

COMPOSITION SOLUTIONS FOR THE CREATING FLOWER ARRANGEMENTS IN THE KROPYVNYTSKY CITY

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Introduction.

Green spaces of modern cities are an integral part of modern urban development. Traditional elements of landscape design are parks, boulevards, squares, green areas of streets and residential areas [1]. Flower beds are important elements of large green spaces. They affect the appearance of streets, squares and parks, diversify the urban landscape, contribute to the creation of ecological balance and affect the emotional state of the population. Floral design gives landscape objects unique properties, allows you to diversify space, add bright colors and logically complete compositions.

The spatial arrangement of flower gardens in modern urban planning should be subordinated to the general concept of city development and harmoniously fit into existing objects of the area in accordance with the stylistic decision. Their creation and support is an investment in the sustainable development of a modern city, its tourist and recreational attractiveness and, in general, in the creation of an ecological balance of urban ecosystems.

The goal of our work was to establish the features of creating flower arrangements in the city of Kropyvnytskyi.

Research materials and methods. The study of flower arrangements in the city of Kropyvnytskyi was conducted during 2022-2024. Research was conducted in the Chornobyl Square, Fortechny Voly, the square in front of the city council, Teatralna Square, Shevchenko Square, Bohdan Khmelnytskyi Square, Soborna Square, Kavaleriyska Street, Chykalenko Street, Shevchenko Square, Kovalevsky Park, Fontannyi Square, Popova Street, Patsayeva Street, the triangle along Chykalenko Street, the boulevard between Patsayeva and Volkova Streets, the Dendropark, as well as flower beds in the inter-quarter landscaping of the Fortechny District.

Types of flower gardens were established according to the recommendations of L.P. Ishchuk et al. [2,3], V.P. Kucheryavy and V.V. Kucheryavy [1]. The species composition was established according to the «Determinant of higher plants of Ukraine» [4], and was specified according to scientific publications and reference literature [5-11].

A flower garden is a delimited area where ornamental plants are grown, a general term for any group of ornamental plants. They create a unique charm of the play of shapes of flowers and leaves, their size and color. The design for each flower garden is created separately, so that the appearance of the territory or a separate zone becomes more expressive. There are no uniform requirements for the form, execution of such compositions. It is important that they are combined with the chosen style of landscape design [2].

These can be flowering and decorative herbaceous shrubs, grasses and cereals, small trees (deciduous and coniferous). In other words, any low plants have decorative value. The main task of flower growers in landscape design is decoration. Various areas, such as gardens, parks, areas in front of the entrance to houses, etc. The lawn can be used as a background for plants in the flower garden.

Plants for flower beds are selected so that they harmoniously combine appearance (color, shape, size) and vegetative characteristics (growth and development, time and duration of flowering, shade tolerance, resistance to soil conditions and moisture requirements).

Depending on the type of plants collected in the flower garden, the nature of the site and its geometry, flower gardens are divided into different types. This division is quite conditional and may vary slightly depending on the configuration of the site and the designer's idea.

Today, there is a wide variety of decorative compositions and types of garden ensembles, sometimes even for experienced gardeners it is difficult to avoid confusion in terms and their meanings. The boundaries between flowerbeds, rabatkas, mixborders and groups are becoming less obvious. However, despite this, the basic principles and simple elements remain the basis for creating spectacular effects in the garden. This also applies to the main types of flower beds, which are one of the key components of garden design.

In the modern variety of methods for creating decorative garden compositions, a large selection of plants and new styles, variations in the design of flower beds seem to have endless possibilities. Here, the importance of creating compositions is limited only by objective conditions, such as soil parameters, plot size, lighting, style of the object and budget.

The term «flower bed» is general for any group of ornamental plants. Although flower beds can look diverse in shape and appearance, any composition that includes ornamental plants in a limited and delimited space can be considered a flower bed [2].

Flower beds can be large, medium or small, clear or have natural outlines, ornamental or carpet, ceremonial or seasonal. Using a variety of plant species, such as perennial herbaceous plants, annuals, biennials, ornamental shrubs, trees, conifers and ferns, as well as artificial and natural coverings and lawns, creating a variety of designs [2].

When organizing flower gardens in urban conditions, it is important to take into account certain requirements, such as the poverty of the soil, the size of the plot, the lighting and the style of the garden. The use of methods of enriching the soil with nutrients is an important part of the process of planning and creating long-lasting and bright floral compositions.

When choosing an assortment of plants for a flower garden, one should take into account the endurance of plants to the conditions of the urban environment [7]. For flower gardens in squares and parks, in places remote from roads and protected from the wind, one can use species and varieties of flowering plants that are more demanding on growing conditions. For landscaping the main urban areas (sidewalks, roadsides, areas with high pedestrian traffic), it is better to choose unpretentious plants that can withstand irregular watering, constant shading or, conversely, strong lighting, and air pollution.

Considering that the urban flower garden must maintain its decorativeness for the maximum period of time from spring to late autumn, flower crops for it are chosen taking into account the time of flowering so that they replace each other. In this case, the composition remains in bloom throughout the entire growing season, and its appearance gradually changes [2].

When arranging urban flower gardens, it is recommended to «close» the soil as much as possible. If the surface of the flower garden remains open, it dries out more, is blown away by the winds, and becomes clogged. To prevent this, it is necessary [12]:

- to place flower beds and single-flowered plants on the lawn. In this case, the borders of the flower garden are designed with borders so that the lawn grass does not interfere with the growth of flowers (it comes close to ornamental plants, around which only a small space remains free). The lawn helps to regulate soil moisture and temperature, acts as a filter against pollutants, and protects against blowing;

- to use decorative filling with gravel, pebbles, and coarse sand. This technique is often used when arranging arabesques (patterned, elegant carpet plantings on a plane) and borders.

The border between the soil under ornamental plants and the fill is formed by a border tape, decorative stones or mulch.

It is quite difficult to distinguish between flower beds, islands, groups and rabatkas. However, the basis of any plot is always the simplest constituent elements and basic principles that allow you to create an impression of special expressiveness.

It should be noted that previously the regular style prevailed in the planning of parks and squares. Today, the regular style of flower beds with decorative flower arrangements of a simpler, symmetrical form prevails near landmarks and official buildings. The landscape style of arrangement of green spaces and flower bed design is more popular and widely used.

The landscape style of flower garden design harmoniously combines urban development and natural elements. Expressive and bright objects and groups are created in parks, and small landscapes are recreated on boulevards and squares, taking into account the desire of a person to spend time in nature.

The basic types of flower gardens include those that are quite easy to recognize and distinguish, namely: parade (parterre), flower beds, rabatki, borders, flower beds of carpet plants, striped flower beds, arabesques, mixborders, vases of various materials and compositions of climbing plants – these types of flower gardens will help to form a regular style of any landscaped object [6].

In addition to traditional flower gardens, there are also functional or specific types of flower gardens that are laid out in special conditions, created specifically for individual objects or from specific plant species [7].

Front (or parterre) flower gardens are complex multi-tiered compositions for decorating entrance groups of buildings, central or entrance areas in parks, for squares, public gardens [8]. As a rule, a parterre flower garden is the main composition located in front of the facade of a building, in the center of a street, square, or architectural ensemble (Fig. 1.). It is the central part of the entire garden and park composition, therefore it must be designed in a classical floral and decorative style, adhering to all the laws of decorative gardening. Its components can be lawns, decorative leafy and flower plantings, small architectural forms. A pool or fountain can be located in the parterre part. These flower gardens are designed with regular lines and shapes [4].



Fig. 1. Parterre flower gardens: *a* – T.G. Shevchenko Park, Aleksandriya (Kirovohrad region),
b – Kropyvnytskyi Arboretum (photo by Boiko T.)

This type of flower design is often used in parterre gardens, in front of public buildings, in front of parks and large squares, as well as in other plantings in regular planning. These are quite

decorative compositions that emphasize the importance and significance of the building in front of which the parterre is planted.

The shape and color scheme of the parterre flower garden should create a single space together with the architectural styles of neighboring buildings located nearby, small architectural forms, conditions and features of the area.

The most modern solution is to create various irregularly shaped figures. The size of the parterre flower garden will primarily depend on the size of the landscaping object and the house that the flower garden decorates, as well as the entire architectural ensemble. The style of the flower garden-parterre can be both landscape-romantic and classical-regular. Such flower gardens are created with bright, large plants with beautiful flowering (tulips, begonias, yuccas, heathers, chrysanthemums).

Rabatki – according to the definition of Kolenkina M.S. «these are flower beds in the form of long, narrow flowering strips placed in parterres along paths, along boulevards, streets and alleys in parks» (Fig. 2) [9].



Fig. 2. *Examples of rabatka on the lawn background (Košice, Slovak Republic) (photo by Boiko T.)*

The length of the rabatka can vary from 3,0-4,0 and even up to ten meters, and the width – from 50,0 to 80,0 cm to 2,0 meters. On one side, the plants are located at two levels – in the foreground – low, and behind – high. The rabatka can be two-sided – when tall plants are planted in the center, and short ones on the sides [9].

The most decorative flower beds are those made of plants of the same height. Flowering plants of one to three colors are planted in rabatka. A large pattern can be repeated several times. Annual, biennial and perennial flower crops are planted in flower beds.

A border is defined by Kolenkina M.S. "this is a narrow strip 10-30 cm wide, in which one or two rows of low-growing flowering plants of a certain species or variety are planted so that they keep their shape well and lend themselves to pruning" [9]. Borders are placed along the edges of flower beds and flower beds in order to emphasize their outlines and create a complete look of the compositions.

A border should perform two main functions. The first is to be sufficiently decorative, the second is to perform the function of a border.

When creating this type of planting, it is worth following several generally accepted rules: use color contrast, high decorative qualities, a margin of space, compliance with classical parameters, compact participants in the border planting [12]:

- the contour of the flowerbed should be clear and bright. Therefore, it is necessary that the main area of the border creates a contrast to the main area of the flowerbed;
- most often, low-growing annuals and perennials are used to create borders. Borders look well-groomed when the plants are planted close to each other and without gaps. However, the plants should not be planted too densely, close to each other, leaving spaces. The plants will grow, so you need to leave some space. Otherwise, the planting will be too dense, where the plants will interfere with each other;
- plants must have high decorative properties. Some flowering plants, after rain or a downpour, lose their attractiveness. Such species are definitely not suitable for flower borders;
- it is important that in any weather and under any circumstances a border of flowering plants looks perfect. Therefore, between a capricious plant and a non-capricious one, it is better to give preference to the second option;
- there are certain standards for borders. And it is extremely important that it meets these standards. For example, the width of such a planting should not exceed 0,5 meters, and the height should not exceed 0,4 meters. Sometimes the fringes can be higher if the plants in the flowerbed are also taller. In addition, there are plants that can be trimmed and thus adjust the height of the border;
- a flower border should always be neat. It is important that the plants grown in it do not grow too large or wither.

Therefore, when choosing flowering plants as borders, preference should be given to those types of flora that do not differ in growth intensity.

Annual flowering plants look bright and quite impressive if they are planted in borders. However, they have a significant drawback: border flower beds created from annual plants must be updated annually or every season (for example, *Tagetes* sp., *Calluna* sp., *Alyssum x hybrida*, *Lobularia maritima* (L.) Desv.). Perennial plants for border planting are more convenient and versatile (plantings of *Buxus sempervirens* L., *Ligustrum vulgare* L., *Taxus x media* Rehder, *Lavandula x hybrida*, *Cotoneaster dammeri* C.K. Schneid etc.). Perennial herbaceous plants can be used. With the onset of cold weather, the above-ground parts of these plants die off, and the rhizomes are dormant until spring. So in the new season, only a correction of the «frame» will be required. Such plants include *Chrysanthemum*, *Allium montanum* ssp., *Ajuga reptans* L., *Sedum ewersii* (Lebed.) H. Ohba, *Dianthus caryophyllus* L. etc.

Carpet flower beds are flower beds with a complex pattern, created using ground cover and carpet plants. Ground cover plants are several classes of plants: creeping shrubs, semi-shrubs and ornamental herbaceous plants (annuals, biennials and perennials). Plants of these classes are characterized by the fact that they have the so-called vegetative mobility - that is, they quickly spread to a new area and hold it behind them. For carpet flower beds, low-growing herbaceous plants (5-15 cm tall) are used, with creeping stems, with variegated colored decorative leaves, characterized by the fact that they lend themselves well to shaping by cutting and pruning. These plants are used in decorative floriculture to create floral ornaments.

Carpet flower beds, despite their decorativeness and effectiveness, are used in landscaping quite infrequently because their creation and care are quite complex, requiring a lot of manual labor and capital investment.

The best plants for such compositions are *Coleus scutellarioides* (L.) Benth., *Cineraria maritima* L., *Sedum reflexum* L., *Pelargonium x hortorum* L.H.Bailey, *Salvia splendens* L., *Begonia x hybrida*, *Vinca major* L., *Ipomoea batatas* (L.) Lam., *Thymus serpyllum* L., *Saxifraga x Arendsii* Engl. & Irmsch. etc.

Arabesque is an ancient element of floral design, used both independently and as elements of a flower bed (Fig. 3).



Fig. 3. Examples of arabesques (<https://surl.li/scwzkn>)

The word «arabesque» comes from the Italian word *arabesco*, which means «Arabic». This is how medieval Europeans called complex and amazing ornaments from the East. The arabesque style, typical of this period, contains a variety of geometric and floral motifs, it can be seen on carpets, walls, ceramics and manuscripts. Then the ornaments began to be used in landscape design, and in Arabic they began to call flower beds of unusual shapes. In order for the arabesque to be clearly visible, the brightest flowers must be planted along the borders of the flower bed. According to the method of execution, arabesques come in different types:

- arabesques, the outline of which resembles the shape of various animals and plants.
- a complex multi-colored ornament of geometric shapes, curls, circles, wavy and broken lines.
- inscriptions or portraits.

Arabesque can be used as an independent flower bed or as part of another type of flower bed, for example, a border or border. Ideal plants for arabesque are carpet plants, which are no more than 15 cm high (*Echeveria* DC., *Antennaria dioica* (L.) Gaerth., *Pelargonium* L'Hér., *Stachys byzantina* K.Koch.).

The best place to place an arabesque is a slight slope – this way the composition will be better visible. Usually, a flower garden in the arabesque style is placed on a flat surface if it will occupy a large area. A wide range of plants can be used to create arabesques – (*Petunia* × *hybrida*, *Saxifraga*, *Nasturtium officinale* W.T. Aiton, *Vinca minor*, *Dianthus chinensis* L., *Lobelia x hybrida*, *Festuca gautieri* (Hack.) K.Rickht., *Festuca ovina* L. etc). In the listed species, either the leaves or the flowers are decorative [7, 13-15].

In order to arrange an arabesque, several requirements must be met.

1. First, you need to choose a place on the site. Arabesque can be placed in the garden parterre or in the corners of lawns. Such flower beds look even more advantageous on slopes.
2. It is necessary to create a color scheme of the future composition in advance.
3. After that, transfer the scheme to the selected plot of land.
4. Choose the appropriate plant species. Carpet plants with a height of no more than 15 centimeters are most often used for decoration.
5. It is necessary to select the species composition, guided by the development cycle of plants. Annuals are most often used for arabesques.
6. Plants are planted in the drawn contour in parts.
7. If the arabesque style consists of many different species and colors, it does not need a border. Monotonous compositions are planted with plants of the same species. To make it clearly visible, its contour is made in contrasting colors.
8. Plant patterns can be combined with decorative material: sand, pebbles, gravel, brick or granite chips.
9. Arabesque, like any other flower garden, requires constant care: watering, cutting, thinning.

A mixborder is a flower garden in which several species of plants are planted in a staggered order [2]. Just like the flower border, the mix border has an elongated shape. Its length always exceeds the width by at least 2 times. The length of the flower bed is not limited and can correspond to the length of the path, and the average width is 1,5-2,0 m.

Plants in a mixborder are selected in such a way that their flowering alternates throughout the season, from early spring to late autumn. It is planned that the flowering of the plants will begin in early spring, when the primroses will appear from under the snow, followed by tulips and other bulbous plants, then herbaceous perennials, shrubs and semi-woody bushes, and chrysanthemums and asters will complete the border. Continuity of flowering is achieved by using different types of perennials, which are grouped in several plants. Such groups are distributed in the flower garden at a certain distance, there can be 2-3 or more, depending on the length of the mixborder. It is desirable that the alternating groups of plants differ in the size of the leaves, the shape of the bush, and the shade of the flowers.

Mixborders are one-sided and two-sided. In one-sided flower beds, tall plants are placed in the background, and closer to the viewing point, their height decreases. They are arranged along garden paths, fences, retaining walls. A one-sided mixborder can also be created near the wall of a house or other structure, near a steep slope, on the edge of the garden. When the flower bed is laid out in an open space that can be viewed from several sides, the tallest plants are placed along its center line. Then, as you approach the edges, the height of the plantings decreases according to the cascade principle.

Types of mixborders are divided into:

- in the English style – are distinguished by their restrained execution, based on shrubs with elongated leaves (*Salix babylonica* L., *Caryopteris clandonensis* Bunge) and beautifully flowering perennials, for example, *Paeonia × suffruticosa* Andrews.
- meadows style – consist of herbs and annual flowers, such as *Matricaria chamomilla* L., *Antirrhinum majus* L., *Zinnia elegans* Jac. Du Val, *Linum grandiflorum* Desf., *Papaver rhoeas* L.
- country estate style – when creating which shrubs and flowering plants traditional in rural areas are used: *Viburnum opulus* L., *Malva* sp., *Tagetes erecta* L., *Nasturtium* sp., *Sedum Dazzleberry* L. It is used to create an atmosphere of home comfort. In the rural mixborder it is customary to use garden berries: *Ribes rubrum* L., *Ribes uva-crispa* L., *Amelanchier alnifolia* (Nutt.) Nutt. ex M.Roem;
- garden style – created using garden crops, ornamental, spicy and medicinal herbs. For this style are suitable *Brassica oleracea* var *gongylodes*, *Brassica oleracea* var. *italica*, *Petroselinum crispum* (Mill.) Fuss., *Phaseolus coccineus* L., *Mentha piperita* L., *Mentha spicata* L., *Melissa officinalis* L., *Thymus serpyllum*.

Decorative vases are special structures that allow you to plant plants outside. In addition to this function, such concrete flowerpots can serve as a space divider in an open area. Flower containers and vases are good for decorating windows, balconies, terraces, and stairs. The shape and size of containers can be different. Plants of the same species are usually planted in containers or vases (Fig. 4).



Fig. 4. Using decorative vases in a parterre flower garden (Alexandria, Kirovohrad region) (photo Boiko T.)

Vases come in different sizes and shapes. They can be portable, stationary, hinged, simple and avant-garde. A concrete flower garden is perhaps the most popular element of landscape design. With the help of such elements, the general atmosphere of the site is created.

A concrete flower bed is a great way to green the yard if there is a shortage of free space. Such a flower garden is one of the ways of vertical gardening of the city (Fig. 5).



Fig. 5. Using a concrete flower bed in urban landscaping (Košice, Slovak Republic) (photo by Boiko T.)

If there are no trees in the yard, you can plant small trees or bushes in vases. The walls of the house can be decorated with hanging flowerpots that droop or weave, for example, *Aristolochia durior* Hill. Decorative vases are also used at the entrance to the building, on both sides of the stairs, along the alleys.

Solitaires are singly planted plants with a particularly decorative bush shape, abundantly blooming, with decorative leaves; single plants that can be used in both regular and landscape types of flower beds. Usually, a large flowering or decorative leafy plant is used as a solitaire. Low, beautiful bushes, such as roses, hydrangeas or spireas, also look good.

In design, tapeworms are used in cases where it is necessary to diversify a large horizontal space. Plants that are selected for tapeworm plantings should be very decorative throughout the entire period from spring to autumn: stems (trunks), leaves, flowers and fruits. The most spectacular are plants with large single flowers or dense large inflorescences consisting of small flowers. The plant should fit well into the surrounding landscape in terms of the color of leaves and flowers.

The background is of great importance for tapeworms: on a neglected lawn, even the most decorative tapeworm is unlikely to look spectacular. Neat lawns and well-formed conifers and shrubs are used as a background for tapeworms.

When placing tapeworms, it is necessary to remember: species with small leaves, with a decorative flower shape, as well as varieties with dark flowers are planted in the foreground, and, conversely, plants with large leaves, large and colorful flowers or inflorescences can be planted in distant areas of the park or garden, since they are well visible from a distance.

Planting perennial climbing plants on the site performs several functions [7, 8].

Climbing plants beautifully decorate fences, arches, arbors, walls of buildings, help to decorate less decorative parts of the park, household elements, wrapping around the walls of the building, the plants will create additional protection for the site from dust and noise pollution.

When choosing creeping perennials for a landscaping object, it is necessary to take into account that they are divided into groups (according to Boyko T. et al. [16]): “those that creep (used for landscaping horizontal surfaces); those that climb (they have special suckers on the stem, with which they attach to vertical surfaces); and those that cling (they require supports)”.

Before planting, it is necessary to think over the supporting structures and select them in such a way that they can withstand the weight of the plant. Thin cords, plastic nets can be stretched over plants with thin stems; with thick stems, stronger metal or wooden structures are needed. Some plants, in addition to the support, require special clothespins that will help fix the shoots on the support. The remaining space is either sown with lawn grass, or covered with gravel, wood chips, etc.

A modular flower garden is a floristic composition built on the basis of one element that is constantly repeated, most often of any geometric shape. A modern modular flower garden is a composition of a given geometric shape, filled with plants planted in containers of the same size (Fig. 6).



Fig 6. Example of modular flower beds <https://surl.li/dvsnig>

Such flower beds can become a kind of monoflora, if you plant plants of the same species, but of different varieties, for example, begonias or geraniums in the modules.

Modular flower beds, despite their simplicity, have a very attractive appearance. The area allocated for the flower bed is divided into regular elements of various geometric shapes. In some, flowers (perennials and annuals), a beautiful low bush or low coniferous crops are planted, for example, *Juniperus virginiana* L. or *Microbiota decussata* Kom.

They are needed in order to clearly separate the flower bed zone from the path or lawn, to separate different types and varieties of plants in space, for the convenience of combining inert materials (colored gravel) and plants in the composition, to create a carpet pattern in the flower bed.

Modules for flower beds can be made as a metal strip, plastic border, wooden board, sidewalk curb, low concrete or stone fence. Sometimes the edge of a tile or stone path serves as the module boundary. The main condition when creating a module is clear boundaries made of durable materials.

Modules can be placed singly at some distance from each other, or they can be tightly adjacent to each other, forming a single pattern. In this case, when creating a modular flower bed, a given area is divided into regular elements in accordance with the project. The dimensions of the modules are correlated with each other and depend on the size of the composition. A module of a certain size is taken as the basis for creating a modular flower bed. Usually they range from several square decimeters to 1-2 square meters. Modules with plants can be located on a lawn or hard surface (asphalt, paving slabs).

The internal and external boundaries of the modules are often made barely noticeable (metal or plastic strip). Or they can be on the same level with the plants in height, wide enough and painted in contrasting colors (white, red, black, yellow, etc.). Then the modules are made of stone, concrete, wood.

In the landscape style, there is another version of the modular flower garden. It has free contours of the external and internal borders. In this case, against the background of the lawn or on a given border of the flower garden area, a pattern is created using a metal or plastic strip, in which there is no symmetry. In this case, plants of different shapes and heights are used.

Large modules (from 2-3 to 10-20 sq.m.) often have the appearance of parterres or low raised flower beds of the correct shape. Natural stone, concrete, curbstone are used to decorate their borders. Several large rectangular or square containers installed on a hard surface can serve as a modular flower garden.

Another possibility of using modules is patterns on the lawn, when against the background of the lawn using a metal strip, plant patterns are created or symbols of royal power (lily) are depicted, which are filled only with inert materials of contrasting colors (red brick, white gravel, black charcoal). They are used as parterres in palace complexes.

A modular flower garden, like any other, includes a variety of plants. It is very important when creating it to develop a flower garden project with a reference to a specific place, to determine its size and shape. Depending on the type of modular flower garden, its style, and size, the necessary plants are selected.

Small square modules or containers are often filled with a monoculture – one species and variety of plants. These can be low-growing annuals (*Alyssum saxatile*, *Dianthus caryophyllus* L., *Sedum sieboldii* L., *Salvia officinalis* L.), bulbous plants for spring compositions (*Tulipa*, *Narcissus*, *Muscari*, *Hyacinthus*), compact perennials (species of the genus *Hosta*, *Begonia tuberosa* or *Begonia semperflorens*, *Astilbe chinensis* (Maxim.) Franch. & Sav., species of the genus *Dahlia*, *Phlox*, *Heuchera*, *Iris*, *Bergenia*), spicy-aromatic plants (*Thymus serpyllum*, *Origanum vulgare* L., *Hyssopus officinalis* L., *Rosmarinus officinalis* L., *Lavandula angustifolia* Mill., *Satureja* sp., *Levisticum officinale* W.D.J.Koch), any vegetable crops [7, 15-19].

Roses, dwarf conifers, small bushes, rhododendrons are planted in large modules. Such modules are good for collection plants - alpine, spicy-aromatic, medicinal and others. Sometimes modules filled with plants alternate with modules with white or colored gravel.

Arrays are a large-sized flower arrangement, the most popular flower arrangement in landscape parks. They can occupy an area of 80 to 150 m². The greatest decorative and compositional effect of the paintings is when placed on park lawns with an area of 800-1000 m² or more. Only in this case is the space of the designed composition felt. Large works are always moved at certain distances. The paintings are created from perennial plants, sometimes annual flowers are included in their composition. Rows of single-colored perennials in combination with bushes with beautiful flowers or decorative foliage make a good impression: a fan of purple-blue muscari flowers against a background of sunny-yellow forsythia flowers; dark pink peonies and blue delphiniums against a background of snow-white garden jasmine, etc. When planting such arrays, they are given an artistic, graceful shape, winding contours to create a play of light and shadow, volume and depth. According to Kucheryavy V.P. [1], groups are “the most common and quite effective type of floral design, which looks both neat and natural, especially when the group is located on a green lawn”. The area of the groups can be different, as well as their configuration. Plant groups can consist of perennials, often in combination with biennials or annuals that begin to bloom after bulbous perennials (tulips, crocuses, daffodils) bloom. Groups of large plants of the same species or genus will look quite impressive, for example, from different varieties of astilbe, hydrangeas, lupines, marigolds. Plants of contrasting shapes are often used for the background: hosts and geyheras, cineraria.

The groups are placed closer to the viewer than the picture. We distinguish between simple and complex groups.

Separate simple groups are created from plants of the same species and selected in such a way that the plants in them bloom one after the other.

When planning nested groups, plants of different life forms can also be combined. In this case, the main attention is focused on the height of the plants. The placement of different plants in the group depends on how the group itself is located.

If it is visible from all sides, then tall plants are placed in the center, and low ones are placed on the periphery.

If the group planting is placed close to a wall or fence, tall plants should be placed in the background, and low ones in the foreground. Groups look better when they are connected by a clear geometric shape. The size of groups can be from 3.0-5.0 to 15.0-25.0 and even up to 40.0-50.0 m². Groups in parks are created mainly from perennial, occasionally from annual flowers.

Flowering or Moorish lawns are unpretentious flower beds, which are a “flowering meadow” of low-growing cereal grasses and flowering meadow grasses - daisies, cornflowers, poppies, lupins, bells, etc. [2]. The species composition of plants on such lawns is tried to be selected in such a way that they bloom, replacing each other throughout the season. Moorish lawns, as a rule, are not mowed.

Outwardly, they resemble wild meadows, which abound in a variety of flowers. If you skillfully choose different plants and their varieties, the lawn will bloom all summer.

Flowering plants among lawns grow well and develop, occupying large spaces that resemble flower meadows. Perennial flowering lawns are created on existing lawns by planting perennial flowering plants in groups or individually. Here you can use chrysanthemums, bluebells, mallows, etc. [7].

To form a flowering lawn, poor but well-drained soil is enough. A feature of these lawns is a simple and organic combination of grass and flowers. Previously, in city parks, they tried to divide them, plant separate lawns and arrange separate flower beds. To create such a flower garden, you need to have spacious lawns in parks or relatively large areas of lawns. In landscape parks, you can always find such a lawn to demonstrate this striking richness of colors and a completely natural type of flower garden design.

Features of creating flower beds in green areas of the city of Kropyvnytskyi

Creating flower beds is a rather complicated and painstaking process, because it is necessary to take into account the combination of different plants and their characteristics and the principles of constructing compositions. To do this, it is necessary to pay attention to the lifespan of certain plants,

their attitude to moisture and light, flowering time, compatibility with other representatives and the features of care [6].

The main principle that should be guided when designing a flower bed is the subordination of floral design to the general purpose of this landscaping object. For the most complete and vivid manifestation of the characteristics of flowers and plants used in landscaping, one can be guided by the main classical styles. There are regular and landscape styles [4].

Basic rules for creating flower beds [7]:

1. At the planning stage, it is important to outline the approximate contour of the future flower bed, determine its location and shape. Using plants of different colors, we can display the flowering zone and determine the height of the plants. The contrast between the flowers and the surrounding landscape should be considered, as well as the timing of flowering.

2. When planting plants, it is important to follow a sequence so that the flower garden blooms throughout the season. The use of perennial flowering plants such as *Festuca ovina*, *Gaillardia arizonica* A.Gray, *Gaillardia x grandiflora* Hort. ex Van Hourtte, *Viola tricolor* L., *Malva grossheimii* Schischk., *Hemerocallis* L., *Geranium sanguineum* L. will help ensure continuous flowering. You should also avoid shading plants from each other and create a harmonious flowering pattern.

3. A balanced combination of different flower shades plays a key role. It is important to distinguish between the dominant, background and neutral color tones of the flower bed. Such a combination should harmoniously fit into the landscape and create positive emotions.

4. When arranging plants, you should be guided by the principle of a “multi-tiered pyramid”. Place the tallest flowers in the center or background of the composition, the middle ones closer to them, and the shortest or ground covers in the foreground. This will allow each plant to receive enough sunlight, avoid shading, and create contrast between tall and short plants.

5. Maintaining the optimal distance between flowers guarantees the provision of the necessary nutrients and space for healthy growth. According to the recommendations, on 1 m² of flowerbed, placing from seven to ten low-growing plants, four to seven medium-sized and one to three types of tall plants is optimal. Such a distribution will help avoid diseases and ensure a holistic appearance of the flower bed.

6. It is important to select the species diversity of flower plants taking into account their viability and biological requirements. The ability of plants to compete for nutrients can determine their decorative appearance on the site. Thus, you should avoid planting plants with different light requirements in the same zone, giving heliophytes and sciophytes separate areas of the area.

7. The border for the flower bed performs an important function, giving the flower bed a complete and aesthetic appearance. This edging not only defines the boundaries of the flower bed, but also performs a protective role, preventing weathering and soil erosion. The choice of material for a border can be varied, including brick, stone, wood, metal, plastic, or even original options such as a fence made of glass bottles or a border of ground cover flowers. The use of mulch will improve its functionality and appearance.

Species diversity of flower gardens in Kropyvnytskyi

61 plant species belonging to 42 genera and 30 families have been identified in the flower gardens of Kropyvnytskyi (Table 1). The most numerous are representatives of the families *Asteraceae* Dum. (eight species), *Liliaceae* Juss. (six species), *Cupressaceae* (six species), *Lamiaceae* Lindl. (five species), *Crassulaceae* DC. (three species), *Geraniaceae* Juss. (three species). Other families are represented by one or two species. There are 15 species of annual plants, 49 species of perennials [1].

Table 1. Taxonomic diversity and biomorphological features of flower gardens in Kropyvnytskyi

№	Species name	Family	Life form	Vegetation type	Recommendations for use
1.	<i>Ageratum houstonianum</i> Mill.	<i>Asteraceae</i> Dum.	perennial	summer green	groups, flower beds, the borders
2.	<i>Ajuga reptans</i> L.	<i>Lamiaceae</i> Lindl.	perennial	summer green	groups, flower beds, the borders
3.	<i>Coleus scutellarioides</i> (L.) Benth.	<i>Lamiaceae</i> Lindl.	annual	summer green	groups, flower beds, the borders
4.	<i>Begonia semperflorens</i> hort.	<i>Begoniaceae</i> Agardh	annual	summer green	groups, flower beds, the borders
5.	<i>Berberis vulgaris</i> L.	<i>Berberidaceae</i> Torr. et Gray.	ornamental deciduous shrub	deciduous	groups, flower beds, the borders, the borders
6.	<i>Berberis thunbergii</i> DC.	<i>Berberidaceae</i> Torr. et Gray.	ornamental deciduous shrub	deciduous	groups, flower beds, the borders, the borders
7.	<i>Buxus sempervirens</i> L.	<i>Buxaceae</i> Dumort.	ornamental deciduous shrub	evergreen	groups, flower beds, the borders
8.	<i>Cineraria maritima</i> L.	<i>Asteraceae</i> Dum.	annual	summer green	groups, flower beds, the borders
9.	<i>Dianthus deltoids</i> L.	<i>Caryophyllaceae</i> Juss.	perennial	summer green	groups, flower beds, the borders
10.	<i>Dianthus barbatus</i> L.	<i>Caryophyllaceae</i> Juss.	perennial	summer green	groups, flower beds, the borders
11.	<i>Dianthus caryophyllus</i> L.	<i>Caryophyllaceae</i> Juss.	perennial	summer green	groups, flower beds, the borders
12.	<i>Delphinium elatum</i> L.	<i>Ranunculaceae</i> Juss.	perennial	summer green	groups, flower beds, plants background
13.	<i>Gaillardia x hybrida</i> Kobold.	<i>Asteraceae</i> Dum.	perennial	summer green	groups, flower beds, the borders
14.	<i>Hosta hybridum</i>	<i>Liliaceae</i> Juss.	perennial	summer green	groups, flower beds, the borders, plants background
15.	<i>Hosta fortune</i> L.	<i>Liliaceae</i> Juss.	perennial	summer green	groups, flower beds, the borders, plants background
16.	<i>Hosta sieboldiana</i> L.	<i>Liliaceae</i> Juss.	perennial	summer green	groups, flower beds, the borders, plants background
17.	<i>Hylotelephium spectabile</i> (Boreau) H. Ohba	<i>Crassulaceae</i> DC.	perennial	summer green	groups, flower beds, the borders
18.	<i>Jucca filamentosa</i> L.	<i>Liliaceae</i> Juss.	ornamental leafy perennial plants	evergreen	groups, flower beds, the borders, the borders
19.	<i>Juniperus sabina</i> L.	<i>Cupressaceae</i> Bartl.	ornamental deciduous shrub	evergreen	the borders, groups, flower beds, the borders
20.	<i>Juniperus sabina</i> 'Tamariscifolia'	<i>Cupressaceae</i> Bartl.	ornamental deciduous shrub	evergreen	the borders, groups, flower beds, the borders
21.	<i>Juniperus virginiana</i> L.	<i>Cupressaceae</i> Bartl.	ornamental deciduous tree	evergreen	the borders, groups, flower beds, the borders

№	Species name	Family	Life form	Vegetation type	Recommendations for use
22.	<i>Juniperus virginiana</i> 'Blue Arrow'	<i>Cupressaceae</i> Bartl.	ornamental deciduous tree	evergreen	the borders, groups, flower beds, the borders
23.	<i>Juniperus horizontalis</i> Moench. 'Forest Blue'	<i>Cupressaceae</i> Bartl.	Ornamental deciduous shrub	evergreen	the borders, groups, flower beds, the borders
24.	<i>Juniperus horizontalis</i> 'Prince of Wales'	<i>Cupressaceae</i> Bartl.	Ornamental deciduous shrub	evergreen	the borders, groups, flower beds, the borders
25.	<i>Elymus arenarius</i> (L.) Hochst.	<i>Poaceae</i> Mash	perennial	summer green	groups, flower beds, the borders, plants background
26.	<i>Iris hybrida</i> hort.	<i>Iridaceae</i> Juss.	perennial	Summer green, beautiful-flowering	groups, flower beds, the borders, the borders
27.	<i>Iris pumila</i> L.	<i>Iridaceae</i> Juss.	perennial	Summer green, beautiful-flowering	groups, flower beds, the borders, plants background
28.	<i>Kochia scoparia</i> (L.) Schrad.	<i>Amaranthaceae</i> Juss.	annual	summer green	the borders, groups, flower beds, the borders
29.	<i>Lupinus arboreus</i> Sims.	<i>Fabaceae</i> Lindl.	perennial	summer green	rabatkas, groups, the borders, flower beds
30.	<i>Ligustrum vulgare</i> L.	<i>Oleaceae</i> Lindl.	ornamental leafy perennial plants	deciduous	groups, flower beds, the borders, hedges, the borders
31.	<i>Lobelia erinus</i> L.	<i>Campanulaceae</i> Juss.	perennial	summer green	groups, flower beds, the borders, plants background
32.	<i>Malva moschata</i> L.	<i>Malvaceae</i> Juss.	perennial	summer green	groups, flower beds, the borders, the borders
33.	<i>Muscari botryoides</i> (L.) Mill.	<i>Asparagaceae</i> Juss.	perennial	summer green	groups, flower beds, the borders
34.	<i>Muscari pycnanthum</i> C.Koch.	<i>Asparagaceae</i> Juss.	perennial	summer green	groups, flower beds, the borders
35.	<i>Narcissus hybridus</i> hort.	<i>Amaryllidaceae</i> J.St.-Hil.	perennial	summer green	groups, flower beds, the borders
36.	<i>Ocimum basilicum</i> L.	<i>Lamiaceae</i> Lindl.	annual	summer green	groups, flower beds, the borders
37.	<i>Pelargonium peltatum</i> (L.)	<i>Geraniaceae</i> Juss.	annual	summer green	rabatkas, groups, flower beds, the borders
38.	<i>Pelargonium zonale</i> Wild.	<i>Geraniaceae</i> Juss.	annual	summer green	rabatkas, groups, flower beds, the borders
39.	<i>Pelargonium</i> × <i>hortorum</i> L.H.Bailey	<i>Geraniaceae</i> Juss.	annual	summer green	rabatkas, groups, flower beds, the borders
40.	<i>Petunia</i> x <i>hybrida</i> Vilm.	<i>Solanaceae</i> Juss.	annual	summer green	rabatkas, groups, flower beds, арабески
41.	<i>Phlox paniculata</i> L.	<i>Polemoniaceae</i> Juss.	perennial	summer green	rabatkas, groups, flower beds, the borders

№	Species name	Family	Life form	Vegetation type	Recommendations for use
42.	<i>Phlox subulata</i> L.	<i>Polemoniaceae</i> Juss	perennial	summer green	rabatkas, groups, flower beds, the borders
43.	<i>Primula veris</i> L.	<i>Primulaceae</i> Vent.	perennial	summer green	rabatkas, groups, flower beds, the borders
44.	<i>Rudbeckia laciniata</i> L.	<i>Asteraceae</i> Dum.	perennial	summer green	rabatkas, groups, flower beds, the borders
45.	<i>Salvia officinalis</i> L.	<i>Lamiaceae</i> Lindl.	perennial	summer green	rabatkas, groups, flower beds, the borders
46.	<i>Salvia splendens</i> L.	<i>Lamiaceae</i> Lindl.	annual	summer green	rabatkas, groups, flower beds, the borders
47.	<i>Sonchella cineraria</i> L.	<i>Asteraceae</i> Dum.	annual	summer green	rabatkas, groups, flower beds, the borders
48.	<i>Sedum acre</i> L.	<i>Crassulaceae</i> DC.	perennial	summer green	rabatkas, groups, flower beds, the borders
49.	<i>Sedum reflexum</i> L.	<i>Crassulaceae</i> DC.	perennial	summer green	rabatkas, groups, flower beds, the borders
50.	<i>Spiraea media</i> F.Schmidt	<i>Rosaceae</i> Juss.	ornamental deciduous, beautifully flowering shrub	deciduous	groups, flower beds, the borders, hedges, the borders
51.	<i>Spiraea x vanhouttei</i> (Briot) Zab.	<i>Rosaceae</i> Juss.	ornamental deciduous, beautifully flowering shrub	deciduous	groups, flower beds, the borders, hedges, the borders
52.	<i>Tagetes patula</i> L.	<i>Asteraceae</i> Dum.	annual	summer green	groups, flower beds, the borders
53.	<i>Tagetes erecta</i> L.	<i>Asteraceae</i> Dum.	annual	summer green	groups, flower beds, the borders
54.	<i>Tulipa hybridus</i> L.	<i>Liliaceae</i> Juss.	perennial	summer green	groups, flower beds, the borders
55.	<i>Tulipa gesneriana</i> L.	<i>Liliaceae</i> Juss.	perennial	summer green	groups, flower beds, the borders
56.	<i>Thuja occidentalis</i> L. 'Danica'	<i>Cupressaceae</i> Bartl.	ornamental deciduous shrub	evergreen	groups, flower beds, the borders, hedges, the borders
57.	<i>Verbena supina</i> L.	<i>Verbenaceae</i> J.St.-Hil.	annual	summer green	groups, flower beds, the borders
58.	<i>Vinca minor</i> L.	<i>Apocynaceae</i> Juss.	ground cover perennial	evergreen	groups, flower beds, the borders
59.	<i>Vinca major</i> L.	<i>Apocynaceae</i> Juss.	ground cover perennial	evergreen	groups, flower beds, the borders
60.	<i>Zinnia elegans</i> Jacq.	<i>Asteraceae</i> Dum.	annual	summer green	groups, flower beds, the borders
61.	<i>Phytolacca americana</i> L.	<i>Phytolaccaceae</i> R.Br.	perennial	summer green	groups, flower beds, the borders

An analysis of the species diversity of flower gardens in Kropyvnytskyi revealed that the most common annuals in the floral design of the central part of the city are *Petunia x hybrida* Vilm., *Coleus scutellarioides* (L.) Benth., *Tagetes erecta* L., *Begonia semperflorens* hort., *Cineraria maritima* L., *Kochia scoparia* (L.) Schrad., *Pelargonium peltatum* (L.), *Pelargonium zonale* Wild., *Pelargonium* × *hortorum* L.H.Bailey, *Salvia splendens* L. and perennials *Salvia officinalis* L., *Gaillardia x hybrida* Kobold., *Sedum reflexum* L., *Hylotelephium spectabile* (Boreau) H.Ohba, *Tulipa hybridus* L., *Iris hybrida* hort., *Muscari botryoides* (L.) Mill.. The projective coverage of flower gardens is dominated by plants with decorative foliage, as well as annual plants that form decorative flowers or inflorescences. The borders of some parterre flower beds are surrounded by clipped borders of *Berberis vulgaris* L., *Berberis thunbergii* DC., *Buxus sempervirens* L., *Ligustrum vulgare* L., *Spiraea media* F.Schmidt, *Spiraea x vanhouttei* (Briot) Zab., *Juniperus sabina* L., *Juniperus sabina* 'Tamariscifolia', *Juniperus virginiana* L., *Juniperus virginiana* 'Blue Arrow', *Juniperus horizontalis* Moench. 'Forest Blue', *Juniperus horizontalis* 'Prince of Wales', *Thuja occidentalis* L. 'Danica'.

During the studied period, an arabesque in the form of embroidery was created in the central part of the city on Heroes' Square on the Maidan (Fig. 7), from varietal plants of hybrid petunia, shield-shaped coleus and hybrid iris.



Fig. 7. Arabesques on Heroes of Maidan Square in Kropyvnytskyi a – 2022, b – 2023

During the same period, a flowerbed in the form of the coat of arms of Ukraine was created (Fig. 8). The elements of the coat of arms were created using *Coleus scutellarioides* (L.) Benth. varieties 'Cantigny Royale' and 'Gold' and *Cineraria maritima* L. were used to create it.



Fig 8. Flower garden "Herb" on Soborna Street, a - immediately after planting, b - in the summer of 2023

Experiments with the use of varietal plants of the genus *Coleus* Lour. in flower arrangements, which were carried out in recent years, allowed us to identify their relative drought resistance, which allows them to be planted in flower beds in open areas. The natural and climatic features of Kropyvnytskyi allow plants of the genus *Coleus* to maintain their decorative appearance until the end of October.

A fairly wide variety of flower plants are characterized by flower beds in the inter-quarter landscaping of the city. In the flower gardens near the houses, in addition to the above, we identified the annuals *Verbena supina* L., *Ocimum basilicum* L., *Tagetes patula* L., *Sonchella cineraria* L., *Zinnia elegans* Jacq.; perennials *Ageratum houstonianum* Mill., *Ajuga reptans* L., *Dianthus deltoids* L., *Dianthus barbatus* L., *Dianthus caryophyllus* L., *Delphinium elatum* L., *Phlox paniculata* L., *Phlox subulata* L., *Sedum acre* L., *Elymus arenarius* (L.) Hochst., *Muscari pycnanthum* C.Koch., *Primula veris* L., *Iris hybrida* hort., *Iris pumila* L., *Rudbeckia laciniata* L., *Tulipa gesneriana* L., *Hosta hybridum*, *Hosta fortune* L., *Hosta sieboldiana* L., *Narcissus hybridus* hort., *Salvia officinalis* L., *Vinca minor* L., *Vinca major* L., *Phytolacca americana* L., *Lobelia erinus* L., *Malva moschata* L., *Iberis sempervirens* L., *Yucca filamentosa* L., as well as *Hydrangea arborescens* L., *Paeonia bushes* can be found in the flower gardens *suffruticosa* L., various species and varieties of the genus *Rosa* L.

Among all the flower arrangements in the city, the most spectacular are the flower gardens in the central part of the city, such as in front of the city council building, Cathedral Square, Theater Square, Taras Shevchenko Square, and Bohdan Khmelnytskyi Square (Fig. 9). In the Dendropark recreation park in 2023, the flower arrangements were impressive in their decorativeness in April and early May, when the tulips bloomed [20].



Fig. 9. Condition of flower gardens in Kropyvnytskyi: a – flower garden on Patsaeva Street, b – flower garden in front of the city council, c – flower garden on Chykalenko Street.

However, after their flowering, new plants were not planted in free areas, which led to a sloppy appearance of the flower beds. Within the framework of the improvement of the Fortechny district, the intra-quarter zones and house areas are at a high level, which leads to a well-groomed appearance of the flower beds [20].

According to the conducted research, it was found that in Kropyvnytskyi, annual plants or perennials used as annuals are often used for landscaping the main streets and park plantings, for example, ivy-leaved pelargonium and sea cineraria. These plants require regular care, annual renewal and cleaning at the end of the season. In particular, it is difficult to find a full-fledged decorative replacement on the main streets.

However, for park plantings, it is proposed to increase the use of perennial plants, such as *Lavandula x hybrida* and *Lavandula angustifolia*, which are adapted to the climate of arid regions and have a long flowering and decorative appearance throughout the year.

Almost not used in the landscaping of Kropyvnytskyi are grasses, which can be a worthy replacement for many annuals and perennials. Among this group of plants, one can distinguish both low-growing species such as *Pennisetum alopecuroides* (L.) Spreng., *Festuca glauca* Vill. 'Elijah Blue', and tall *Miscanthus sinensis* Andersson, *Panicum virgatum* L., *Elymus arenarius* [20], which will allow them to be combined in various flower plantings, combined with traditional flower crops, and combined with evergreen and deciduous background plants.

The climbing perennial *Ipomoea batatas* (L.) Lam has become widespread in the cities of Ukraine and Europe. Its varieties with different leaf colors are planted in flowerbeds, as well as for decorating near-stem circles. *Thymus vulgaris* L. and *Sedum lydium* Boiss are also suitable for these purposes.

The trend of landscaping is also the introduction of medicinal and aromatic plants into landscaping, which are often used in private landscaping and are not planted at all in street landscaping in Kropyvnytskyi [4, 7]. We propose to introduce such plant species as *Helichrysum italicum* Guss., *Mentha piperita* L., *Thymus vulgaris* L., *Verbena officinalis* L., etc.

Analysis of flower arrangements in the city of Kropyvnytskyi

There are 40 flower gardens in the city. 270 thousand plants were grown for them.

During the studied period, it was planned to plant 271,700 plants in 40 flower gardens in the city with an area of 1.13 hectares.

More than 50,000 seedlings of flowering plants were planted on 2,000 m² of flower beds in the city: petunias, coleus, irises, etc.

The total area of the city's flower gardens, which are located in public greening facilities, is 11,310 m². The areas of flower gardens in the city of Kropyvnytskyi in table 2.

Table 2. The area of different types of flower gardens in the city of Kropyvnytskyi (which are subordinate to the communal enterprise «Blagoustriy»)

№	Object name	Area, m ²
1	Alley between Volkova and Patsaeva streets	930
2	Alley between Kosmonavta Popova and General Zhadov streets	687,5
3	Velyaka Perspektivna street (Barva store)	55
4	Velyka Perspektivna St. (Kyiv Hotel)	25
5	Velyka Perspektivna St. (Mida Store)	6
6	Velyka Perspektivna St. (descent)	292
7	Velyka Perspektivna St. (treasury)	133
8	Velyka Perspektivna St. (Ukrtelecom)	16
9	Geroiv Ukrainy St. (Alley of Glory, Rivne Cemetery)	44

№	Object name	Area, m²
10	Gogolya St. (near MVK)	4
11	Yevhena Chykalenko St.	470
12	Kavaleriiska St. (Philharmonic Hall)	336
13	Soborna St.	530
14	Ushakova St. (Monument to Kuropyatnikov)	16
15	Ushakova St. (Monument to the Victims of the Holodomor)	90
16	Ushakova St. (Cannons)	11
17	Shevchenko St.	8
18	Shevchenko St./Perspektivna St. (Privatbank)	5
19	Historical and Memorial Complex of the Fortress «St. Elizabeth»	1202
20	Historical and Memorial Complex of the Fortress "St. Elizabeth" (Victims of Fascism Square)	500
21	near the 101st microdistrict	1512
22	near the airport	900
23	Kryvyi Rih Entrance	58
24	Tank Memorial	110
25	Park-Monument of Landscape Art of Local Importance «Kovalivskyi» Park	678
26	«Molodyzhny» Park	110
27	«Theatralna» Square	168
28	Heroes of Maidan Square	560
29	Square in front of the MVK	129
30	Soborna Square	334
31	Vynnychenko Avenue	315
32	Fighters for the Freedom of Ukraine Square	12
33	First Elisavetgrad Tram Square	135
34	Prikordonniki Square	12
35	Fountain Square	29,5
36	Chernobyl Square	104
37	Anatoly Buzuljak Square	96
38	Khmelnysky Square	387
39	Shevchenko Square	288
40	Yanovsky Square	12
Total		11310

Studies conducted in the city have shown that the city's flower beds are represented by parterre flower beds, flower beds of various geometries, flower beds and ornaments (arabesques), as well as modular flower beds.

The vast majority of flower beds are made in a regular style. These are mainly rectangular flower beds, as well as in the form of a circle. The largest flower beds in the city by area are the flower garden in the 101st microdistrict (1512 m²), the flower garden on the alley between Volkova and Patsaeva streets (930 m²), the flower garden near the airport (900 m²), the flower garden between

Kosmonavta Popova and Generala Zhadova streets (687.5 m²), the flower garden in the park-monument of landscape art of local importance, the Kovalivskyi park (678 m²), the flower garden on Heroes of Maidan Square (560 m²) (Table 2). Other flower gardens have much smaller areas.

All flower beds in Kropyvnytskyi are polychrome in color. Their color scheme and ornamentation change every year depending on the designer's ideas, as well as on the grown assortment of seedlings.

102 hanging flowerpots and 14 installations with flowers were installed in the squares in front of the City Executive Committee, Heroes of Maidan, Teatralna, and in the Khmelnytskyi Square. The use of modular flower beds is becoming more popular every year, so their area is planned to be increased.

In general, the floral design of Kropyvnytskyi parks is quite diverse, floral design is presented in every microdistrict of the city. Expanding the assortment of perennials will allow reducing the costs of caring for them.

Conclusions

According to the conducted research, 61 species of plants belonging to 42 genera and 30 families have been identified in the flower plantations of the city of Kropyvnytskyi. The most numerous are representatives of the families *Asteraceae* Dum. (eight species), *Liliaceae* Juss. (six species), *Cupressaceae* (six species), *Lamiaceae* Lindl. (five species), *Crassulaceae* DC. (three species), *Geraniaceae* Juss. (three species). Other families are represented by one or two species. There are 15 species of annual plants, 49 species of perennials.

An analysis of the species diversity of flower gardens in Kropyvnytskyi revealed that the most common annuals in the floral design of the central part of the city are *Petunia x hybrida* Vilm., *Coleus scutellarioides* (L.) Benth., *Tagetes erecta* L., *Begonia semperflorens* hort., *Cineraria maritima* L., *Kochia scoparia* (L.) Schrad., *Pelargonium peltatum* (L.), *Pelargonium zonale* Wild., *Pelargonium x hortorum* L.H.Bailey, *Salvia splendens* L. and perennials *Salvia officinalis* L., *Gaillardia x hybrida* Kobold., *Sedum reflexum* L., *Hylotelephium spectabile* (Boreau) H. Ohba, *Tulipa hybridus* L., *Iris hybrida* hort., *Muscari botryoides* (L.) Mill.. The projective coverage of flower gardens is dominated by plants with decorative foliage, as well as annual plants that form decorative flowers or inflorescences. The borders of some parterre flower beds are surrounded by clipped borders of *Berberis vulgaris* L., *Berberis thunbergii* DC., *Buxus sempervirens* L., *Ligustrum vulgare* L., *Spiraea media* F.Schmidt, *Spiraea x vanhouttei* (Briot) Zab., *Juniperus sabina* L., *Juniperus sabina* 'Tamariscifolia', *Juniperus virginiana* L., *Juniperus virginiana* 'Blue Arrow', *Juniperus horizontalis* Moench. 'Forest Blue', *Juniperus horizontalis* 'Prince of Wales', *Thuja occidentalis* L. 'Danica'.

Among all the flower arrangements of the city, the most spectacular are the flower beds in the central part of the city, such as in front of the city council building, Cathedral Square, Theater Square, Taras Shevchenko Square, and Bohdan Khmelnytskyi Square.

The vast majority of flower beds are made in a regular style. Mostly these are rectangular flower beds, as well as in the form of a circle. The largest flower gardens in the city by area are the flower garden in the 101st microdistrict (1512 m²), the flower bed on the alley between Volkova and Patsaeva streets (930 m²), the flower garden near the airport (900 m²), the flower bed between Kosmonavta Popova and Generala Zhadova streets (687.5 m²), the flower garden in the park-monument of local significance, the Kovalivskyi park (678 m²), the flower garden on Heroes of Maidan Square (560 m²). Other flower gardens have much smaller areas.

All flower gardens in Kropyvnytskyi are polychrome in color. Their color scheme and ornamentation change every year depending on the designer's ideas, as well as the range of seedlings planted.

In the squares in front of the City Executive Committee, Heroes of Maidan, Teatralna, in the square named after Khmelnytskyi, 102 hanging flowerpots and 14 installations with flowers were installed. The use of modular flower beds is becoming more popular every year, so their area is planned to be increased.

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