

## Cultivation of Gerbera

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### Abstract

Protected cultivation of high-value cut flower is catching up in India. Among different cut flowers grown under protected cultivation, gerbera (*Gerbera jamesonii*) is important because of its flower colour, long vase-life and market demand. In tropical and subtropical climate, gerbera is grown in greenhouses to produce quality flower.

### Introduction

Gerbera is also important commercially. It is the fifth most used cut flower in the world (after rose, carnation, chrysanthemum, and tulip). It is also used as a model organism in studying flower formation. Gerbera contains naturally occurring coumarin derivatives. The Egyptians believed that they symbolised a closeness to nature and a devotion to the sun, whereas the Celts thought they lessened the sorrows and stresses of everyday life. Generally, gerberas symbolise innocence, purity, cheerfulness and loyal love.



**In Greenhouse Gerbera cultivated in Soil or Soilless media ( coco peat). Both have their own advantage & limitation.**

1. Gerbera cultivation cost increase in soilless media is around 30-30%.
2. Production is higher in soilless media compare to soil media.
3. Required very close monitoring.
4. Soilless media is suitable for a large area of more than 2 Acre.

5. In India, mostly soil media is preferred for gerbera cultivation due to electricity & irrigated water quality.

The major Gerbera producing states in India are Maharashtra, Karnataka, Gujarat, Tamilnadu, West Bengal, and Himachal Pradesh.

### **Soil Structure Required for Gerbera Cultivation**

Gerber daisies prefer average to rich soils with medium moisture conditions. The soils must offer great drainage or the plant could quickly develop stem or root rot. Consider planting your daisies in raised planting beds or containers if your lawn soil doesn't have good drainage.

### **Soil Moisture**

While your Gerber daisies are blooming, keep the surrounding soil moist but not overly wet. Allow the soil to dry out between watering sessions. Irrigate your plant in the morning so the foliage thoroughly dries before nighttime. Wet foliage increases the risk of moisture-related diseases such as anthracnose and powdery mildew. Apply an inch or two of mulch around your Gerber daisy plant to help retain soil moisture while preventing weeds from sprouting.

Two primary factors are considered while selecting soil –

1. The soil pH must be between 5.5 to 6.5.
2. The soil salinity level does not exceed 1 ms/cm; For better root growth and better penetration of roots, the soil should be highly porous and well-drained. Red lateritic soil is ideal soil for Gerbera cultivation. Therefore, as soon as you decide on the gerbera cultivation project site, you should analyze soil as early as.

### **Soil Sterilization**

Soil sterilization is required before the gerbera plantation. Fungus Phytophthora is very dangerous for the Gerbera crop.

**There are three main soil sterilization methods available,**

1. Steam: Not practical for Indian conditions.
2. Sun: in this method plastic sheet is Cover in the soil for 6-8 weeks. The sunrise will heat the soil, and this will kill the most fungus.
3. Chemical: this is the most advance & useful method. Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) with silver is used for the sterilization of soil.

## Hydrogen Peroxide (H<sub>2</sub>O<sub>2</sub>) With Silver

### Process:

1. wet the beds with irrigation water.
2. Mix water with hydrogen peroxide at a rate of 35 ml per/lite.

Apply this solution evenly on soil beds. Use one liter of mixed solution ( Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) with silver + water) For the one-meter area. After that, in 4 to 6 hours, the crop can be planted.

### Benefits of Hydrogen Peroxide With Silver:

1. economical, reduce input cost
2. Very easy and safe, this method does not affect any dangerous affect human health.
3. The plantation can be carried out after 4 to 6 hours of fumigation.
4. Eco-friendly and does not produce any phytotoxic effects on plants.
5. Almost any fungi, bacteria and viral presence in the soil destroys the eggs of larva and insects.

## 2) Bed Preparation Process For Gerbera Cultivation



Gerbera plants required well-drained soil, so they grow on raised beds; The dimensions of the bed should be as follows:

- Bed height: 1.5 feet (45 cm)
- Bed width: 2 feet (60 cm)
- Between the beds: 1 foot (30 cm)

If the soil is black cotton, for better drainage, gravel or murum (6 “layer) can be added, and the recommended quantity of soil along with biological composting (FYM) is added. FYM is Increasing soil texture and give nutrition gradually to the plant. Neem cake (@ 1 kg /

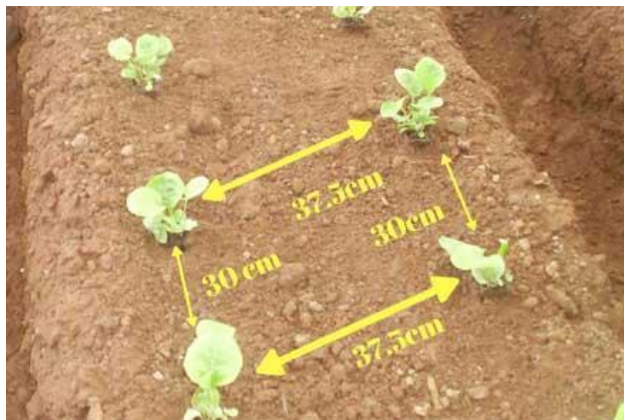
m) is add in Bed preparation because of the prevention of nematode disease. All materials must be mixed well.

### 3) Planting

- ✓ Before Gerbera Planting Selecting good gerbera variety is important also colour combinations affect gerbera profit. For marketing, purpose gerbera grower has the right colour combination in the box.
- ✓ We use this colour combination in our Greenhouse. In India there is 5- 10 gerbera plant supplier nursery available, Expert gerbera grower selects only a particular variety to form each nursery.
- ✓ Famous Gerbera variety: Dune, Pre Intenzz, Intense, Winter Queen, Inferno, Cacharelle, Jaffa, Dana Ellen, Sangria, Diana, Imperial, Thalsa, Sonsara, Balance, Paganini, Anneke, Nette, Rosaline, Rosetta, Gloria.

### Transplanting

When transplanting Gerbera plants, the plant crown should be above 1 – 2 cm soil level without disturbing the root ball.



Two rows are planted on one bed, the distance between two rows is 37.5 cm and 30 centimeters between plants in one line, i.e.

- Rows -Rows = 37.5 cm = 1.25 Ft
- Plant – Plant = 30.0 cm = 1' Ft

### 4) Fertilization

1. Fertigation starts after three weeks on a plantation. Starter grade fertilizer is gives For the first three months. Every alternate day Fertilizer dose provides to the plant.

2. After 45-50 days, the flower bud started to grow, the cut flower bud (disbudding operation) to complete growth of the plant when 16 to 18 fully developed leaves seen on plant stop flower bud cutting.
3. After this, give productive phase fertilizer. In this period, N: P: K<sub>2</sub>: 1: 4 (e.g., N: P: K 15: 8: 35) @ 0.4 g / Plants give each alternate day to increase volume and quality with EC 1.5 ms/cm.
4. For optimum results, irrigation in small quantities and often fertilized.
5. Micronutrients have been given according to the symptoms (e.g., Combi II, Microscope B, Rexolin, Sequel, and Mahabrexil @ 40 grams per 1000 liters of water).
6. Analyze soil every 2 to 3 months to decide the specially Nutritious schedule

#### **After cultivation**

1. Hand weeding is done whenever necessary.
2. Remove the flower buds up to 2 months and then allow for flowering
3. Rake the soil once in 15 days to facilitate easy absorption of water, fertilizer and to provide air to the roots.
4. Remove older leaves to facilitate new leaf growth and good sanitation.

#### **Harvesting:**

- ✓ After 30-45 days of gerbera, the plantation bud initially started, but the initial bud is of inferior quality. Hence this bud should be removed from the base of the flower stalk. This disbudding helps in making the plant strong and healthy. This operation was carried out up to 80 -85 days.
- ✓ The first flowers are harvested after 12-14 weeks ( 85- 90 days ) after planting. When the stomach 2 – 3 Varlo is fully developing, Flowers are a harvest; It will decide the flower vase's life.
- ✓ The good gerbera flower has a stalk length is 45-55cm, and the diameter of the flower is 10 – 12cm.
- ✓ Morning or evening is the best time for gerbera flower harvesting.
- ✓ Skilled laborers are required for harvesting. Harvested flowers are kept in a bucket containing clean water. Flowers are very delicate; hence they should be carefully handled
- ✓ One Garbera plant produces approximately 45 flowers per year.

### **Interculture Operation**

Gerbera crop is the perennial crop to get maximum profit from gerbera cultivation. We have performed certain a task to maintain gerbera crop healthily.

### **Plant protection**

#### **Pests**

##### **Aphids:**

Apply Imidacloprid 17.8 % SL @ 1 ml/l or Dimethoate 30 EC @ 2 ml/l

##### **Whitefly:**

Spray Imidacloprid 17.8 % SL @ 2 ml/l or Dimethoate 30 EC @ 2 ml/l

##### **Thrips:**

Spray Fipronil @ 2 ml/l or Dimethoate 30EC @ 2 ml/l

##### **Red spider mite:**

Spray Abamectin 1.9 EC @ 0.4 ml/l or Propargite @ 1 ml/l

##### **Nematode:**

Soil application of *Bacillus subtilis* (BbV 57) or *Pseudomonas fluorescens* @ 2.5 kg/ha at the time of planting for the management of root knot nematode.

##### **Diseases:**

**Flower bud rot:** Spray copper oxychloride @ 2 g/l

**Powdery mildew:** Spray wettable Sulphur @ 2g/l or Azoxystrobin @ 1g/l

### **Gerbera Flower Marketing**

- ✓ Gerbera flower demand is high in the marriage season, mostly in January, February, May, August, November & December.
- ✓ Hyderabad, Mumbai, Delhi, Ahmedabad, Kolkata, Pune, Bangalore are the major markets for the Gerbera flower.
- ✓ References

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