



Tulsi Cultivation in India

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Basil or sacred Tulsi is an excellent shrub and known as the “queen of herbs”. It belongs to the family of “Lamiacea”. This plant has been cultivated for centuries in India for multiple uses. The oil of Tulsi has 70 percent eugenol as compared to clove oil. Tulsi leaves has several medicinal properties which makes it more beneficial.

Cultivation of Tulsi

The cultivation of medicinal plants or say pharmacological plants for farmers is very beneficial. Farmers of many states in India have opted to cultivate medicinal plant and make good income. The biggest advantage of growing medicinal plants like tulsi is that it gives good profits in short time and low cost.

Types of Tulsi

Krishna Tulsi (*Ocimum sanctum*):- Found in almost all regions of India. The leaves of this variety are purple in color. Krishna Tulsi is rich with Vitamin A, Vitamin K and beta-carotene. It also gives valuable sources of magnesium, calcium, iron, potassium and vitamin C. This variety is used in making Tulsi oil, which is mosquito repellent, and an anti-malarial drug.

Drudriha Tulsi: - Found mainly in Bengal, Nepal, Chatgaon and Maharashtra regions. It gives relief from dryness of throat. It heals swelling of hands and feet and rheumatism.

Ram/Kali Tulsi (*Ocimum canum*):- Found in China, Brazil, Eastern Nepal as well as in Bengal, Bihar, Chatgaon and the southern states of India. The stem is purple and leaves are green in color and are highly aromatic. It has high medicinal properties i.e. they are adaptogenic, antifungal, antibacterial and enhances immune. It thrives well in warm areas.

Babi Tulsi: Found in Punjab to Trivandrum and in Bengal, Bihar also. The height of plant is 1-2 feet tall. The leaves are 1-2 inches long, oval and pointed. The taste of leaf is like cloves and used for flavouring vegetables.

Tukashmiya Tulsi: Found in Western regions of India and Persia. It is used to cure throat disorders, acidity, and leprosy.

Amrita Tulsi:- Found in all over India. It has dark purple leaves which create a dense bush. It is used in the treatment of cancer, heart disease, arthritis, diabetes and dementia.

Vana Tulsi (*Ocimum gratissimum*): Found in the Himalayas and plains of India. The height of the plant is taller than other varieties. It has health benefits like relieve stress, stimulates immune system and improve resistance to stomach ulcers. The leaves give spicy and complex fragrance, which resembles like clove.

Kapoor Tulsi (*Ocimum sanctum*): Mainly grown in USA but also cultivated in India since ancient times. It is mainly grown in temperate climates and is easier to grow. The dried leaves are used in making tea.

Land Preparation

For Tulsi plantation, it requires well-drained soil. To bring soil to fine tilth, plough and harrow land several times, then FYM is mixed well in soil. Transplantation of Tulsi is done on fine seedbed.

Sowing

- Time of sowing
- Prepare nursery beds in the third week of February.

Spacing

Depending upon its growth habit, prepare seed beds of 4.5 x 1.0 x 0.2m size. Seeds should be sown at a distance of 60 cm by 60 cm.

Sowing Depth

Seeds are sown at depth of 2cm.

Method of Sowing

Crop is transplanted in field, 6-7 week after sowing.

Seed rate

For Tulsi plantation use seed rate of 120 grams per acre.

Seed treatment

To protect crop from soil borne disease and pests, before sowing treat seeds with Mancozeb@5gm/kg of seeds.

Nursery Management and Transplanting

Before sowing add 15 tonnes of FYM in soil for good yield. Sow Tulsi seeds on prepared beds with convenient space. Seeds are sown on beds 8 weeks in advance of the monsoon. The seeds are sown at the depth of 2cm. After sowing, thin layer of FYM and soil is spread over seeds. Irrigation is done with a sprinkler hose.

15-20 days before transplanting, application of 2% urea solution helps to give healthy seedlings for transplantation. Transplanting is done in the middle of April when seedlings are 6 weeks old and having 4-5 leaves on seedlings. Water seedling beds 24hours before transplanting so that seedlings can be easily uprooted and remain turgid at transplanting time.

Fertilizer Requirement (kg/acre)

At the time of land preparation, apply FYM i.e. farmyard manure and mix well with soil. Apply fertilizer dose in the form of Nitrogen@48kg and Potash@24kg and Phosphorus@24kg/acre in form of Urea@104kg, MOP@40kg and SSP@150kg/acre. Apply half dose of nitrogen and full dose of phosphate pentoxide applied as a basal dose, apply it at the time of transplanting. Mn@50ppm conc. and Co@100ppm conc. are applied as micronutrients. Remaining dose of Nitrogen is applied in 2 split after first and second cutting.

Weed Control

Do weeding and hoeing to keep the field free from weed. If weed left uncontrolled then it will reduce the growth of crop. In the beginning weeding is done after one month after planting along with the second four weeks after the first. Just one hoeing after two months of planting is ideal.

Irrigation

In summer, apply 3 irrigation per month and in rainy season, no irrigation is required. 12-15 irrigations should be given in one year. First irrigation should be given after transplanting and then second irrigation is given during seedling establishment. These two irrigations must be given and then depending upon season rest of irrigations is done.

Plant Protection

Pest and their control:

Leaf rollers: - Caterpillars feed themselves on leaves, buds and crops. They seal the surface of leaves and make them roll or fold. To control leaf roller, spray with 300ml Quinalphos in 150 ltr water per acre.

Tulsi lace wing: - Nymphs feed on leaves and leave excreta which is are not good for leaves. In initial stages leaves get curls and then whole plant gets dried. To control lace wings, spray with Azadirachtin 10,000 ppm conc. @5ml/Ltr of water.

Disease and their control:

Powdery Mildew: - Fungus that produces powder on leaves and affects wide range of plant. To get rid of this disease, spray with mancozeb @4gm/ltr of water

Seedling blight: It is a fungal infection that causes seed or seedling to die.

To control seedling blight, do managed phyto-sanitary method.

Root rot: The roots of the plant get rot because of poor drainage system. it is also get prevent by managed Phytosanitary method.

Seedling blight and Root rot both are also prevented by drenching the nursery beds with Bavistin @1%.

Harvesting

Plants start yielding by 3 months after transplantation. Harvesting is done when there is full blooming period. For further regeneration of branches cutting should be done when plant is at least 15 cm above the ground. Leaves are used fresh or it is sun dried for future use.

Post-Harvest

After harvesting, drying of leaves is done. Then steam distillation is done to obtain Basil oil. For transportation it is packed in airtight bags. Leaves should be stored in dry places. From herb several products like Panch Tulsi oil, Tulsi Ginger, Tulsi Powder, Tulsi Tea and Tulsi Capsules are made after processing.