

## Tulsi: The Sacred Herb of India - A Comprehensive Exploration

Keshav Kaiwartya<sup>1</sup>, Aastha Vithalkar<sup>1</sup> and Yashwant Kumar Patel<sup>2,\*</sup>

<sup>1</sup>Guest Faculty, Dept of FPT, UTD, Atal Bihari Vajpayee Vishwavidyalaya, Bilaspur, Chhattisgarh, India

<sup>2</sup>Asstt. Prof. and Head, Dept of FPT, UTD, Atal Bihari Vajpayee Vishwavidyalaya, Bilaspur, Chhattisgarh, India

\*Corresponding Author: [profykpattel@gmail.com](mailto:profykpattel@gmail.com)

Tulsi, originating from the Indian subcontinent, has profound cultural importance in India, where it is venerated as a holy botanical specimen. Tulsi, also known as *Ocimum sanctum* L. in Hindi or Tulasī in Sanskrit, is a highly revered aromatic plant from the Lamiaceae family. It is native to the Indian subcontinent and has been extensively used in Ayurvedic medicine for over 3000 years. In English, it is sometimes referred to as holy basil. In the Ayurveda system, Tulsi is sometimes referred to as a "Panacea" due to its therapeutic properties and its ability to cure several common health ailments. Tulsi leaf extracts from the Indian Materia Medica are shown as a remedy for bronchitis, illness, and fever. It is considered to be a ubiquitous plant in India. This plant belongs to the lamiaceae family and has a pleasant smell. The plant is a tall, upright shrub that reaches a height of 30-60cm. It has hairy stems and simple, opposite green leaves that emit a distinct aroma. The foliage, seeds, and root of this plant have been used in traditional ayurvedic treatment. This herb is renowned for its therapeutic qualities. Tulsi is available in two varieties - Black (Krishna Tulsi) and Green (Ram Tulsi). They possess comparable chemical and therapeutic characteristics. The genus *Ocimum* encompasses many species, including *Ocimum sanctum* L (Tulsi), *O. gratissimum* (Ram Tulsi), *O. canum* (Dulal Tulsi), *O. basilicum* (Ban Tulsi), *O. kilimandschicum*, *O. americanum*, *O. camphora*, and *O. micranthum*. These plants are grown in many regions around the globe and are renowned for their therapeutic qualities. Tulsi is also characterised as being wild (Vanya) and cultivated in homes (Gramya). The plant has medicinal properties that make it beneficial for treating a variety of ailments such as cold, cough, malaria, dengue, bronchitis, asthma, sore throat, influenza, heart issues, eye illnesses, oral infections, insect bites, stress, and kidney stones.

### Tulsi history and mythology in India

The Sanskrit term "Tulsi" translates to "one that is incomparable or matchless." A thousand years ago,

the ancient rishi acknowledged Tulsi as one of the most extraordinary medicinal plants. They saw that the plant has beneficial properties for promoting well-being and aiding in the process of healing, leading to its recognition as a divine entity. Tulsi is a botanical plant with a rich mythical history. Tulsi is said to be adored by Lord Krishna, who is considered a manifestation of Lord Vishnu. Subsequently, Tulsi was designated as one of the eight essential components in all Vedic worship ceremonies, with the purpose of ensuring that every temple and family had at least one Tulsi plant in close vicinity. Even today, the majority of households in India have Tulsi plants in their courtyards. Tulsi is highly revered and esteemed for its enduring significance in religion, spirituality, healing, culture, and decorative aesthetics.



Fig. 1: Tulsi Plant

### Health benefits of Tulsi in our daily life

The Tulsi herb has several therapeutic benefits. The leaves possess properties that act as a stimulant for the nervous system and enhance cognitive function, particularly memory. Their objective is to facilitate the elimination of catarrhal debris and mucus from the bronchial tube. The leaves fortify the stomach and stimulate abundant sweating. The seeds of the plant possess a mucilaginous texture. Basil leaves have

a unique effect on certain fevers. In the rainy season, when malaria and dengue fever are quite widespread, consuming boiling tender leaves with tea might serve as a preventative measure against these illnesses. If someone has sudden high body temperatures, preparing a solution by boiling the leaves with powdered cardamom in 500 millilitres of water, and then adding sugar and milk, will effectively reduce the fever. Tulsi leaf extract may be used to reduce body temperature. Administer a solution of Tulsi leaf extract in fresh water at intervals of 2-3 hours.

### Modern view

The use of herbal treatments has been prevalent since ancient times. Herbal medications are favoured over allopathic drugs since they have less side effects and are regarded the safest option compared to allopathic treatments. In order to satisfy the needs of consumers, there is an increase in the practice of adulteration within the herbal medication sector, which eventually has a negative impact on people's health. One significant limitation of allopathic medications is that they primarily focus on suppressing the symptoms of the illness, while Ayurveda medicines take a more comprehensive approach. Tulsi, also known as *Ocimum sanctum*, has many medicinal characteristics. It is used in a range of Ayurveda items found on the market for the treatment of different ailments, as well as in the formulation of cosmetics.

### Botanical overview

Tulsi, scientifically known as *Ocimum tenuiflorum* or *Ocimum sanctum*, is a member of the Lamiaceae family and is indigenous to the Indian subcontinent. This plant is a fragrant perennial with thin stems, green foliage, and little blooms that may be either purple or white. Tulsi is categorized into three main kinds depending on the morphology of its leaves: Rama Tulsi (with green leaves), Krishna Tulsi (with purple leaves), and Vana Tulsi (also known as wild or forest Tulsi). Every kind has distinct chemical compositions and medicinal qualities.

### Tulsi tea: a famous product of Tulsi

It is necessary to cleanse and grind the Tulsi leaves into a pulpy consistency. Incorporate one cup of water into the pulp and mix well. Incorporate the

appropriate quantity of powdered dried ginger, cardamom seeds, and piper longum roots into the mixture to enhance its flavour. Bring the liquid to a boiling point, and thereafter include one tablespoon of sugar by stirring. Ingest this mixture when it is still at a high temperature. Decoction should be left unstrained. After drinking the herbal infusion, chew and swallow the cooked Tulsi leaf pulp. Consume this concoction every morning. This elixir is said to possess the ability to alleviate various ailments, enhance appetite, and bestow onto an individual a sense of vitality and rejuvenation. Alternatively, a mixture of 250 g of water and 10 g of tulsi leaves is simmered until the water reduces to half or one-fourth of its original volume. Approximately 20 to 25 grams of granulated sugar is dissolved in an equal amount of milk, with the quantity adjusted as needed. This way of brewing Tulsi tea not only enhances its taste but also enhances its effectiveness in treating many disorders such as excess vata and pitta, colds, fevers, lack of appetite, lassitude, and burning in the stomach. An alternative kind of Tulsi tea is prepared by simmering 10 g or more of Tulsi leaves in 250 g of water until about half or a quarter of the water has evaporated. This tea has remarkable efficacy in addressing ailments such as fevers, aversion to physical activity, fatigue, diminished appetite, gastric discomfort, and disorders arising from an excessive accumulation of vata (vayu) and pitta.

### Applications in medicine

Tulasi has a long history of usage and has shown efficacy in the treatment of several ailments. It is used for the treatment of several ailments, such as cancer, neurological disorders, gastrointestinal disorders, metabolic diseases, diabetes, obesity, cardiovascular disorders, hypertension, hyperlipidemia, and gastrointestinal problems including indigestion, flatulence, and asthma. Tulsi has adaptogenic properties that help regulate stress responses, enhance immune system function, optimize cognitive abilities, and promote overall well-being and longevity.

### Pharmacological pursuits

Tulsi has a variety of pharmacological qualities, including as anti-inflammatory,

immunomodulatory, antibacterial, neuroprotective, cardioprotective, and anticancer effects, among others. Due to its antioxidant properties, it may effectively neutralize free radicals, hence reducing the likelihood of chronic diseases and oxidative stress. Tulsi's ability to inhibit pro-inflammatory mediators and enzymes is believed to be the cause of its anti-inflammatory qualities, which alleviate inflammation and its associated symptoms. Tulsi has antibacterial properties that effectively combat a wide range of pathogens, including bacteria, fungi, and viruses, making it valuable in the battle against diseases.

### Processing of Tulsi

To maintain the taste, scent, and therapeutic qualities of Tulsi (holy basil), certain processes must be taken while processing:

1. **Harvesting:** Tulsi leaves are best collected in the early morning hours when the concentration of their essential oils is highest.
2. **Cleaning:** To get rid of any dirt or debris, the gathered leaves are cleaned. Usually, to do this, give them a gentle wash in clean water.
3. **Drying:** The leaves are laid out in a single layer to dry after washing. You may do this naturally by letting it air dry or by using a low-temperature dehydrator. In addition to preventing bacterial or Mold development, drying helps preserve the leaves for long-term preservation.
4. **Crushing or Powdering:** After drying, the leaves may be broken into smaller pieces or powder by hand crushing them or by utilizing machines. This enhances the surface area and makes it easier to extract essential oils during processing or brewing.
5. **Packaging:** To preserve their freshness and fragrance, the powdered or processed tulsi leaves are then placed in airtight receptacles. Keep them out of direct sunlight in a cool, dry environment.
6. **Brewing:** Tulsi leaves may be steeped in water to produce tea or added to a variety of dishes. All you need to do is soak a few dried leaves or powder in hot water for a few minutes to prepare tulsi tea. Enjoy and strain.
7. **Extracts and Essential Oils:** Tulsi leaves may also be utilized in solvent extraction or distillation

processes to create extracts or essential oils. Aromatherapy, cosmetics, and medications all employ these intensified versions.

### Conclusion

Tulsi (*Ocimum tenuiflorum*) is a remarkable plant that is well respected for its significant influence on well-being, spirituality, and cultural legacy. Tulsi has intrigued mankind with its many advantages and medicinal potential, as shown by its presence in ancient Ayurvedic literature and recent scientific studies.

Tulsi has been recognized as a powerful cure for several health concerns, such as respiratory illnesses, metabolic disorders, cardiovascular diseases, neurological conditions, and cancer, due to its long history of traditional usage and extensive scientific research. The plant has a wide range of beneficial compounds, including essential oils, flavonoids, phenolic acids, alkaloids, and polysaccharides. These compounds contribute to its many pharmacological effects, such as antioxidant, anti-inflammatory, antibacterial, immunomodulatory, neuroprotective, and anticancer properties. Furthermore, Tulsi goes beyond its therapeutic usefulness to represent cleanliness, safeguarding, and spiritual illumination in several ethnic and religious customs. The plant is venerated as the holy plant of Lakshmi, the deity associated with riches and success. It is highly esteemed for its capacity to cleanse the mind, body, and spirit. The eternal knowledge contained inside the leaves of Tulsi continues to evoke wonder and respect, nurturing a profound bond between mankind and the environment. In the midst of the intricate challenges of contemporary healthcare, Tulsi serves as a symbol of optimism, emphasizing the innate curative abilities of nature and the significance of comprehensive wellness. The incorporation of this approach into conventional medicine shows potential for tackling the worldwide impact of long-term illnesses and advocating for sustainable healthcare methods. Tulsi is not only a valuable plant but also an enduring emblem of strength, balance, and enlightenment. As we honor the influence of Tulsi, let us develop a more comprehensive understanding of the interdependence of life and the profound knowledge embedded in the

patterns of nature. May Tulsi's profound impact on our lives and ability to inspire future generations persist via our ongoing respect and scientific investigation?

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