

Lisianthus: An Emerging Cut Flower for a Profitable Future

*Piyush Singh¹, Ajay Kumar Singh², Amit Kumar Maurya³,
Aman Singh¹ and Aayushi Yadav⁴

¹Ph.D. Scholar (Floriculture & Landscape Architecture), BUAT, Banda, U.P. -210001

²Professor (Floriculture & Landscape Architecture), BUAT, Banda, U.P. -210001

³Ph.D. Scholar, Department of Horticulture (Floriculture & Landscaping), BHU,
Varanasi, U.P.-221005, India

⁴Ph.D. Scholar, CoH&F, ANDUA&T, Kumarganj, Ayodhya, U.P., India

*Corresponding Author's email: ps397948@gmail.com

The floriculture industry is continuously diversifying with the introduction of new and high-value flower crops. Among the emerging cut flowers, lisianthus, botanically known as *Eustoma grandiflorum* (Raf.) Shinn., has gained considerable importance in the international flower trade. It is commonly known as Prairie Gentian or Texas Bluebell and belongs to the family Gentianaceae. Because of its elegant, rose-like flowers, wide range of colours, strong stems, excellent vase life and high demand in premium floral arrangements, lisianthus is increasingly regarded as the “Rose of the Future” or the “next rose” of the floriculture industry. Lisianthus is particularly attractive because it combines the beauty of a rose with the delicate appearance of a poppy and the long-lasting quality of a premium cut flower. Its flowers are available in attractive colours such as white, pink, purple, blue, lavender, green, yellow and bi-colours. The crop is suitable for both cut flower production and pot plant production, making it a highly versatile ornamental crop.

Origin and Distribution

Lisianthus is native to the grasslands and prairies of North America, particularly regions associated with Texas and the Colorado Plateau. Although it originated in North America, its commercial development as a cut flower crop was largely advanced through breeding and production systems in Japan and other countries. Today, lisianthus is cultivated commercially in several parts of the world and has become an important component of the premium cut-flower market. In India, lisianthus is considered a relatively new and promising flower crop. Its cultivation is particularly suitable for protected cultivation, including polyhouses and greenhouses, where temperature, light, humidity and irrigation can be better managed. Its introduction offers an opportunity to diversify commercial floriculture and provide farmers with a high-value alternative to traditional flower crops.

Why Lisianthus is Called the “Rose of the Future”?

The increasing popularity of lisianthus is associated with several outstanding characteristics:

1. Rose-like flower appearance: The double-flowered cultivars of lisianthus possess large, attractive and ruffled petals that closely resemble roses. This attractive appearance makes them highly desirable for bouquets, wedding decorations and premium floral arrangements.

2. Wide range of flower colours: Lisianthus is available in a broad spectrum of colours, including white, pink, purple, blue, lavender, green, yellow and bi-colour combinations. The availability of attractive colours provides excellent opportunities for florists and flower designers.

3. Excellent vase life: One of the most important commercial characteristics of lisianthus is its relatively long postharvest life. Depending on cultivar and environmental conditions, vase life can vary considerably, with reported values ranging from approximately 5 to 28 days. This long vase life enhances its value for consumers, wholesalers, retailers and florists.

4. High-quality stems: Lisianthus produces long, straight and sturdy stems bearing multiple flowers and buds. The presence of several flowers on one stem increases its value as a cut flower and makes it highly suitable for bouquet preparation.

5. Excellent suitability for floral arrangements: The elegant shape and attractive colours of lisianthus make it highly suitable for wedding bouquets, bridal arrangements, table decorations, flower baskets, hotel decorations and other premium floral designs.

Botanical Description

Lisianthus is a herbaceous ornamental plant with an erect growth habit. The leaves are generally opposite, simple and often glaucous green in appearance. The plant produces attractive funnel-shaped or bell-shaped flowers on long, branched stems. Depending on the cultivar, flowers may be single, semi-double or double. The crop is generally grown as an annual commercial flower crop, although its flowering behaviour depends greatly on cultivar, temperature, photoperiod and production conditions. The major commercially important characteristics are Long and strong flower stems, Attractive foliage, Large, rose-like flowers, Multiple flowers per stem, Wide range of flower colours, Good postharvest longevity and Suitability for greenhouse production.

Commercial Importance and Market Value

The global demand for premium cut flowers is increasing due to the expansion of the wedding, hospitality, event management and decoration industries. Lisianthus has benefited from this trend because it provides a high-quality alternative to traditional premium flowers such as roses, carnations and chrysanthemums. The flower is especially valued in the premium and specialty cut-flower segment. Its high market value is associated with:

- Attractive and unique flower form
- High consumer preference
- Excellent vase life
- Multiple flowers per stem
- Good transportability
- Suitability for premium floral arrangements
- Availability in attractive colours



Recent research has described lisianthus as one of the rapidly expanding ornamental crops in the cut-flower market, with growing demand for its rose-like appearance and long-lasting quality.

Uses of Lisianthus

Lisianthus has several important commercial uses.

Cut flower: The most important use of lisianthus is as a premium cut flower. It is sold as individual stems, bunches and in mixed bouquets.

Wedding and bridal decoration: Its delicate appearance and attractive colours make it highly popular for bridal bouquets, wedding decorations and ceremonial floral arrangements.

Bouquets and floral arrangements: Lisianthus is widely used in bouquets because the flowers combine well with roses, lilies, carnations, chrysanthemums and foliage plants.

Interior decoration: The long vase life of lisianthus makes it suitable for homes, hotels, offices, restaurants and other indoor locations.

Pot plant: Compact cultivars can also be grown as flowering pot plants for ornamental purposes.

Climate and Environmental Requirements

Lisianthus is a crop that responds strongly to environmental conditions. Temperature and light management are particularly important for successful production. Moderate temperatures are generally favourable for vegetative growth and flowering. Extreme temperatures may affect plant growth, flowering and flower quality. High temperatures can contribute to problems such as rosetting, in which plants remain in a compact vegetative condition and fail to elongate properly. Therefore, proper temperature management is particularly important during the early growth stages. The crop also requires adequate light for healthy growth and flower development. However, excessive temperature combined with unsuitable light conditions can negatively affect crop performance. Protected cultivation therefore provides an important advantage by allowing better control over the crop environment.

Soil and Growing Media

Lisianthus performs best in a well-drained, fertile and porous growing medium. Waterlogging should be avoided because excessive moisture can promote root diseases and reduce plant growth. A suitable growing medium should possess: good drainage, Adequate water-holding capacity, good aeration, Sufficient organic matter, Appropriate pH and good nutrient-holding capacity. In modern commercial production, lisianthus can also be grown using soilless media and fertigation systems. Such systems enable more precise management of water and nutrients and may improve uniformity and flower quality.

Propagation

Lisianthus is mainly propagated through seeds. However, seed propagation requires careful management because the seeds are very small and seedlings grow slowly during the initial stages.

Important commercial cultivars

Echo, Mariachi, Rosita, Arena, ABC, Excalibur, Voyage, Corelli, Borealis and Bolero. Among these, Echo, Mariachi, Rosita and Arena are particularly popular for premium cut-flower production because of their large, rose-like flowers, strong stems and attractive colour range.

Nutrient Management

Balanced nutrition is essential for producing high-quality lisianthus flowers. Excessive nitrogen may lead to excessive vegetative growth and weak stems, whereas inadequate nutrition may reduce plant growth, flower size and flower quality. Important nutrients include:

- Nitrogen for vegetative growth
- Phosphorus for root development and flowering
- Potassium for stem strength and flower quality
- Calcium for cell wall development
- Magnesium for chlorophyll formation
- Micronutrients for overall plant metabolism

The nutrient requirement varies according to cultivar, growing medium, production stage and environmental conditions. Modern fertigation systems can help maintain an appropriate nutrient supply and improve crop uniformity.



Staking and Support

Lisianthus produces long and branched flower stems. Under conditions of high plant density or inadequate light, the stems may become weak and lodge. Therefore, support systems may be required, particularly for commercial cut flower production. Horizontal support nets can be installed over the crop and gradually raised as the plants grow. Proper support helps maintain straight stems and improves the quality and market value of harvested flowers.

Temperature and Light Management

Temperature is one of the most important environmental factors influencing lisianthus growth and flowering. Moderate temperatures generally favour healthy vegetative growth, stem elongation and flower development. Excessively high temperatures, particularly during the early stages of growth, may induce rosetting. In rosetting, the plant remains compact and fails to elongate properly.

Weed Management

Weeds compete with lisianthus plants for water, nutrients, light and space. Regular removal of weeds is necessary, particularly during the early growth stages. Hand weeding and shallow intercultural operations are commonly used in soil-based production. Care should be taken during weeding to avoid damage to the shallow root system. Mulching may also help suppress weed growth and conserve soil moisture.

Pest and Disease Management

Lisianthus may be affected by several insect pests and diseases, particularly under humid and poorly ventilated conditions. Common problems may include aphids, thrips, whiteflies, fungus gnats and other sucking pests. These pests may damage young shoots, leaves and flowers and may also transmit diseases. Diseases such as damping-off, root rot, stem rot and fungal leaf diseases may occur under excessive moisture and poor drainage. Integrated management involving cultural, biological and need-based chemical methods is preferred for sustainable production.

Flowering and Crop Duration

Lisianthus generally requires a relatively long production period compared with many conventional annual flower crops. The duration from sowing to flowering depends on cultivar, temperature, light, photoperiod, planting season and production system. The crop may produce flowers over an extended period under suitable environmental conditions. Proper crop management is important to obtain uniform flowering and high-quality stems.

Harvesting

Harvesting is one of the most important operations influencing the quality and vase life of lisianthus. The appropriate stage of harvest depends on the cultivar and intended market. Stems are generally harvested when one or more flowers have opened and additional buds are sufficiently developed. Harvesting should preferably be carried out during the cooler hours of the day. A sharp and clean knife or secateurs should be used to avoid crushing the stem. The harvested stems should be immediately placed in clean water or a suitable holding solution to reduce water loss and maintain freshness.

Postharvest Handling

Lisianthus has good postharvest potential and is valued for its relatively long vase life. Immediately after harvesting, stems should be graded according to length, stem strength, flower quality and number of open flowers and buds. Leaves that may remain submerged in water should be removed to prevent microbial growth. The stems should be placed in clean water or an appropriate floral preservative solution. Proper sanitation during harvesting, grading, packaging and transport is essential for maintaining flower quality.

Grading and Packaging

Lisianthus stems are graded based on stem length, stem thickness, flower size, flower colour, number of flowers and overall appearance. Uniform stems are generally bundled together for marketing. Careful packaging is necessary to protect the flowers from mechanical damage during transportation. The flowers should be protected from excessive heat, dehydration and physical injury. Cold-chain management may further improve the quality and shelf life of harvested stems during long-distance transportation.

Economic Potential and Profitability

Lisianthus has considerable potential as a high-value flower crop, particularly under protected cultivation. Its premium flower quality, attractive colours, rose-like appearance, multiple

flowers per stem and good vase life make it highly suitable for high-end markets. The crop can provide opportunities for farmers, nursery entrepreneurs, flower growers, florists and protected cultivation enterprises. With increasing demand for premium flowers for weddings, hotels, events and luxury floral arrangements, lisianthus offers an attractive opportunity for diversification of commercial floriculture. However, profitability depends on several factors, including the cost of planting material, protected structures, environmental management, labour, nutrient management, postharvest handling and market price. Therefore, successful commercial production requires proper planning and access to premium markets.

Conclusion

Lisianthus, or *Eustoma grandiflorum*, is one of the most promising emerging cut flowers in modern floriculture. Its rose-like flowers, attractive colours, strong stems, multiple flowers per stem and excellent vase life have made it highly desirable in the premium flower market. These characteristics have led to its growing recognition as the “Rose of the Future.” Although challenges such as temperature sensitivity, rosetting, seedling management, nutritional disorders and postharvest losses must be carefully addressed, advances in protected cultivation, breeding, fertigation and postharvest technology are creating new opportunities for commercial production. For India, lisianthus represents a promising crop for diversification of high-value floriculture. With appropriate cultivars, improved production technology, protected cultivation and efficient marketing, this elegant flower has the potential to become an important component of the future ornamental flower industry.

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