

# Research on the Application of Chinese Rose in Landscaping

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**Abstract:** With the rapid development of the social economy, urbanization has brought some adverse effects on the ecological environment in urban areas. In this context, more departments began to pay attention to the protection and restoration of the urban ecological environment and committed to promoting the construction of urban landscape greening. As an ornamental plant with a long history of cultivation and a profound cultural heritage, the Chinese rose has been widely used in landscaping<sup>[1]</sup>. This study will mainly study the function and principles of Chinese rose in landscaping, and put forward some application strategies of Chinese rose in landscaping to provide reference for urban landscaping construction.

**Keywords:** Garden greening; Environmental protection; Chinese rose; Planting applications

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## 1. Introduction

Today, with the continuous improvement of the quality of life, people have higher requirements for the living environment. People not only pursue the improvement of garden greening rate, but also begin to pay more attention to the beauty and comfort of the environment, and put forward higher requirements for its travel and appreciation. As one of the oldest flower species in the world, the Chinese rose has low requirements in soil adaptation and cultivation technology and is easy to survive and maintain in the later period<sup>[2]</sup>. At the same time, under the influence of biotechnology, new rose varieties with high quality and multiple resistance traits are becoming more abundant, such as new rose varieties such as powder, Luo Yi and “rouge buckle,” all of which have excellent traits such as high resistance to black spot, powdery mildew, abundant flower, frequent flower, high-temperature resistance and barren resistance. Coupled with its rich color and changeable flower type, the rose has been widely used in landscaping and has become an essential cultivar. Therefore, in the early stage of the design of landscaping, planting and transplanting roses, related landscape design companies can combine the characteristics of different roses, comprehensive application of vine roses, rich roses, small potted roses, low maintenance roses, etc., and design a suitable theme, such as rose belt, flower bed, arch, theme

garden pieces and so on. Give full play to the advantages and characteristics of different kinds of Chinese roses.

## **2. The role of Chinese rose in landscaping**

### **2.1. It has the role of connecting other landscapes**

Most Chinese roses have developed roots, strong resistance, rapid germination of branches, strong growth, and the ability to grow tenaciously under a variety of complex environmental conditions. These characteristics make Chinese rose a “generalist” in landscaping, which can meet the requirements of greening in different regions and under different climatic conditions, thus expanding its application range <sup>[3]</sup>. In modern urban construction, land resources are relatively poor, and planting vertical plants has become an important way to increase landscaping <sup>[4]</sup>. Vine rose has strong climbing ability and can grow on or around fences, railings, columns, walls, roofs and other surfaces, so it can be chosen to decorate these structures or architectural structures to further enhance the hierarchical sense and beauty of garden greening landscape.

### **2.2. It has the role of environmental protection**

Tree rose, as one of the most unique species of rose, in the construction of landscaping projects in particular the application of attention. Tree roses under their tall branches, rich flowers, and other advantages, can be made into flower walls, flower screens, and other forms in greening projects, and form a beautiful landscape. This visual richness can effectively add greenery and vitality to the city built of reinforced cement, and also improve people’s aesthetic level and quality of life. At the same time, most Chinese roses also have a light, elegant, or rich aroma, which can please people’s moods.

## **3. The Chinese rose in landscaping should follow the principle**

### **3.1. Application principles**

China has a vast land, and the climate and temperature in each region are obviously different, and the soil characteristics in each region are also different. Therefore, in the process of selecting Chinese rose for landscaping, relevant planners and designers need to comprehensively consider factors such as climate, temperature, rainfall, and soil adaptation in the local area, scientifically select Chinese rose varieties, and reasonably plan the planting areas and application methods of different kinds of Chinese rose <sup>[5]</sup>.

### **3.2. The principle of collocation**

When the Chinese rose is used in landscaping, the collocation with other varieties of plants should be fully considered. Relevant planners and designers need to follow the principle of scientific, reasonable, and artistic collocation, and further enhance the aesthetics and artistry of garden green and its appreciation without destroying the original ecology <sup>[6]</sup>. At the same time, in the process of planting Chinese roses, the staff should not only consider the aesthetics of the plane but also optimize the location and spatial sequence of Chinese roses from three spaces in a multi-angle to make the garden landscape structure have a sense of integrity and structure. Different varieties of roses in the collocation, need to consider a variety of factors, such as color, flower type, flower structure, flower type and flower time, and so on, to achieve the four seasons have flowers to enjoy.

## **4. The management time and methods of the Chinese rose**

### **4.1. The management time of the Chinese rose**

The growth rate and water demand of Chinese rose in different seasons are different, so water management should also be adjusted.

Summer: The temperature is high, the evaporation is fast, the Chinese rose is in the flourishing period of growth, and the water requirement is large. Watering every 3 days or so is usually recommended to keep the soil moist.

Spring and fall: Temperatures are moderate and rose growth is relatively slow. Watering frequency can be appropriately reduced to once every 4–5 days, depending on the dry and wet conditions of the soil.

Winter: The temperature is low, the Chinese rose enters the dormant period or semi-dormant period, and the water requirement is reduced. The watering frequency can be further reduced to about once every 7 days to avoid freezing the roots due to excessive soil moisture.

### **4.2. Management methods of Chinese rose**

In landscaping, Chinese roses are usually planted according to the design color block, and the same variety of Chinese roses is planted in one area. This planting method can not only form a spectacular landscape effect of uniform color and flower type but is also conducive to the growth and management of Chinese roses. After planting, the first watering of Chinese rose is extremely important. The first watering must be thorough to ensure that the roots are firmly attached to the soil and to promote root development<sup>[7]</sup>. In addition, the soil of newly planted Chinese rose should not be too wet. During this period, the staff can water it with a watering can to increase air humidity, help the plant adapt to the new environment, and further improve the survival rate.

## **5. The application strategy of Chinese rose in landscaping**

With its changeable colors and unique aroma, the Chinese rose plays an important role in flower beds, flower beds, road greening, etc., bringing infinite vitality to urban construction. Chinese roses can exist in an independent form but also can appear in groups to create the scene of flowers<sup>[8]</sup>. Based on years of practical engineering experience and the breeding experience of new rose varieties, the article has summarized the following application strategies for Chinese roses in landscaping.

### **5.1. Match with other kinds of green plants**

In the implementation of garden greening projects, although Chinese rose has been widely used in them, it is rarely used as an independent landscape. Under normal circumstances, a rose is often used to match other landscapes, in order to achieve multi-level, three-dimensional visual effects.

#### **5.1.1. Pair with herbs and flowers**

There are many kinds of herbs and flowers, with rich colors, through the collocation with Chinese roses, can improve the overall beauty of landscaping and ornamental. Although the Chinese rose has a longer flowering period, it may still be in the bud stage in early spring, and the ornamental effect is not good<sup>[9]</sup>. At this time, this viewing gap can be filled by deploying early spring flowering herbaceous flowers such as violets and marigolds. At the same time, there are often significant differences in color and form between herbaceous

flowers and rose flowers, which can add richness and hierarchy to the landscape. For example, the showy flowers of the Chinese rose can create a more striking visual effect when compared to the pale colors of violets. In addition, after the first crop of Chinese rose blooms, staff should prune and maintain the herbs and flowers on time, to make up the gap between the flowering period of the rose and enhance the ornamental effect.

### 5.1.2. Match with shrubs and trees

Paired with a shrub, the rose can create a multi-level landscape from the ground to the air (**Figure 1**). The canopy of the shrub provides shade and shelter for the rose, while its branches and leaves add dimension and depth to the landscape <sup>[10]</sup>. Evergreen and color-leaved tree species <sup>[10]</sup> can not only add color and vitality to the landscape but also absorb harmful substances in the air, release oxygen to regulate the microclimate and improve the ecological environment.

### 5.1.3. Match with vegetation

In landscaping projects, a rose is usually used as the main scene in a garden landscape, but it is easy to cause a single visual effect, and the Chinese rose and the cluster of forsythia, mixed lawn collocation, and with ophiopogon, can form the main pattern of red flowers and green leaves on the bottom of green grass so that the garden scene presents a multi-level visual effect. It is conducive that the visual presentation of the feeling of spring, making people relaxed and happy.

## 5.2. The construction of a special Chinese rose garden

A special garden is the most frequent form of Chinese rose application. It can be an independent garden or a “garden within a garden.” Its biggest advantage is that it can display a variety of varieties and the scene of flowers being colorful and colorful when they bloom. Meanwhile, the form of a special garden is also a good place for scientific research and popular science teaching <sup>[11]</sup>. Rose garden is generally organized according to flower color, variety, etc. The rose and other flowers of the same color are organized into groups, which are both focused and not rigid. In recent years, some big cities have established many special rose gardens based on their own experience, among which the most representative one is the special rose garden in Beijing Botanical Garden. Beijing Rose Garden integrates the methods of Chinese and Western Garden design. Under the premise of meeting the Chinese aesthetic, it adds the natural style of gardening, making the whole garden more harmonious and natural.



**Figure 1.** Chinese roses match with shrubs and trees.

**Table 1.** Information on national characteristic rose specialized gardens

Name of rose specialized park	Province the park located	The time of Rose exhibition in 2024	Exhibition theme and exhibition area setting
The World Chinese Rose Theme Garden	Beijing	May 18th to June 18th, 2024	There are 13 characteristic exhibition areas, including Celebrity Rose Garden, China Self-breeding Rose Variety Garden, Wuzhou Rose Garden, Gold Medal Rose Road, Rose City Exhibition Garden, the Ancient Rose Garden and so on.
Beijing Love Sea Rose Culture Expo Park	Beijing	May 1st to October 7th, 2024	The theme of the exhibition is “Chinese Rose Blooming Beijing Color Feast,” the exhibition area mainly includes a Chinese rose science exhibition center, a Chinese rose viewing area, a Chinese rose production and cultivation area, a wedding photography and lawn wedding area, ancient trees and stone garden, etc.
Laizhou Chinese Rose Garden	Shandong	May 15th to May 18th, 2024	The layout of the park is divided into “one axis, one ring and four districts”: one axis is composed of a memorial archway, 24 solar terms landscape column and a rose fairy; one ring is a budding rose loop, which makes the whole park through, the street trees mainly use five maples with 3 meters under the branch; the four districts are the entrance landscape area, waterfront area, rose culture exhibition area and rose planting resource area.
Shenzhen People’s Park Chinese Rose Special Park	Shenzhen	March 8th to March 17th, 2024	The theme of the exhibition is “Spring vegetation, flowers bloom,” its exhibition area includes: Four hours Garden, Flower Creek, Rose Palace, Qinchun Garden, Spring breeze Garden, these five parts.
Changzhou Zijing Park Rose Garden	Jiangsu	May 1st to May 18th, 2024	The theme of the exhibition is “Romantic Rose Splendid Dragon City,” its exhibition area includes: a theme flower exhibition area, a fine Chinese rose exhibition area, an interactive activity area of a Chinese rose exhibition, a Mother’s Day manual experience area, etc.
Huai’an Rose Special Garden	Jiangsu	May 1st to May 18th, 2024	The theme of the exhibition is “2024 Chinese Rose Culture Week and the 10th Huaian Youth Blind Date.” The exhibition area includes a rose variety viewing exhibition area, five types of rose exhibition area, precious ancient Rose exhibition area, etc.
Zhengzhou Rose Park	Henan	April 27th to May 9th, 2024	The theme of the exhibition is “Carry forward the rose culture and feel the life of flowers.” The exhibition area includes: a modeling Chinese rose exhibition area, a greenhouse rose bonsai exhibition area, a science museum experience area, etc.

In the design of the special rose garden, the staff can reasonably arrange the planting position of the rose according to the distribution of the terrain inside the garden and the orientation of other plants, to ensure the integrity and harmony of the garden. At the same time, some small buildings or devices can also be added to the special garden, such as flower stands, flower corridors, flower walls, fountains, etc. The rose and these buildings are placed on the main channel of the garden so that the whole garden becomes scattered and uniform.

### 5.3. Reasonable setting of rose flower beds, flower belts and flower walls

#### 5.3.1. Rose flower bed

Due to the influence of seasonal changes, most plants will show seasonal changes. Therefore, in the process of planting roses, the relevant staff can take advantage of this feature to plant some blooming roses under the premise of using other flowers or shrubs in the flower bed, to create a visual effect of evergreen and avoid the

scene of winter depression <sup>[12]</sup>. By planting roses in the flower beds on both sides of the city road, they can complement each other with pine and cypress trees, plane trees and other plants, bringing a bright color to the monotonous city road.

### **5.3.2. Rose flower belt**

There are many kinds of colors of Chinese roses, most of which are bright and strong colors, which can not only enhance the overall ornamental effect of the garden but also please the body and mind of tourists. Planting Chinese roses in the green belt on both sides of the city road can form a bright and vivid color contrast with other plants, breaking the monotonous sense of green vegetation. At the same time, the elegant branches and leaves and beautiful flower patterns of the Chinese rose can also form the effect of light and shadow in the sun, and vine roses can be planted at the entrance or main passage to increase the three-dimensional sense and layer of the landscape <sup>[13]</sup>. When choosing the planting method, it is necessary to consider the matching effect with other plants in the flower belt. Solitary planting, cluster planting, slice planting and other methods can be selected to make the foreground, main scene and middle scene harmonious and unified, and increase the landscape level <sup>[13]</sup>.

### **5.3.3. Rose wall**

Chinese rose has a long history of cultivation, and a wide variety of varieties, and the scope and area of application are different. As a kind of Chinese rose, the vine rose has developed root system and the branch germination speed is very fast. It is the best plant for modern urban construction multi-level and multi-directional garden greening. In this regard, the staff can make full use of its characteristics, place some buildings or landscapes in the garden, create the landscape of the flower wall, and improve the ornamental effect.

## **5.4. The application of Chinese rose ground cover**

Most cities will choose some creeping or relatively low rhizomes in the construction of landscaping to decorate and cover some rough ground. The beautification of parks and the edging of roadside flower beds are often completed with roses. In parks, scenic areas, squares and many other places where a wild, natural feel is deliberately created, the low rose variety plays an important role in this time. At the same time, in some areas of the garden, the staff will plant roses in the lake, and set up leisure benches, so that they can not only decorate the rough ground but also for visitors to watch and rest <sup>[14,15]</sup>.

## **6. Conclusion**

In summary, with people's pursuit of quality of life, urban landscaping projects have attracted more people's attention. As a kind of ornamental plant, reasonable planning, design, application, planting and maintenance of different kinds of Chinese roses can make it play a greater role in landscaping. Through large-scale planting, Chinese rose can rely on its advantages and characteristics to create a variety of unique landscaping landscapes, for people's lives and urban construction to bring some new experiences. In addition, in the process of planting roses, the relevant departments should fully grasp the characteristics of different rose flowers, scientific and reasonable choice of planting areas and ways, and promote the landscaping effect to further improve year by year.

## Disclosure statement

The authors declare no conflict of interest.

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