

**BALSAM IMPATIENS (IMPATIENS BALSAMINA L.) PLANT'S
DISTRIBUTION AND BIOECOLOGICAL AND MEDICINAL
PROPERTIES**

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<https://doi.org/10.5281/zenodo.15309687>

General Description. Balsam (*Impatiens balsamina* L.) is an annual herbaceous plant belonging to the Balsaminaceae family, primarily growing in warm climates. This plant is widely used as an ornamental due to its bright and attractive flowers and is also famous for its medicinal properties. The flowers of this plant come in various colors, including pink, purple, red, white, and others. Due to its versatile properties, balsam is widely used not only for decoration but also for medicinal purposes.

Botanical Description. Height: Balsam can grow up to 20-75 cm in height. Its growth height depends on the climate and growing conditions.

Stem: The plant has a straight, branched, and fleshy stem, which helps to strengthen the plant and supports its good development.

Leaves: The leaves are elongated, oval or lance-shaped, with serrated edges. They are succulent and green, enhancing the decorative quality of the plant.

Flowers: The flowers are large and brightly colored, usually pink, purple, red, white, and other shades. They grow either singly or in clusters.

Fruit: The fruit is a capsule that, when ripe, bursts open upon touch and disperses its seeds. This characteristic speeds up the plant's reproduction.

Distribution and Growth Environment. Balsam originates from Southeast Asia and is now widespread in regions like Asia, Africa, and America. It thrives in warm climates but can also be cultivated in temperate zones. The plant is not very demanding in terms of soil quality but grows best in fertile, moisture-retentive soils. It grows well in sunny locations, although it can also develop in partial shade. Regular watering and warm conditions are ideal for balsam's growth.



Propagation Methods. By Seeds: Balsam seeds are sown in the spring and germinate within 7-14 days. This method is easy and effective, allowing for rapid and efficient propagation.

By Seedlings: For propagation by seedlings, the plants are pre-grown in greenhouses. This method ensures the plants develop with good quality and rapid growth.

Medicinal Properties. Balsam has been used in folk medicine for centuries. Its medicinal properties and beneficial effects have been confirmed by numerous scientific studies. The medicinal properties of the plant include:

- Anti-inflammatory: Balsam is effective in treating skin diseases, wounds, and inflammations. Its healing and anti-inflammatory effects make it suitable for inclusion in medicinal preparations.

- Antiseptic: The plant has antibacterial properties and helps treat infections. Its antiseptic qualities, combined with its medicinal benefits, make it widely used in various medical treatments.

- Pain reliever: Balsam is used as an effective pain reliever for conditions such as arthritis, rheumatism, and other painful ailments. It also helps reduce muscle pain.

- Diuretic: The plant has diuretic properties and is used to treat kidney and urinary tract diseases. Its ability to promote urination makes it widely used in treating urinary system disorders.

Scientific Research Findings. Balsam contains more than 300 natural compounds. Among the active substances are flavonoids, naphthoquinones, coumarins, terpenoids, sterols, phenols, fatty acids, and polysaccharides. These components contribute to its antioxidant, antibacterial, anti-inflammatory, and immune-strengthening properties.

Use as Ornamental Plant. Balsam is widely used for decoration in flower beds, balconies, and gardens due to its bright flowers. The plant is often planted in garden-park designs, rock gardens, and flower beds. Not only does it provide beauty for people, but it also plays an important role in attracting pollinators and insects, which benefits ecosystems. When planted in flowerbeds or balconies, balsam contributes to both aesthetic beauty and environmental conservation.

Drawbacks and Precautions. Toxicity: Some parts of the plant, particularly its fruit, may be slightly toxic to humans and animals. Therefore, caution is needed when handling balsam.



Pests: Balsam may be susceptible to aphids and spider mites, which can weaken the plant and slow its growth.

Scientific Research and Future Prospects. Recent scientific research on balsam focuses on further exploring its medicinal properties. For example, a study conducted in 2021 examined the use of balsam flower extracts as a natural food colorant. The results showed that this extract possesses antioxidant and antimicrobial properties, opening possibilities for its use as a natural colorant and functional additive in the food industry.

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