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THE ADVANTAGES OF USING MODERN TECHNOLOGIES FOR UTILIZING PASTURES.

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Abstract: This article provides information on the current state of pastures, shortcomings in their use and measures to address them, as well as the importance of modern technologies.

Keywords: *Pasture, vegetation, external factors, internal factors, negative processes, degradation.*

It is known that pastures are considered a precious resource of nature. Specifically, in our republic, the total area of pastures used in livestock farming amounts to 21 million hectares [1,2].

However, maintaining a certain order and adhering to regulations in the use of pastures, providing support to them during certain necessary periods, implementing a system of measures aimed at preserving or enhancing their natural productivity, and overall, ensuring continuous monitoring and attention are required. Otherwise, the negative consequences of human activities in natural pastures, which result in adverse changes, continue to escalate [4,8].

On the other hand, the plants present in pastures also influence each other in certain ways, and competition exists among them for environmental resources. Natural pastures undergo changes in the composition of plant species, typically caused by two main groups of factors

1) External factors; 2) Internal factors.

External factors (changes) occur due to influences from external sources. It is mainly associated with human activities. These influences are primarily observed when resources are utilized for various life needs, such as grazing, by the plant community.

As an example of changes that occur as a result of the influence of internal factors on the plant community, it is possible to mention the interrelated changes. For instance, noticeable competition exists between ephemerals and other life forms in terms of water-mineral resource utilization. This situation especially becomes



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prominent during the early spring when ephemeral species experience rapid growth and development.

How does grazing in pastures affect the plant layer? Firstly, grazing directly affects the soil and, through the soil, influences the plant layer.

Its mechanism can be summarized as follows: Under the influence of grazing, firstly, the upper layer of the soil undergoes slight compaction, and then the surface layer gets disturbed. When the plant community is examined in an elevated plot about 1 m high, it is observed that the plant layer has developed well in the fertile soil, with a depth of 32 mm in the well-developed grassland and 24 mm in the sparse area.

The most negative aspect of unregulated use of pastures is that the plant layer becomes sparse, resulting in a decrease in the quantity of plant species. As a result of increased exposure to sunlight, the surface of the soil experiences higher evaporation of moisture. All of these factors are considered to have a dual impact [5].

In addition to this, domestic animals and herbivorous animals also directly impact the plant layer. For example, animals grazing on young plants that have not yet sufficiently developed can have an effect when they trample on or consume them.

As a result, if this situation continues persistently, the quantity of plant species decreases, especially the amount of high-quality forage and yield decreases. Moreover, in similar pastures, it is possible to observe a significant decrease in the diversity of plant species. Naturally, their low quantity or inadequate development indicates that the growth conditions of these plants do not meet their requirements. Therefore, if the growth conditions of these species are improved through appropriate measures, it becomes possible for them to thrive and achieve higher yields.

According to investigations, if we rely on the data of Prof. I.S. Amelin, which is based on the vegetation sampling conducted in natural pastures, it can be noted that there is a significant number of plant seeds in the soil, for example, in each square meter of livestock grazing pastures, there may be a stockpile of 11-21 thousand seed units depending on the type of pasture.

Similar information is also presented by Prof. N.T. Nechayeva using the example of the foothill pastures in Turkmenistan. However, it should be noted that, as human interference and management are absent, the instances of increasing the number of plants in pastures may be observed to a lesser extent.

Therefore, in order to ensure efficient and productive use of pastures and to provide them with an adequate supply of forage, it is essential to address the issues related to enhancing their productivity as part of the most important measures.

Further improving livestock breeding and enhancing the quality of products obtained from it is considered one of the important factors in the development of agriculture. Specifically, improving the livestock base and optimizing the use of pastures play a significant role. In particular, the establishment of cultural pastures in livestock breeding not only increases the productivity of the grazing sector but also improves the efficiency of labor, utilizes mechanization processes, significantly increases labor productivity, and provides an opportunity to reduce the cost of



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production. The implementation of large-scale grazing in organized brigades brings livestock breeding closer to the industrial sector [6].

The essence of technology is that it involves artificial irrigation systems with pipelines that are installed with perforated hoses in the form of grids. Each grid covers an area of no less than 265 hectares. The amount of watering carried out in these grids is organized through large-scale sprinklers, with more than 4,000 heads that provide irrigation.

The most crucial aspect of the new technology is its adherence to the principles of rational use of pastures, taking into account the rotation of pastures over time (seasons and years), and implementing a system of phytomeliorative measures that promote sustained productivity increase and improvement.

Taking into account the availability of special manuals related to the establishment of cultural pastures in desert areas (S.A. Asomov, L.S. Gayevskaya, Z.Sh. Shamsutdinov, N.A. Ibodov, and others, 1980), experts in the field have addressed all aspects of various technological issues without hesitation. They have focused on two key factors—establishing pasture areas and utilizing them—while considering the direction in line with new technologies.

It is primarily recommended to utilize extensive pastures for desert regions. Specifically, when using steppe-ephemeral pastures, it is advisable to allocate them into two sections, assigning 6 animals per grazing area, and grazing them during the calendar periods accepted in livestock farming, typically twice a year.

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