



## THE IMPORTANCE OF GROWTH OF AMARANTH IN NUKUS REGION.

**Baltabaev Mirzaakhmet Moyatdinovich**

2nd year master's student of the specialty Ecology, Karakalpakstan  
Institute of Agriculture and Agrotechnologies,

**Utambetov Duysen Usnatdinovich**

Doctor of Agricultural Sciences, Scientific supervisor, Karakalpakstan  
Institute of Agriculture and Agrotechnologies

**Sultanova Zulfiya Sultanovna**

Doctor of Agricultural Sciences, Associate Professor, Karakalpakstan  
Institute of Agriculture and Agrotechnologies

<https://doi.org/10.5281/zenodo.8374725>

**Abstract.** The article discusses the significance of cultivating amaranthus, also known as amaranth, in the Nukus region of Uzbekistan. The authors highlight the crop's nutritional value, drought resistance, and environmental benefits. They also mention the potential economic benefits and the preservation of traditional knowledge and cultural diversity that can come from growing amaranthus in the region. Overall, the article argues for the promotion of amaranthus cultivation in Nukus to address food insecurity, water scarcity, and other challenges faced by the region.

**Keywords:** amaranthus, Amaranthaceae family, Nukus region, crop, minerals, cultivation.

Amaranthus, also known as amaranth, is a versatile and nutritious crop that has been cultivated for centuries in various parts of the world [2]. It is a grain-like plant that belongs to the Amaranthaceae family and is closely related to spinach and quinoa. Amaranthus is native to the Americas but has now spread to many regions, including the Nukus region in Uzbekistan.

The Nukus region is located in the northwestern part of Uzbekistan and is known for its arid climate and limited water resources [4]. Agriculture is a significant economic activity in this region, with cotton being the main crop grown. However, due to the increasing water scarcity and changing climate, there is a need to diversify the crops grown in the region. This is where the growth of amaranthus can play a crucial role.





**Picture 1.** White and red amaranth crops

These white and red amaranth crops were planted at the experimental site of the Grain and Rice Scientific Production Association located in Shortanbay, Nukus District, Republic of Karakalpakstan in 2023.



There are several reasons why the growth of amaranthus is important in the Nukus region. Firstly, amaranthus is a highly nutritious crop that can provide essential vitamins, minerals, and protein to the local population. In a region where food insecurity is a significant concern, the cultivation of amaranthus can contribute to improving the nutritional status of the people [6, 430-433].

Secondly, amaranthus is a drought-resistant crop that can thrive in arid and semi-arid regions like Nukus. Its deep roots can access water from deeper soil layers, making it more resilient to water scarcity. This makes it an ideal crop for farmers in the Nukus region who are facing challenges due to water scarcity.

Moreover, the growth of amaranthus can also have positive impacts on the environment. As a low-input crop, it requires minimal use of pesticides and fertilizers, reducing the potential for environmental pollution. Its deep roots can also help prevent soil erosion and improve soil health, making it an important crop for sustainable land management [5, 16-18].

The cultivation of amaranthus in the Nukus region can also bring economic benefits. It can create job opportunities in farming, processing, and marketing of the crop, contributing to local economic development. Additionally, the region has the potential to export amaranthus to other regions and countries, generating additional income for farmers and contributing to the local economy.

The growth of amaranthus in the Nukus region can also help preserve traditional knowledge and farming practices. Amaranthus has cultural significance in many communities, and its cultivation can help preserve these traditions and promote cultural diversity.

As it can be seen, the growth of amaranthus in the Nukus region is crucial for various reasons. It can contribute to local food security, economic development, climate resilience, soil conservation, and environmental sustainability. Furthermore, it can help preserve traditional knowledge and promote cultural diversity. Therefore, it is essential to promote the cultivation of amaranthus in the Nukus region to reap its numerous benefits.

Despite the numerous benefits of cultivating amaranthus in the Nukus region, there are also some challenges and difficulties that may arise. These include:

1. Limited access to quality seeds: One of the main difficulties in growing amaranthus in the Nukus region is the limited availability of quality seeds. Farmers may have difficulty finding reliable sources of high-quality seeds, which can affect the yield and quality of their crops [3].
2. Lack of knowledge and expertise: Many farmers in the Nukus region may not be familiar with the cultivation techniques and best practices for growing amaranthus. This lack of knowledge and expertise can result in lower yields and poor quality crops.
3. Pests and diseases: Amaranthus is susceptible to various pests and diseases, such as leaf spot, stem rot, and aphids. If not properly managed, these can significantly reduce crop yields and quality.
4. Water scarcity: While amaranthus is a drought-resistant crop, it still requires a certain amount of water to grow and thrive. In areas with severe water scarcity, farmers may struggle to provide enough water for their crops, affecting their growth and yield [1].
5. Soil fertility: Amaranthus requires well-drained, fertile soil to grow successfully. However, in the Nukus region, soil fertility may be low due to overuse and improper farming practices. This can affect the growth and yield of amaranthus crops.



6. Lack of infrastructure: The lack of proper infrastructure, such as irrigation systems and storage facilities, can also hinder the growth of amaranthus in the Nukus region. This can result in post-harvest losses and affect the profitability of farming.

7. Limited market opportunities: While amaranthus has potential as an export commodity, there may be limited market opportunities for farmers in the Nukus region. This can make it challenging for them to sell their crops and generate income from amaranthus cultivation.

Addressing these challenges and difficulties is crucial for the successful growth of amaranthus in the Nukus region. This may require providing farmers with access to quality seeds, training and education on cultivation techniques, and support in managing pests and diseases. Additionally, investing in infrastructure and promoting market opportunities for amaranthus can also help overcome these obstacles and promote the growth of this valuable crop in the region.

**Conclusion.** In conclusion, the cultivation of amaranthus in the Nukus region of Uzbekistan has numerous benefits that can greatly impact the lives of the local population. This highly nutritious crop is adaptable to dry and arid climates, making it an ideal solution for food insecurity and water scarcity. Its environmental advantages, such as being a drought-resistant crop with a deep root system, also make it a valuable asset for sustainable farming practices. Additionally, the economic benefits of amaranthus cultivation, including its potential as a valuable export commodity and source of income for farmers, cannot be overlooked. Moreover, promoting the growth of amaranthus in Nukus can help preserve traditional knowledge and cultural diversity. Therefore, it is crucial to support and promote the cultivation of amaranthus in the Nukus region to improve the lives of the local population and contribute to a more sustainable future.

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