



# AGRI MAGAZINE

(International E-Magazine for Agricultural Articles)

Volume: 02, Issue: 11 (November, 2025)

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

© Agri Magazine, ISSN: 3048-8656

## Chrysanthemum: The Autumn Symphony of Colors and Science

\*P. Vidyasree<sup>1</sup> and A. Monika Sri Nagini<sup>2</sup>

<sup>1</sup>Ph.D. Student, Sri Konda Laxman Telangana State Horticultural University,  
Mulugu, Telangana-502279, India

<sup>2</sup>Ph.D. Student, Dr. YSR Horticultural University, Venkataramannagudem,  
Andhra Pradesh-534101, India

\*Corresponding Author's email: [vidyasree9894@gmail.com](mailto:vidyasree9894@gmail.com)

Picture a garden transformed into a living canvas where fiery reds dance with golden yellows, purples cascade like velvet waterfalls, and crisp whites glow under autumn sunsets. This is the magic of chrysanthemums - the undisputed queens of fall floriculture. Known as "mums" globally and "Kiku" in Japan, these perennial wonders (*Chrysanthemum × morifolium*) have captivated humanity for over 2,000 years. Originating from the daisy meadows of East Asia, chrysanthemums symbolize the sun's radiant energy, imperial elegance, and life's enduring beauty. From Japan's thousand-bloom exhibitions to India's festival garlands, chrysanthemums blend breathtaking aesthetics with staggering commercial power - second only to roses in India's ₹25,000 crore floriculture industry.

### The Unmatched Importance: Beauty Meets Business

Chrysanthemums aren't just pretty faces; they're economic powerhouses. India produces over 2 lakh hectares annually, with Pune alone generating ₹500-800/kg during Diwali peaks. A single plant yields 150-200 flowers, translating to 2-3 kg loose blooms per square meter. Their versatility stuns: loose flowers for worship, garlands for weddings, premium cut stems for exports, potted plants for balconies, and massive exhibition blooms rivaling dinner plates. Cultural Royalty: Japan's Chrysanthemum Throne traces imperial lineage to 300 BC. In India, they're festival essentials. Diwali markets overflow with garlands. Florists prize their 15-25 day vase life, extendable with simple preservatives. Employment generator extraordinaire, chrysanthemums sustain thousands of smallholder families while fueling urban flower hubs like Bengaluru, Lucknow, and Himachal Pradesh.

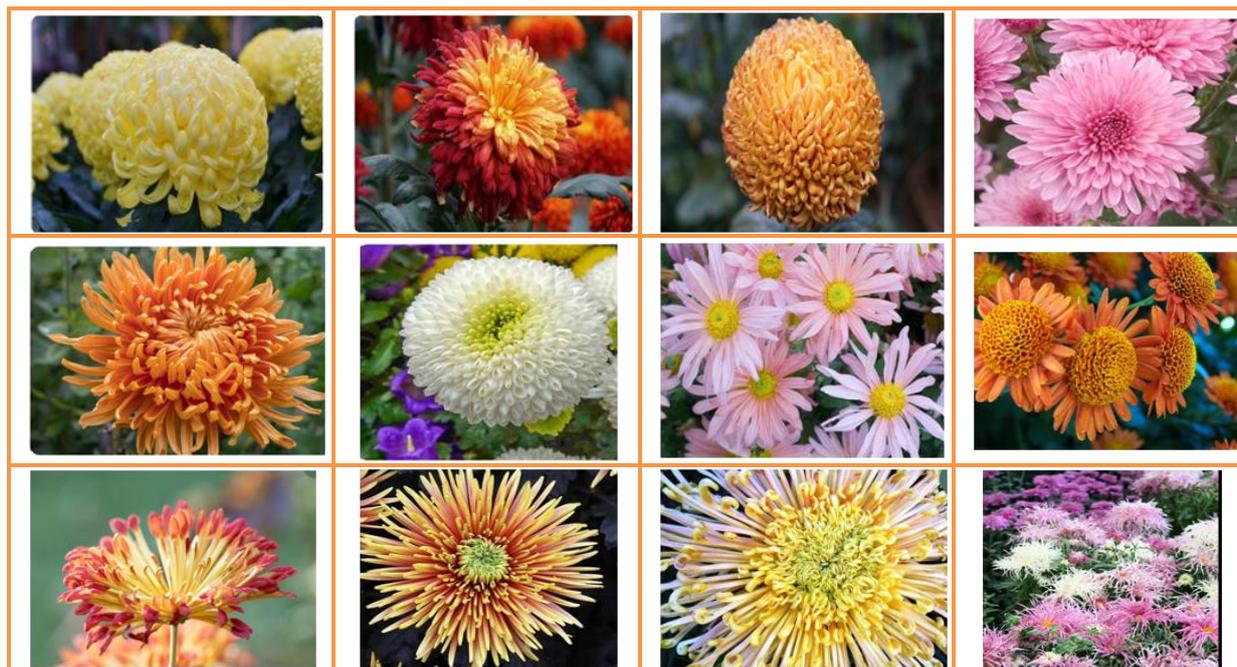
### Classification

#### 13 Spectacular Bloom Symphonies

The National Chrysanthemum Society classifies chrysanthemums into 13 distinct bloom forms, each a horticultural marvel:

1. Incurved - Formal globes (25 cm), petals curling inward like perfect spheres
2. Reflexed - Skirt-like cascades, petals flowing downward dramatically
3. Spider - Exotic thread-like petals curling at tips (most prized by collectors)
4. Pompons - Button-sized neat domes (2-5 cm)
5. Anemone - Cushion centers with quilled petal skirts
6. Spoon - Radiating petals with tiny spoon-shaped tips
7. Quilled - Tubular, feather-like petals
8. Singles - Classic daisy faces with prominent disc florets
9. Korean - Single flowers with spooned ray petals (garland favourites)
10. Irregular Incurved - Asymmetrical showstoppers
11. Large Quilled - Thick, sculptural quill petals
12. Small Incurved - Miniature formal perfection

## 13. Semidouble - Daisy-like with extra ray petal layers



**Indian Stars:** NBRI Lucknow's *Ajina Purple* (perfect incurves), *Pournima* (white hemispheres), *Nanako* (yellow pompons), and new releases like *NBRI-Stuti* dominate markets.

### Flowering Behaviour: Nature's Photoperiodic Precision

Chrysanthemums are obligate short-day plants—their floral magic hinges on precise light timing. Flowering triggers when nights exceed 12 hours (late August-October planting yields November-December blooms). This photoperiodic dance unfolds in fascinating stages:

#### Stage 1: Vegetative Growth (0-45 days)

Rapid stem elongation (60-120 cm). Pinching (2-3 times till mid-July) creates bushy plants with 15-40 flowering shoots (Directorate of Floricultural Research, n.d.).

#### Stage 2: Floral Induction (45-75 days)

Darkness triggers florigen production. Shoot apex converts to floral meristem—even 1-hour night interruption delays flowering by 10-15 days (Tamil Nadu Agricultural University, n.d.).

#### Stage 3: Visible Bud & Bloom (75-120 days)

Disbudding creates giant exhibition flowers (25cm). Harvest at 50% bloom stage (National Horticulture Board, 2019).

Temperature Sweet Spot: 18-25°C day, 10-15°C night = perfect color and form (Directorate of Floricultural Research).

#### Production Mastery:

Propagation\*\*: Terminal cuttings (7-10 cm) root in 15 days (IBA 500 ppm)

Soil: Fertile loams (pH 6.0-6.8)

Spacing: 60×60 cm (standards), 45×45 cm (garlands)

Nutrition: NPK 100:50:100 g/m<sup>2</sup> + pinching

Pests: Red spider mite (Dicofol), leaf miners (Thiamethoxam)

#### Economic Powerhouse: Numbers That Dazzle

- Global production: 200 million plants/year
- India market: ₹25,000 crore floriculture industry
- Export value: ₹500 crore (cut flowers)
- Yield: 150-200 flowers/plant (National Horticulture Board, 2019)

## Future Frontiers

Climate-smart chrysanthemums resist heat/drought. Dwarf varieties suit urban balconies. Organic seaweed extracts boost yield 25%. Japanese breeders perfect heat-delayed flowering for tropical markets.

## References

1. Carolina Mums. *13 classes of chrysanthemum blooms*. National Chrysanthemum Society.
2. Directorate of Floricultural Research. *Package of practices for chrysanthemum*. ICAR.
3. National Horticulture Board. (2019). *NHB database on horticulture crops*. Ministry of Agriculture & Farmers Welfare, Government of India.
4. Tamil Nadu Agricultural University. *Chrysanthemum production technology*.
5. Times News Network. (2025, January 19). *On concluding day of NBRI's flower show, 4 new chrysanthemums unveiled*. The Times of India.