



# AGRI MAGAZINE

(International E-Magazine for Agricultural Articles)

Volume: 03, Issue: 03 (March, 2026)

Available online at <http://www.agrimagazine.in>

© Agri Magazine, ISSN: 3048-8656

## Stock (*Matthiola incana*): The Fragrant Winter Queen of Flower Crops-Gilly Flower

\*Rakshitha, Y. R<sup>1</sup>, Sarthi Thippesh<sup>2</sup> and Ramanagouda M Patil<sup>3</sup>

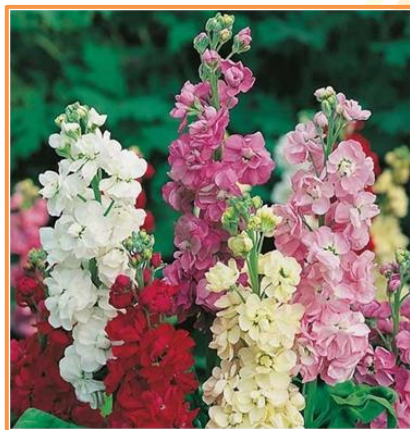
<sup>1</sup>Department of Floriculture and Landscaping, College of Horticulture, Mudigere, Keladi Shivappa Nayaka University of Agricultural and Horticultural Sciences Iruvakkki, Shivamogga, Karnataka, India

<sup>2</sup>Department of Floriculture and Landscaping, KKRCCH, Arabhavi, India

<sup>3</sup>Dept. of Floriculture and Landscaping, College of Horticulture, Aspee, Gujarat, India

\*Corresponding Author's email: [rrakshayr@gmail.com](mailto:rrakshayr@gmail.com)

Stock (*Matthiola incana*) is a popular winter season ornamental flower belonging to the family Brassicaceae and chromosome number of the species is  $2n = 14$ . It is highly appreciated for its pleasant clove-like fragrance and tall, attractive flower spikes. The plant is native to the Mediterranean region but is now widely grown in temperate as well as subtropical climates. Stock is commonly used in bouquets, floral arrangements, wedding decorations and winter gardens. Both single and double-flowered varieties are cultivated commercially, though double types are generally more preferred because of their filler and more decorative appearance.



### Historical Background and Origin

The name *Matthiola* honors the Italian botanist Pietro Andrea Mattioli. The crop originated in southern Europe, particularly around coastal Mediterranean areas. Over time, it became popular in countries like England and the Netherlands, where it was extensively grown as a bedding plant and cut flower during the winter season due to its fragrance and visual appeal.

### Economic and Trade Significance

Stock plays an important role in the seasonal cut flower market, especially during winter months. Its demand increases during festive periods and wedding seasons because of its fragrance and elegant spikes. It is widely cultivated in countries such as the Netherlands, Japan, the United States and India. In India, commercial cultivation is mainly carried out in cooler regions and during winter in the plains. The crop is also suitable for protected cultivation under polyhouse conditions, which enhances flower quality and market value.

## Importance and Uses

Stock is primarily grown as a cut flower and is widely used in bouquets and floral decorations. It is also suitable as a bedding plant in gardens and borders during winter. The plant performs well in pots, making it ideal for terrace and balcony gardening. Due to its pleasant aroma, it is often included in fragrance gardens. Symbolically, stock flowers are associated with lasting beauty and a joyful life.

## Botanical description

*Matthiola incana* is generally cultivated as a winter annual. The plant grows to a height of about 30–75 cm and has upright stems that may become slightly woody near the base. The leaves are lance-shaped, grey-green in color, and slightly hairy. Flowers are borne in terminal racemes forming elongated spikes. They may be single or double and are available in a range of colors including white, pink, purple, lavender, red, cream and yellow. Double-flowered plants are sterile and can be identified at the seedling stage by their comparatively lighter-colored cotyledons.

## Important Types, Species and Varieties

### Based on Flowering Season:

- Ten-week Stock – Early flowering
- Intermediate Stock
- Brompton Stock – Late flowering

### Species

- *Matthiola incana* – Common stock or Hoary stock; the most widely cultivated species for cut flowers and bedding.
- *Matthiola longipetala* – Night-scented stock; grown mainly for its strong evening fragrance.
- *Matthiola sinuata* – Sea stock; found in coastal regions and valued for ornamental use.
- *Matthiola tricuspidata* – A Mediterranean species, less common in cultivation.
- *Matthiola fruticulosa* – A perennial species grown in limited ornamental settings.

### Popular Varieties:

- Giant Imperial Series, Column Series, Midget Series, Cinderella Series and Katz Series
- Double varieties are preferred for commercial cut flower production.

## Soil and Climate Requirements

Stock grows best under cool climatic conditions. The ideal temperature range for optimum growth and flowering is 10–20°C. It performs well in well-drained loamy soil rich in organic matter with a pH between 6.0 and 7.5. The crop requires full sunlight for proper spike development. High temperatures and waterlogging adversely affect growth and flower quality. Cool weather conditions promote better spike length and superior flower quality.

## Propagation

Stock is primarily propagated through seeds. Approximately 400–500 grams of seed are required per hectare for commercial cultivation. Seeds are usually sown in well-prepared nursery beds or in plug trays under protected conditions to ensure healthy seedling production. Germination generally occurs within 5–7 days under suitable temperature and moisture conditions. Seedlings become ready for transplanting about 4–5 weeks after sowing, once they attain sufficient growth. During the nursery stage, double-flowered seedlings are carefully identified and selected, as they are commercially preferred, while single-flowered plants are usually discarded.

## Cultural Practices

Well-decomposed FYM at 20–25 t/ha is incorporated during land preparation. Seedlings are transplanted at 30 × 30 cm spacing. A fertilizer dose of 100:60:60 kg NPK/ha is recommended, with half nitrogen and full phosphorus and potassium applied as basal, and the remaining nitrogen top-dressed after 30 days. The crop requires light, regular irrigation and

proper drainage. Tall varieties need staking, and pinching is practiced in some types to promote branching and better flowering.

### Diseases and Pests

Stock is affected by diseases such as downy mildew, powdery mildew, Fusarium wilt and damping-off in the nursery stage. Common pests include aphids, thrips and caterpillars. Good drainage, crop rotation and timely plant protection measures help in effective management.

### Harvesting and Yield

Spikes are harvested when 1/3 to 1/2 of the florets are open, preferably in the early morning. Flowering starts 90–120 days after sowing, with an average yield of 1.5–2.5 lakh spikes per hectare. Proper grading improves market price.

### Postharvest Management

Lower leaves are removed and stems are placed immediately in clean water. Flowers are stored at 2–4°C. The vase life is about 7–10 days and can be extended using floral preservatives.

### Conclusion

Stock (*Matthiola incana*) is a highly valued winter cut flower known for its fragrance, vibrant colours and elegant spikes. Its adaptability to cool climates and strong market demand make it a profitable crop in commercial floriculture. With increasing preference for scented flowers, stock continues to play a significant role in both domestic and international flower markets.