

## SPONGE GOURD CULTIVATION

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### Introduction:

Sponge gourd is a cucurbitaceae family crop, a staple vegetable in India. Europe and North America are where it is more frequently grown. It is a subtropical to tropical plant that needs warm summers and a lengthy growing season without frost. It is an annual climber that bears fruit and has a fibrous vascular system. China, Korea, India, Japan, and Central America produce the majority of the world's commercial sponge gourds. The fruit is edible when it is young. The ripe fruit's inner, dry, fibrous portion is used as a filter in factories, for cleaning utensils, for creating shoe soles, and for bathing. The seed is also used to extract certain industrial oil. Immature fruit can be consumed as a vegetable to treat diabetes.

### Climate

A summer crop is the smooth gourd. It enjoys warm, muggy conditions. 24-27°C is the optimal temperature range.

### Soil

Loofah gourds grow well in loam and sandy loam soil that is rich in organic water.

Soil should have a pH between 6.0 and 7.0. Waterlogging inhibits the crop's ability to grow. In comparison to smooth gourd, ridge gourd may be grown in a wider range of soils. Although any type of soil can be used for sponge gourd cultivation, it should be able to retain moisture well, especially in the heat. The soil should be rich in organic materials. Sponge gourds grow best on sandy loam soil.



### Land preparation

To create a fine soil tilth and to remove weeds, the field should be ploughed two to three times. Along with soil, properly decomposed farmyard manure would boost quality and yield potential.

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### **Planting and Sowing of Seeds**

Usually, smooth gourd seeds are sown immediately. Another technique is to transplant seedlings into tiny polybags since it preserves seed, guarantees greater plant stand and growth, and enables the production of crops earlier in the season. The produce grown during the rainy season is grown in raised beds. When bed planting, seeds are sown on both sides of the bed. The bed is always between 150 and 250 cm and between 50 and 60 cm wide. There are irrigation furrows on both sides. A hill on the edge of the bed is where about 1-2 seeds are sown, with hills spaced about 100-150 cm apart. Around 4-6 seeds are also sown in pits. The pit measures 45 x 45 cm and is 60 cm deep. Pits are spaced 100 to 150 cm apart, and rows are 200 to 250 cm apart. 5-6 kg of seeds per hectare are the norm. In the southern region, seeds are sown for a rainy season crop in June and July as well as in December and January. The crop can be produced for virtually the entire year in Maharashtra and Karnataka. However, the kharif season is when it grows the finest. Seeds are typically sown between January and March and between June and July in the majority of Northern India. In West Bengal, seeds are sown between November and January, as well as between June and July, and in the hills between April and May.

### **Irrigation**

In general, crop type, soil, and weather all affect irrigation. Irrigation should be applied twice weekly during extended dry periods. But irrigation is not necessary during the wet season. In severely hot places, mulching can also be used to stop water loss and manage weeds.

### **Fertilizers and manures**

During the land preparation process, 20-25 tonnes of FYM or compost are added to the soil. The necessary amount of fertiliser is about 100 kg. N, of which one-half is administered when preparing the bed or pit and the other one-half about 30-45 days after seeding.

### **Training**

It is acceptable for the vines to sprawl across the beds. In villages, vegetation grows on the exteriors of homes and shelters. In kitchen gardens or small growing spaces, trellises support plants. It would be advantageous to mulch beds with dried grasses or straw during the rainy season to prevent fruit that comes into contact with moist soil from spoiling.

### **Intercultivation**

Early in the vine's growth, two to three weeding and light hoe intercultivation are necessary for a decent crop. Weeding should never be postponed to guarantee strong and healthy vine growth.

Every four to six days, the summer crop is watered. On the other side, excessive watering needs to be avoided. The crop grown during the rainy season requires substantially less irrigation, and in some places, irrigation may not even be necessary. Waterlogging inhibits the crop's ability to grow.

### Harvesting

Immature fruits are harvested 60 to 90 days after the seeds are sown, depending on the variety and season. The fruit is ready for sale five to seven days after anthesis. Fruits should not be fibrous when harvested. 8–12 tonnes are produced on average per hectare. F1 hybrids and enhanced cultivars produce an additional 20–25 tonnes per hectare

### Plant protection

#### Diseases

**Mildew powdery**-The appearance of white powdery spots on the upper surface of the leaves causes leaf withering.

**Control**- As soon as the summer's hot and humid weather arrives, treatment should start. The treatment for powdery mildew is M-45@2gm in 1ltr of water. It can also be managed with fungicidal sprays made of chlorothalonil, benomyl, or dinocap.

#### Insect-

**Beetles**: Damage to flowers, leaves, and stems is one of the symptoms.

**Control** -An appropriate insecticidal spray will aid in the control of pests.

**Thrips** -The sap is sucking from the leaves by thrips which causes yellowing and drooping. Thrips force the leaves to coil, giving them a cup-like shape or an upward curvature.

#### Control-Spray

Thiamethoxam@5gm/15Ltr of water on the crop to control an infestation if it is seen there.

**Aphids**-The sap is sucking from the leaves by aphids which causes yellowing and drooping. Aphids force the leaves to coil, giving them a cup-like shape or an upward curvature.

#### Contro-Spray

Thiamethoxam@5gm/15Ltr of water on the crop to control an infestation if it is seen there.

#### Varieties

Pusa Chikni, Pusa Supriya, Pusa Sneha, Kashi Rakshita, Kashi Shreya, Kashi Divya, F1 Hybrid Kashi Saumya

**Seed Production**-Keep your distance of 1000 metres from other varieties of sponge gourd. Remove sick plants from the field. Because seed harvesting is simpler in February and March, these months are perfect for cultivating seed crops. The fruits are picked for seed production when they reach physiological maturity. Seeds are separated from pulp after harvesting, packaged, and kept in storage.