

Tulsi: An Effective Herb in Ayurveda

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Introduction

Holy basil, (*Ocimum tenuiflorum*) Flowering plant of the mint family (Lamiaceae) grown for its aromatic leaves, often known as Tulsi or Tulasi. It's also used as a culinary herb, with a strong flavor that gets stronger as it cooks. It has a peppery spice and is reminiscent of clove, Italian basil (*Ocimum basilicum*), and mint. In certain regions outside of its natural range, it is considered an agricultural weed and an invasive plant.

Physical Appearance

Holy basil is a small annual or short-lived perennial shrub that grows up to 1 meter (3.3 feet) tall. The hairy stems have simply toothed or whole leaves facing each other along the stem. Depending on the type, the fragrant leaves are green or purple. The little purple or white tubular blooms are borne in terminal spikes and have green or purple sepals. Nutlets form the fruits, which produce a large number of seeds.

Origin and Distribution

Various biogeographical isolates of Tulsi from the Indian subcontinent now have Deoxyribonucleic Acid (DNA) barcodes. A group of researchers from the Central University of Punjab, Bathinda, used chloroplast genome sequences to perform a large-scale phylogeographical investigation of this species and discovered that it is native to North-Central India. This basil has now escaped cultivation and established itself as a worldwide species.

Chemical Constituents

Oleanolic acid, ursolic acid, rosmarinic acid, eugenol, carvacrol, linalool, and caryophyllene are some of the phytochemical elements of tulsi (about 8%). Tulsi essential oil is mostly composed of eugenol (70%), -element (11.0%), -caryophyllene (8%), and germacrene (2%), with the remainder consisting of different trace chemicals, predominantly terpenes.

Uses

Tulsi has been shown to be quite helpful in defending our bodies from infections and disorders of the liver, skin, and kidneys, among other organs. It includes potent antioxidants that can help lower blood pressure and cholesterol levels, making it one of the greatest heart-healthy foods available.

They're used to cure fatigue, ulcers, vomiting, and diarrhea as well as a general tonic. The powdered dried root, mixed with milk, ghee, or a decoction, is used to cure malarial fever and as an analgesic for bug bites and stings, as well as to boost sexual stamina and prevent premature ejaculation. The plant enhances stress resistance and helps to normalize blood pressure and blood sugar abnormalities. Tulsi is expected to work as a preventative measure against the harmful effects of environmental pollutants, such as cancer. Bioavailable antioxidants, vitamins A and C, and calcium are also abundant in the plant. It has a strong insecticidal effect on mosquitoes.

Soil and Climate

The plant is resilient enough to grow in any soil, with the exception of those that are excessively saline, alkaline, or waterlogged. A sandy loam soil with plenty of organic content, on the other hand, is regarded optimal. The crop has a wide range of adaptability and may thrive in both tropical and sub-tropical regions. Plant growth and oil production have been demonstrated to benefit from long days with high temperatures.

Seeds can be used to propagate the crop. They should be sown in nursery beds to propagate through seeds. Around 300 g of seeds are needed to sow one hectare. The nursery should be situated in a partially shady area with adequate watering. Up to a depth of 30 cm, the soil is worked. A fine tilt of well-rotten farmyard manure is added to the soil, and seedbeds of (4.5 × 1.0 × 0.2) m are constructed. Because the seeds are so little, they are mixed with sand in 1:4 ratios and put in nursery beds two months before the monsoon season begins. They germinate in 8 days to 12 days and seedlings can be transplanted in approximately a week's time at the 4-5 leaf stage.

Harvesting and Yield

The first harvest occurs 90 days after planting, with successive harvests occurring every 75 days. To promote good regeneration for future harvests, the crop is picked at the full bloom stage by cutting the plants at 15 cm from ground level. Plants gathered on bright sunny days have a higher yield and oil content. Tulsi produces roughly 10,000 kg of fresh herbage per hectare per year on average. The oil content of the herb ranges from 0.1 percent to 0.23 percent, with 10 kg to 20 kg of essential oil per acre. Irrigated tulsi produces more herbage (up to 20 tonnes) and oil (up to 40 kg per hectare).