

# Role of Floral Plants in Landscape Architecture of Azerbaijan

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**Abstract** – Flowers are as an image of beauty for all nations of the world. Tales, legends and symbols associated with the flowers were come from the depths of past centuries. Their languages are peculiar and quaint, but clear and understandable to everyone. Love to flowers is the aspiration for the beauty. Flowers of their completeness, color and aroma bring us joy, uplifting, giving a charge of cheerfulness and energy. Flowers are occupying a special place among the diversity of the plant world. They do not used necessary only on solemn days, but also on weekdays.

**Keywords** – Decorative, Plants, Floral, Composition, Introduction.

## I. INTRODUCTION

No piece of land can do without an extraordinary world of flowers. They don't only decorate our life and they are delighting our eyes, they can also serve as a composite tool that decorates places, emphasizing the main details in them - the entrance to the house, paths, pools and rest corners. The most important thing is that the composition of flowering plants you have created will decorative throughout the season - from early spring to the late autumn. This can be achieved by selecting certain species and varieties of plants that are blooming for a long time or replacing each others. The variety of floral plants and the richness of their colors are making them possible to create a variety of floral compositions, while achieving not only a combination of a large number of tones and shades, but also creating them with a predominance of one color [1].



Pic.1. *Petunia grandiflora* Juss.

During landscaping parks, gardens, squares and streets are using culture of flowers with a great importance for creating various compositions together with the trees and

shrubs. Flower beds are an integral part of green landscape architectures. For creating of flower beds are used annual and perennial flower plants that are planted in flower beds of various shapes. Recently, in the creation of landscape compositions are widely used in Absheron conditions along with the trees and shrub plants, the new annual, biennial, perennial, bulbous and tuberous ornamental herbaceous plants, introduced from various countries and local flora.



Pic. 2. *Dianthus barbatus* L.

Flowers are a decoration of the garden and should be placed so that they are clearly visible. Successfully assembled in 3-4 species of plants are more expressive than varieties of a large number of species that are planted unsystematic on ridges. Therefore, plants must be carefully selected for height, timing of flowering, color and arranged mindfully [2].

Many decorative flower arrangements of the past years are not suitable for new buildings, forms of modern cities; therefore, new compositions created in the style of landscape architecture. Compositions must be complied with the local conditions and created in national forms. At present time in Azerbaijan Republic, especially in Baku ornamental plants created for landscaping parks, gardens, public gardens, around the new bridges, roads, residential and industrial buildings are need to be enriched with new species and varieties. In this regard, in order to enrich the diversity of ornamental species and varieties of plants used in landscape architecture of the republic carried out research works to create various forms of compositions using scientific methods of the laboratory of "Landscape Architecture" in the Institute of Dendrology of Azerbaijan National Academy of Sciences.



Pic. 3. *Matricaria chamomilla* L.

Institute of Dendrology has a territory of 12 hectares and it is an excellent model of landscape gardening arts of Absheron. The arboretum was created in the style of a landscape park and the collection of plants has the national and world heritage. For decades, unique collections of plants from various families, genera, species, forms, varieties of decorative trees, shrubs and herbaceous plants have been collected, which are used in modern landscape architecture. The purpose of the research work is the introduction of various species and varieties of flower's cultures from abroad and local flora into Absheron conditions, the study of their bio-ecological features and using these plants in creating parks, gardens, and squares in various forms of compositions in style of landscape architecture.

During the research works are used various methods. The morphological features of the vegetative organs were studied by the methods of I.T. Vasilchenko and I.G. Serebryakov, root morphology systems by the methods of V.A. Kolesnikov.

From studied plants were created compositions of regular style in the form of geometric forms and landscape architecture style, in the form of original forms on the territory of the Arboretum and in various parts of Baku. In the compositions were taken into account the bio-ecological and decorative features of plants. Every year annual plants created in the compositions are replaced by other annual plants, and perennial plants are remained. In the center of the compositions are planted tall, mostly evergreen trees and shrubs, and on the edges are planted low, perennial and annual herbaceous plants. Plants are selected in the compositions that their flowering would be replaced simultaneously or instead of faded plants would be blooming other plants to ensure constant flowering.

Plants are combined with each others in height, color and shape in the compositions. In the compositions are used single, group, by row plantings, massif, live hedges, borders and etc. The main parts of the composition were located in the center, in clearly visible zones. Potted plants are also used in the compositions. Compositions were created from several tiers.

The appearance of the flower gardens depends on their destination, from the taste of the architecture-planner, on

the knowledge and on hands of the gardener performers. But in every flower garden should find the implementation of a single compositional intention. The whole complex of floral design is based on the relationship of structural elements. In the center, on the most prominent ceremonial sections is created a climax composition including the largest and most complex elements, reflecting its main theme [3].



Pic. 4. *Zinnia elegans* L.



Pic. 5. *Celosia argentea* L.

Recently, when creating flower beds much attention is paid to bulbous and tuberous plants. Such plants are including hyacinth, tulip, narcissus, gladiolus, lily, etc. Bulbous and tuberous plants are distinguished by high decorative qualities, beautiful, early flowering, and simplicity of culture and are widely used for decorating flower beds in perennial flower beds, rabatte, borders, lawns, on balconies and gardens, as an excellent cutting material for bouquets.



Pic. 6. Decorative composition



Pic. 9. Floral border



Pic. 7. Floral border



Pic. 8. Floral composition

With skillful and careful selection of varieties and species, it is possible to have flowering bulbous plants during significant part of the year, especially in early spring and autumn, when there are perceived considerable lack of flowers. In the research work are studied the bio-ecological features of the Dutch, local species and varieties of bulbous, tuberous plants and are used in creation of compositions.

Flowers can be planted in parks, gardens, squares, front gardens, on boulevards and in forest parks. In each case, the appropriate forms and types of planting are used: from the simplest to complex compositions with lawns, shrubs, trees and a huge number of flowers, creating a certain artistic landscape [4].

For beautiful and healthy growth of flowering plants should be created an optimal ecological environment on places. When designing gardens and parks, the main environmental factors are water, soil, light, temperature condition and air. When creating landscaping based on landscape architecture, agro technical works are one of the important features for carrying out complex events [5].

In the ridges of supplemented by minerals and organic fertilizers are sown the seeds of flower plants for research work in prepared open places of the Institute of Dendro-logy. After the formation of sprouts in determination of dynamics of plant growth and phenological phases of development, were studied bioecological features of flower cultures, observations are made every 10 days from the beginning to the end of the growing seasons. Phenological phases of development of some studied flower plants are shown in table 1.

Table 1.

№	Name of Plants	Obtaining of sprouts	Becoming leaves	Flowering		Begin of yellowing of leaves	Drying of aerial parts
				Begin	End		
1	<i>Viola x wittrockiana</i> L.	20.04	30.04	14.06	19.08	05.09	15.09
2	<i>Dianthus "SvitCeri"</i>	22.04	03.05	10.06	15.09	30.09	10.09
3	<i>Petunia grandiflora</i> Juss.	23.04	05.05	15.06	20.09	01.10	10.10
4	<i>Amaranthuspaniculatus</i> L.	28.04	07.05	20.06	22.10	30.10	06.11
5	<i>Helianthus annuus</i> L.	26.04	08.05	11.07	12.09	20.09	30.09
6	<i>Gaillardia grandiflora</i> Foug.	18.04	28.04	11.06	16.09	30.09	10.10
7	<i>Aster chinensis "Apollonia"</i>	25.04	04.05	10.06	20.09	08.10	20.10
8	<i>Gazania "Kiss rosa"</i>	21.04	02.05	13.06	18.09	25.09	03.10
9	<i>Dahlia variabilis</i> Cav.	20.04	30.04	10.06	15.09	25.09	15.10
10	<i>Centaureamontana</i> L.	23.04	02.05	05.06	08.08	20.08	30.08

№	Name of Plants	Obtaining	Becoming	Flowering		Begin of yellowing	Drying of aerial
11	<i>Antirrhinum majus</i> L.	10.04	20.04	15.06	17.08	23.08	29.08
12	<i>Dianthus barbatus</i> L.	05.04	22.04	15.06	05.08	12.08	18.08
13	<i>Matricariachamomilla</i> L.	17.04	30.04	12.06	02.08	30.08	05.09
14	<i>Cosmos sulphureus</i> Cav.	20.04	30.04	25.06	15.08	10.09	20.09
15	<i>Salvia selarea</i> L.	17.04	28.04	01.07	02.08	20.08	28.08
16	<i>Zinnia elegans</i> L.	20.04	30.04	13.06	14.10	25.10	30.11
17	<i>Calendula officinalis</i> L.	16.04	26.04	05.06	10.09	20.09	30.09
18	<i>Celosia argentea</i> L.	20.04	29.04	04.06	03.09	15.09	23.09
19	<i>Ursiniaspeciosa</i> Gaerth.	22.04	03.05	18.06	08.09	20.09	28.09
20	<i>Tagetespatula</i> L.	23.04	02.05	13.06	18.09	30.09	10.10

## II. RESULTS

When conducting research work after drying the aerial parts of plants seeds were collected and stored in boxes until the next planting seasons. As a result of the research work carried out at the Institute of Dendrology, it was revealed that various species and varieties of flower crops introduced from different countries and local flora are valuable for decorative, economic and biological features; they are well adapted to Absheron conditions and are recommended for use in creating compositions in landscape design.

Every day the landscape architecture of Azerbaijan are more developing, are created beautiful, sustainable decorative flower compositions in various cities, districts,

squares, streets, parks, squares, gardens, around industrial facilities and educational institutions.

We hope that the landscape architecture will develop even more and will further contribute to the creation of beauty in Azerbaijan.

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