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Blooming Wonders: Exploring the World of Lilies

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INTRODUCTION

Lilium longiflorum, popularly known as the Eastern lily or Trumpet lily, is a beautiful flowering plant belonging to the family Liliaceae. The word *Lilium* comes from the Greek term "Li," which means whiteness, reflecting the pure and elegant appearance of many lily flowers. Native to the Ryukyu Islands of Japan and Taiwan, lilies have become one of the most valued commercial cut flowers across the world. They are widely appreciated for their attractive blooms, pleasant fragrance and long vase life. Today, the Netherlands is recognized as the leading producer of lilies in the global floriculture industry. Lilies also hold historical importance, as their images were found carved on ancient Assyrian monuments dating back to nearly 1000 BC and later appeared on Palestinian coins around 143 BC.

Habitat and Distribution:

Lilium longiflorum is naturally adapted to cool and temperate climatic conditions and is widely distributed across the northern hemisphere. Lilies are found growing in regions such as Japan, Taiwan, Siberia, North America, the Mediterranean region and parts of India, especially in hilly and mountainous areas. They prefer well-drained fertile soils rich in organic matter and perform best under moderate temperatures with good sunlight. In India, several native lily species are commonly seen in the Himalayan and Nilgiri hill regions where the cool climate supports healthy growth and flowering.

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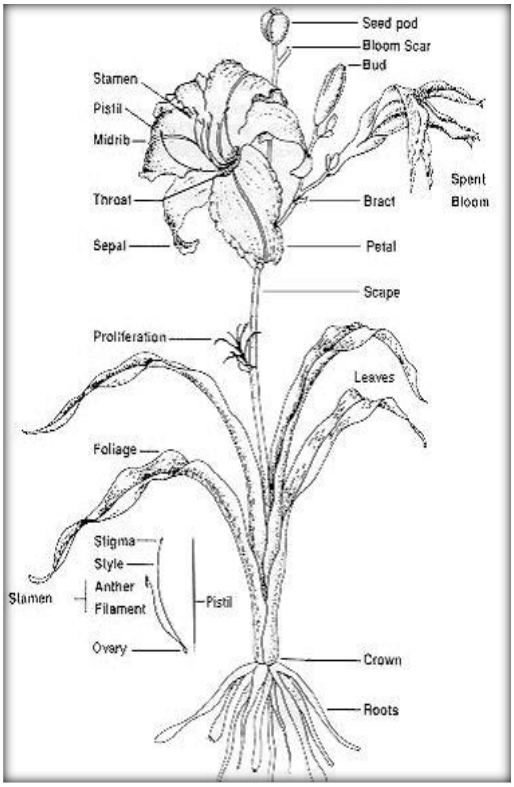
Botanical Features:

Lilies are herbaceous perennial plants that grow from underground bulbs made up of fleshy overlapping scales known as imbricate bulbs, which do not possess a protective outer tunic. The plants have erect stems with alternate leaves that are usually linear to lanceolate in shape. The flowers are large, attractive and may be funnel-shaped, bell-shaped or tubular depending on the variety. Lily flowers occur in a wide range of colours including white, yellow, orange, pink, red and purple. Each flower typically consists of six free tepals, six stamens and a three-loculed ovary. The fruit is a dry loculicidal capsule containing numerous flat winged seeds. The chromosome number of *Lilium longiflorum* is 2n = 24.



***Lilium nepalensis*:**

Lilium nepalensis, commonly known as the Nepal lily, is a native lily species found in the Himalayan region. It usually grows up to about one metre in height and is stoloniferous in nature. The species is commonly distributed at elevations ranging from 1200–3000 m above mean sea level, especially along moist forest borders and cool mountainous habitats. One unique characteristic of this lily is that the flowers remain almost unscented during daytime but become pleasantly fragrant during the night.

Lilium wallichianum:

Lilium wallichianum is native to the Himalayan region and Nepal and generally grows at elevations between 1200–2000 m above mean sea level. The plant produces elegant pale white trumpet-shaped flowers, with each stem usually bearing around four blooms. This species prefers slightly acidic soils and is often difficult to cultivate under normal garden conditions due to its specific soil and climatic requirements.

Lilium polyphyllum:

Lilium polyphyllum, popularly known as the Himalayan white lily, is an attractive native species occurring at elevations of 1800–3700 m in Himalayan regions. The flowers are usually white or light pink in colour with scattered dark pink or purple spots, giving them a striking appearance. The plants generally attain a height of about 2–4 feet and thrive well under cool climatic conditions.

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Lilium nilgiriensis:

Lilium nilgiriensis, also known as the Nilgiri long-flowered lily, originated from the Nilgiri Hills and is considered endemic to the Southern Western Ghats of India. The species bears prominently long bell-shaped white flowers measuring nearly 20 cm in length with six pointed petals. The stamens are long and free with linear-oblong anthers, while the capsule is three-valved and contains numerous compressed seeds. This rare and beautiful species is an important component of the natural flora of the Nilgiri hills.

Lilium nepalensis

Lilium wallichianum

Lilium polyphyllum

Lilium nilgiriensis

Different Lilly Groups

Asiatic Hybrids:

Asiatic hybrids originated from Asia and are popular for their easy cultivation and attractive flowers. They bloom during summer and produce flowers in shades of red, orange, yellow, pink, lavender and white. These lilies are early flowering, disease resistant and usually have little or no fragrance. Plants grow about 30–150 cm tall and have a vase life of 7–10 days. Popular varieties include Toscana and Alaska.

Oriental Hybrids:

Oriental hybrids are native to Japan and Korea and are valued for their large fragrant flowers and long vase life. These lilies grow about 60–180 cm tall and flower later than Asiatic lilies. They are comparatively difficult to cultivate but fetch good market prices due to their attractive blooms. Popular cultivars include Stargazer, Siberia and Casablanca.

Martagon Hybrids:

Martagon hybrids are derived from *Lilium martagon* and produce small nodding flowers during early summer. Flowers occur in colours such as white, yellow, orange, lavender and lilac. These plants usually grow between 90–180 cm tall and are known for their ornamental appearance.

Candidum Hybrids:

Candidum hybrids are developed from *Lilium candidum*, commonly called Madonna lily. They produce fragrant white flowers during early summer and generally grow up to 90–120 cm in height. These lilies are widely used as ornamental garden plants and cut flowers.

American Hybrids:

American hybrids are derived from native North American lily species. They are tall growing lilies, reaching about 120–240 cm in height, and produce attractive flowers during late spring and early summer. Some species are also valued for oil yielding properties.

Longiflorum Hybrids:

Longiflorum hybrids are derived from *Lilium longiflorum* or Easter lily. They produce aromatic white trumpet-shaped flowers and usually grow up to 90 cm tall. These lilies bloom during mid-summer and are highly popular as cut flowers and potted plants.

LA and LO Hybrids:

LA hybrids are crosses between Longiflorum and Asiatic lilies, while LO hybrids are developed from Longiflorum and Oriental lilies. These hybrids combine desirable traits such as large flowers, attractive colours, better vase life and good adaptability, making them suitable for commercial cultivation.

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Asiatic Hybrids


Oriental Hybrids


Martagon Hybrids


Candidum Hybrids


Longiflorum Hybrids

Hybrid Group	Important Cultivars
Asiatic Hybrids	Connecticut King, Elite, Gran Paradiso, Pollyanna, Prato, Brunello
Oriental Hybrids	Acapulco, Berlin, Casa Blanca, Kyoto, Olympic Star, Star Gazer, Marco Polo
L/A Hybrids	Royal Parade, Moneymaker, San Jose, Brindisii, Lateya, Pavia, Litouwen, Menorca

Climate and Soil Requirements:

Lilies grow well under cool climatic conditions. An ideal temperature of 15–20°C during daytime and 8–10°C at night is considered suitable for quality flower production. Sandy loam soil rich in organic matter with good drainage is best suited for lily cultivation. A soil pH of 6.0–6.5 is generally recommended.

Propagation:

Lilies are propagated through bulbs, bulb division, bulblets, stem bulbils, scales, seeds, leaf cuttings and tissue culture. Commercial cultivation mainly depends on healthy bulbs. Tissue culture is also used for rapid multiplication of disease-free planting material.

Planting:

Bulbs are planted at a depth approximately three times their diameter. Planting season varies according to region, extending from September–October in plains, October–January in mid hills and March–April in hills.

Irrigation:

Lilies require regular irrigation and moist soil conditions for proper growth. During summer, water requirement may reach 6–8 litres/m²/day, while winter requirement is about 4–5 litres/m²/day. Drip irrigation is commonly practiced to avoid lodging and maintain uniform soil moisture.

Manuring and Fertilization:

Balanced fertilization is essential for healthy growth and flowering. MAP (12:61:00) is applied before planting to promote root development, followed by calcium nitrate and potassium nitrate during crop growth. Organic manures improve soil fertility and water retention.

Harvesting and Yield:

Flowers meant for local markets are harvested when one or two florets are fully open, whereas flowers for distant markets are harvested at the coloured bud stage. The crop produces approximately 1,00,000–1,12,500 flower stems per hectare.

Post-Harvest Handling:

Flowers are graded based on stem length, bud count and stem firmness. Flowers are immediately stored in cold water at 2–3°C. Preservative solutions containing 2% sucrose and 100 ppm GA_3 are commonly used to improve vase life and maintain flower quality during storage and transport.

Diseases of Lily:

Botrytis blight causes dark brown spots on leaves, bud rot and flower deformation. Fusarium scale rot affects bulb scales, leading to rotting, poor growth and pale foliage, while foot rot attacks the stem near soil level causing wilting and plant death. Viral diseases such as LSV, LiMV and CMV produce mosaic mottling, distorted leaves and malformed flowers. Bacterial feathery tip rot causes bulb decay and papery discoloration. Management includes proper spacing, avoiding excess irrigation, removal of infected bulbs and use of healthy planting materials. Recommended fungicides are Captan @ 2 g/L, Carbendazim (Bavistin) @ 2 g/L, Mancozeb (Dithane M-45) @ 2 g/L, Chlorothalonil @ 1.5 g/L and Benomyl (Benlate) @ 0.1% for foot rot control.

Pests of Lily:

Major pests of lily include aphids, thrips, stalk borers and lily beetles. Aphids cause leaf curling and flower deformation and also spread viral diseases. Thrips produce brown sunken lesions and stunted growth, while borers and lily beetles damage stems, buds and leaves. Management involves weed control, sanitation and removal of affected plant parts. Effective insecticides include Chlorpyriphos (Dursban) @ 2 ml/L, Acephate @ 1 ml/L, Endosulfan (Thiodan) @ 0.05%, Thiodicarb 70 WP @ 400 g/acre and Sevin @ 0.2%.

Physiological Disorders in Lily:

Leaf scorch occurs due to imbalance in water uptake, calcium deficiency and sudden humidity changes, causing drying and scorching of young leaves. Bud blasting and abscission lead to premature dropping of buds due to low light, high temperature, water stress and nutrient imbalance. Management includes maintaining proper soil moisture, selecting healthy bulbs, keeping relative humidity around 75%, avoiding sudden temperature fluctuations and providing artificial light of about 450 watts/m² before flowering.

REFERENCES

Bhattacharjee, S.K. (2006). *Advances in Ornamental Horticulture*. Pointer Publishers, Jaipur.

Bose T.K., Yadav L.P., Pal P., Parthasarathy V.A. and Das, P. (2003). *Commercial Flowers*. Naya Udyog, Kolkata.

De Hertogh A.A. and Le Nard M. (1993). *The Physiology of Flower Bulbs*. Elsevier Science Publishers, Netherlands.

Hartmann H.T., Kester D.E., Davies F.T. and Geneve R.L. (2011). *Plant Propagation: Principles and Practices*. Prentice Hall, USA.

Larson R.A. (1992). *Introduction to Floriculture*. Academic Press, California