a differentiated technology for creating pasture agro-phytocenoses.

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