

## **Cultivation of *Ocimum sanctum***

### **Cultivation methods :**

Soil condition : Sacred basil thrives well on a wide range of soils. Rich loam, poor laterite, saline and alkaline to moderately acidic soils are also well suited for its cultivation. Well drained soil helps in better vegetative growth. Water logged conditions can cause root-rot and results in stunted growth.

Climate : It flourishes well under fairly high rainfall and humid conditions. Long days and high temperatures have been found favorable for plant growth and oil production. The plant is moderately tolerant to drought and frost.

Propagation : Tulsi is propagated through seeds. Seeds will get deteriorated over generations, due to its high cross-pollination. Hence, for fresh plantings, the growers have to take fresh seeds from the pedigree stock.

Harvesting : The crop is to be harvested at full bloom stage to obtain maximum essential oil yield and better quality oil. The first harvest is obtained at 90-95 days of planting. Thereafter, it may be harvested at every 65-75 days interval. Harvesting should be done usually on bright sunny days for high and good quality oil.

## **Cultivation of *Zingiber officinale* (Ginger)**

### **Cultivation**

#### **Climate and soil**

Ginger grows well in warm and humid climate. Ginger can be grown both under rain fed and irrigated conditions. For successful cultivation of the crop, a moderate rain fall at sowing time till the rhizomes sprout, fairly heavy and well distributed showers during the growing period and dry weather for about a month before harvesting are necessary. Ginger thrives best in well drained soils like sandy loam, clay loam, red loam or lateritic loam.

#### **Land preparation**

The land is to be ploughed 4 to 5 times or dug thoroughly with receipt of early summer showers to bring the soil to fine tilth. Beds of about 1 m width, 30 cm

height and of convenient length are prepared with an inter - space of 50 cm in between beds. In the case of irrigated crop, ridges are formed 40 cm apart. In areas prone to rhizome rot disease and nematode infestations, solarization of beds for 40 days using transparent polythene sheets is recommended.

### Planting

Ginger is propagated by portions of rhizomes known as seed rhizomes. Carefully preserved seed rhizomes are cut into small pieces of 2.5 - 5.0 cm length weighing 20 - 25 g each having one or two good buds. The seed rhizomes are treated with mancozeb 0.3% for 30 minutes, shade dried for 3 - 4 hours and planted at a spacing of 20 - 25 cm along the rows and 20 - 25 cm between the rows. The seed rhizome bits are placed in shallow pits prepared with a hand hoe and covered with well decomposed farm yard manure and a thin layer of soil and leveled.

### Harvesting

---

Ginger attains full maturity in 210-240 days after planting. Harvesting of ginger for vegetable purpose starts after 180 days based on the demand. However, for making dry ginger, the matured rhizomes are harvested at full maturity i.e. when the leaves turn yellow and start drying. Irrigation is stopped one month before harvest and the rhizome clumps are lifted carefully with a spade or digging fork. In large scale cultivations, tractor or power tiller drawn harvesters are also used. The dry leaves, roots and soil adhering on the rhizomes are manually separated.

## **Cultivation of *Saraca asoca***

### **Cultivation**

#### Climate

Asoka grows well in moist tropical areas with well-distributed rainfall. It also thrives well in partially shaded locations.

#### Propagation

Seeds are the most suitable propagation material. Mature seeds are collected from more than five to six-year-old plants in December–January. The seedlings are raised in a nursery in March. The seeds are sown in mother beds or polybags of 25

cm × 20 cm size. The potting mixture consists of equal quantities of soil, sand, and manure. The seeds germinate in about 15 days.

### Harvesting

Flowering in Asoka takes place in the early growth stage. The plant flowers profusely at six to eight years of age and produces fruits during July to October. The tree survives for about 50 years.

The bark can be collected without cutting down the tree. The bark is peeled off in vertical strips with 6 cm interspaces between each strip. The peeled off area is renewed with fresh bark in one to two years.

Then, the bark on the other areas can be peeled off without cutting the tree.

This non-destructive method should be preferred for harvesting. The bark is dried in the shade, packed, and stored in containers.

### **Significance or importance of cultivation of medicinal plants:**

Medicinal plants are a source of biomolecules with therapeutic potential and as a lead to develop new drugs. Herbal medicines are considered as safer, better physiological compatibility and cost-effective. India is a gold mine of medicinal plants and a rich repository of traditional medicinal knowledge. Demand for the medicinal plant is increasing with expansion in human needs, numbers and trade purpose. Plants are mostly collected from wild sources that may pose a serious situation, along with this loss of biodiversity and forest is another major concern for sustainable supply of medicinal plants in the future. With the increased realization that many species are collected from wild sources and being over-exploited, agencies (private/public) are recommending bringing the important medicinal plants into cultivation systems. Cultivation of medicinal plant can decrease the amount to which wild populations are harvested, it will also help to preserve plant species from extinction and will promote socio-economic growth.