



UDC 58

BIOECOLOGY AND TREE MONITORING IN THE CITY OF NUKUS

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ABSTRACT

This article is devoted to the issues of urban greening and the bio ecological characteristics of trees in cities. The article discusses the distribution of trees in the city of Nukus and plant species.

KEY WORDS: *anthropogenic and techno genic factors, landscaping*

Modern cities should be covered with green trees and bushes. Trees play an important role in creating beauty and scenic beauty in residential areas, cities and villages. When landscaping cities, it is necessary to select tree species suitable for urban conditions, soil and climatic conditions, and improve residential areas.

Another reason for the increase in desertification in our republic since the end of the last century is the drying up of the Aral Sea. In nature, the increasing influence of anthropogenic and technogenic factors and, as a consequence, deterioration of the ecological situation lead to significant changes in vegetation cover.

Currently, dendrology is developing as a science that studies the species of trees and shrubs, their taxonomy, evolution, geographical distribution, intraspecific diversity and possibilities of use in various areas of the national economy [2].

The development of dendrology was organically carried out not only with the morphology and systematics of plants, but also with such sciences as forestry, forest selection, forest systematics, cultivated forests and forest reclamation [3].

It is recommended to use trees more widely as landscape plants. When landscaping residential areas, in addition to determining the number and vital state of existing plants, it is necessary to take into account the bioecological characteristics of each plant species and their role in improving the environment. The issues of plant adaptation to the urban environment have been little studied, and most scientists note the importance of this problem [5].

The objects of the study were the trees *Maclura pomifera* (Raf.) C.K.Schneid, *Catalpa bignonioides* Walt, common in the city of Nukus.

Practical results of the study: the possibility of use in work has been proven; during the growth and development of trees selected as part of the study, the amount of heavy metals that pollute the atmosphere in their leaves was determined; It has been established that ornamental trees are quite promising species for practice, and recommendations have been developed for their use in landscaping in harsh continental conditions.

The scientific and practical significance of the research results is as follows: the scientific significance of the research results lies in the study of the bioecological characteristics of ornamental trees in the conditions of the city of Nukus, growth and development, flowering duration, influence of environmental factors are highlighted

The practical results of the study are as follows: the possibility of use in work has been proven; during the growth and development of trees selected as part of the study, the amount of heavy metals that pollute the atmosphere in their leaves was determined; It has been established that ornamental trees are quite promising species for practice, and recommendations have been developed for their use in landscaping in harsh continental conditions.



Bioecological characteristics of *Maclura pomifera* (Raf.) C.K.Schneid. In the conditions of the city of Nukus, the flowering stage of the plant is observed in late April - early May. Fruits in September-October. It grows from the root and is propagated by grafting. Maclura fruits are golden-yellow when ripe in their homeland, but in our conditions they are green-yellow.

Catalpa bignonioides Walt. In the city of Nukus it is considered to be partly of low stature and high crown. It is distinguished by pointed leaves, small flowers and thin fruit clusters. In the conditions of the city of Nukus, it was noted that the plant begins its growing season in the second ten days of March. Stem growth was observed from March to the end of May. Flowering of plants begins in the third decade of June (June 24) and lasts about 3 weeks (July 15). The duration of the total growing season of the plant is 230–245 days. Full ripening of the fruit occurs at the end of September.

Modern monitoring of the condition of trees and the study of the ecology of the urban environment is one of the most pressing problems of our time. The number of people living in urban environments is increasing every year. As a result of the urbanization process, the ecological state of the environment is radically changing, and natural ecosystems are disappearing. These situations certainly create new problems. It is known that during the summer months, green plants improve the microclimate by lowering the temperature and increasing air humidity. This is very necessary for the hot climate of our republic. They enrich the air with oxygen, reduce noise, and clean the air from various waste gases and dust, pathogens, that is, they are called biological filters.

Our research was carried out in the following 10 districts of the city of Nukus (International Innovation Center "Aralboyi" under the President of the Republic of Uzbekistan; A. Dosnazarov Street; Youth Rest House; Berdakh Avenue; Ch. Abdirrov Street; Beruni and M. Jumanazarov Streets, in the area of Amir Temur Avenue ; Islam Karimov Street; T. Kaipbergenov Street). *Maclura pomifera* (Raf.) C.K.Schneid, *Catalpa bignonioides* Walt were found in the indicated areas.

Trees and shrubs are not only a source of raw materials and various products, but also one of the main factors that improve the natural environment. The vital activity of the plant world has an impact on the climate, that is, it absorbs and neutralizes SO₂ and other harmful gases and smoke in the air, reduces the amount of dust in urban air, reduces noise, as well as phytoncides released by trees. significantly reduce the number of pathogenic bacteria in the air.

Increasing attention is being paid to creating green spaces in cities, and in our hot and dry climate, the importance of trees and shrubs, especially deciduous and evergreen plants, is very great. In recent years, the number of plantings of ornamental palms and evergreen shrubs in the landscaping system of residential areas has increased. One of the main directions for the development of ornamental horticulture in Uzbekistan is to increase the range of biologically stable tree and shrub species to create green groves in urban areas for landscaping. Evergreen and flowering shrubs are also one of the most important parts of landscape design.

Table 1
Modern monitoring of ornamental trees in the city of Nukus

№	1	2	4	5	6	7	8	9	10
Name of place (street) T/r	International Innovation Center of the Aral Sea region under the President of the Republic of Uzbekistan	A. Dosnazarova street	Berdakh Avenue	Ch. Abdirrov Street	Beruniy Street	M. Zhumanazarov Street	Park Amir Temura	I. Karimova Street	Street . T. Kaipbergenov
1	<i>Maclura pomifera</i> (Raf.) C.K.Schneid		-	-	-	-	<i>Maclura pomifera</i> (Raf.) C.K.Schneid	-	<i>Maclura pomifera</i> (Raf.) C.K.Schneid
2	<i>Catalpa bignonioides</i> Walt.	<i>Catalpa bignonioides</i> Walt.	<i>Catalpa bignonioides</i> Walt.	<i>Catalpa bignonioides</i> Walt.	<i>Catalpa</i>	<i>Catalpa bignonioides</i> Walt.	<i>Catalpa bignonioides</i> Walt.	<i>Catalpa bignonioides</i> Walt.	<i>Catalpa bignonioides</i> Walt.

Thus, Nukus is considered rich in urban tree species, monitoring and bioecology of urban trees. The distribution of trees in the city is taken into account.



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