

HAY YIELD OF DESERT FORAGE PLANT SPECIES USED THROUGHOUT THE YEAR

A.S.Bobayeva.

The scientific research institute of Karakul sheep breeding and desert ecology

Abstract

The article provides a description of the productivity of promising types of pasture forage plants for use in increasing the productivity of degraded natural pastures.

Keywords: desert, adyr, pastures, degradation, forage, hay, survival, productivity, phytomelioration.

Introduction

The total land area of the Republic is 44.9 million hectares, of which 20.6 million hectares fall on natural pastures. Natural pastures serve as the main food reserve in the development of livestock, which is considered an important area of the national economy. In particular, the pastures of the desert and steppe regions are pastures used almost all year round for karakul, goat and camel breeding, and 95% of the annual feed requirement of livestock is covered by natural pasture plants. Although natural pastures are considered cheap, convenient and year-round areas, their feed reserves are extremely low (1.5-3.5 s/ha), and they fluctuate sharply over the years and seasons. Another characteristic of natural pastures is that the nutritional value of their feed decreases from spring to winter. Also, due to the use of pastures without following the necessary rules (unbridled use of shrub and semi-shrub species for vital needs, geological exploration, exploitation of underground mineral resources, excessive livestock grazing), nutritious feed species are becoming rare, and they are being replaced by species with low nutritional value and productivity, that is, the pasture crisis is becoming increasingly severe [1].

Such negative conditions lead to a sharp decrease in plant biodiversity, a decrease in productivity, and a deterioration in the quality of feed. Therefore, one of the most urgent tasks is to increase the productivity of pastures and enrich their vegetation cover with new plants by using drought-resistant, high-yielding, nutritious plant species with valuable nutritional properties [3].

Research Source and Methods

Promising species of pasture fodder plants from the plant gene pool of the Nurota experimental field of the Scientific Research Institute of Karakul sheep breeding and Desert Ecology were selected. Planned field experiments, phenological observations, biometric measurements, the process of collecting feed reserves, and other issues were carried out using generally accepted methods in plant science, botany, plant introduction, and agronomy [2;4].

Research Results and Their Analysis

Conducted at the Nurota experimental field of the Karakul and Desert Ecology Research Institute. The experimental field is located in the hilly region of Nurota district of Navoi region, its altitude



is 660-680 m above sea level. The climate is sharply variable, with an annual average temperature of 15.80 s, with a perennial average rainfall of 230 mm, varying from 110 mm to 350 mm over the years. The soil type of the experimental field is light gray-earth soil, sandy soil according to its mechanical composition [5].

In January 2020, seeds of three ecotypes of semi-shrubs (rocky, sandy, and loamy soil), teresken, castor, and kuyrovuk, as well as perennial herbaceous plants, desert male grass and Khorasan espartate, were sown in the experimental field on a plowed and harrowed area and mulched.

The sown seeds germinated in mid-April. Izen ecotypes entered the generative phase (flowering and seed production) in the second year of their growing season. The plants regrow in March in the later years of their growing season. Perennial herbs ended their growing season at the end of June (the duration of the growing season is 95-120 days) half bushes at the end of October (the duration of the growing season is 220-240 days).

The study found that the viability of Meadow forage plants was 67.4-84.6% across species, with a height of 59.6-98.5. These indicators are considered high for nutritious plants that are being cared for in arid conditions (in lalmikorlik).

Since the yield of natural pastures is extremely low (1.5-3.5 s/Ha), the main goal in introducing plants into production is to choose high-yield nutrient species. Data in the study of the harvesting process of Meadow forage plants under adir conditions suggest that they collected hay (dry cartilage) yields of 3.4-8.3 s/ha across species as early as the first (2020)-year of the growing season.

Hay yield of Meadow fodder plants, s / ga.

№	Plant species	hay yield to s / Ha				
		1 (2020)-y	2 (2021)-y	3 (2022)-y	4 (2023)-y	5 (2024)-y
1	Kochia prostrata (stony)	8,3±0,4	16,4±0,8	19,7±0,9	18,1±0,7	19,3±0,8
2	Ceratoides eversmanniana	5,1±0,2	11,2±0,6	13,1±0,7	11,2±0,5	15,6±0,6
3	Kochia prostrata (sandy)	7,1±0,3	13,6±0,7	16,8±0,6	14,7±0,4	16,5±0,4
4	Halothamnus subaphylla	6,9±0,2	14,8±0,6	19,2±0,8	17,4±0,6	18,4±0,6
5	Kochia prostrata (grey brown soil)	7,5±0,3	14,1±0,5	18,3±0,7	16,1±0,5	17,4±0,5
6	Salsola orientalis	5,4±0,2	10,9±0,5	14,2±0,6	13,8±0,4	15,5±0,7
7	Agropyron	3,8±0,1	9,3±0,4	11,3±0,7	9,4±0,3	14,±0,8
8	Onobrychis	3,4±0,1	13,2±0,6	14,7±0,5	9,6±0,7	15,1±0,5

Conclusion

According to the results of the study, the meadow shows that promising species of fodder plants can accumulate high yields even in unfavorable conditions of arid regions, as well as the establishment of cultural pastures from these species, causing an increase in pasture productivity, plant cover in pastures to be enriched with new fodder plants.

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