Centurion
UNIVERSITY
Shaping Lives...
Empowering Communities...

LECTURE -8

PRODUCTION TECHNOLOGY OF GERBERA

Centurion UNIVERSITY
Shaping Lives...
Empowering Communities...

- ✓ Commonly known as Transvaal Daisy, Barberton Daisy or African Daisy.
- ✓ It is an important commercial flower crop grown throughout the world in a wide range of climatic conditions.
- ✓ It is ideal for beds, borders, pots ad rock gardens.
- ✓ The flowers available in a wide range of colours and lend themselves beautifully to different floral arrangements.
- ✓ Used as cut flowers and the cut blooms have long vase life.

Centurion University
Shaping Lives...
Empowering Communities...

Important cultivars

- ✓ Stanza
- ✓ Jaffa
- ✓ Rosetta
- ✓ Balance
- ✓ Rosaline
- ✓ Dusty
- ✓ Flemingo
- ✓ Valentine
- ✓ Sunset
- ✓ Cocktail

Centurion UNIVERSITY
Shaping Lives...
Empowering Communities...

Propagation

✓ Gerbera is propagated by cuttings of side shoots and divisions/suckers.

Climate

✓ The optimum day and night temperature is 27^{o}C and 14^{o}C respectively

✓ Sunny or semi-shady locations are good for gerbera cultivation.

Soil

✓ The soil should be highly porous and well drained to have better root growth and better penetration of roots

✓ Gerbera are deep rooted plants and the roots go as deep as 50 to 70cm.

✓ Soil pH should be between 5.5 to 6.5

Centurion UNIVERSITY
Shaping Lives...
Empowering Communities...

Disinfection of soil

Steam

✓ Not economically feasible for Indian conditions.

Sun

✓ Cover the soil with plastic for 6-8 weeks. Sunrays will heat up the soil, which will kill most fungi.

Chemical sterilization

✓ Use of formalin @ 7.5-10 lit/100sqm.

✓ Cover the beds with plastic sheets for 7 days.

✓ Then flush the soil approximately with 100 liters of water per sqm to drain the traces.

✓ Methyl Bromide : @ 25 – 30g/sqm

✓ Basamid (Dazomet) : @ 30 – 40g/sqm

Centurion UNIVERSITY
Shaping Lives...
Empowering Communities...

Bed preparation

- ✓ Bed height : 1.5 ft (45cm)
- ✓ Bed Width : 2 ft (60 cm)
- ✓ Pathways between beds : 1 ft (30 cm)
- ✓ Gravel/sand can be added at the bottom for better drainage.
- ✓ While bed preparation, add Single Super Phosphate (0:16:0) @ 2.5 kg per 100 sq ft for better root establishment
- ✓ Magnesium Sulphate @ 0.5 kg per 100 sqft to take care of deficiency of Mg.

Centurion UNIVERSITY
Shaping Lives...
Empowering Communities...

Planting

- ✓ The crown of plants should be 1-2 cm above soil level as the root system establishes the plants are pulled down.
- ✓ Plant the seedlings without disturbing the root-ball.
- ✓ Row -Row = 37.5- 40 cm. Plant- Plant = 30.0cm.
- ✓ Rake the soil surrounding the plant every fortnight for aeration.
- ✓ After plantation, maintain the humidity at 80 - 90% for 4- 6 weeks to avoid desiccation of plants.
- ✓ Gerbera can also be cultivated in pots as bench system of planting

Centurion UNIVERSITY
Shaping Lives...
Empowering Communities...

Fertilization

✓ 25-75 t/ha of well decomposed organic manure is required.

✓ For the first three months after planting, application of 20:20:20:N:P:K @ 1.5 g/l of water every two days during the vegetative stage encourages better foliage.

Once flowering commences

✓ N:P:K 15:8:35 at the rate of 1.5 g/l water/day.

Weed management

✓ It should be carried out once in 2 weeks for first 3 months of planting.

✓ After 3 months, subsequent weeding should be done at 30 days interval.

✓ Use of oxidiazon and oxyflourfen herbicides found beneficial to control weed population

Centurion UNIVERSITY
Shaping Lives...
Empowering Communities...

Irrigation

✓ Water quality should be as follows pH: 6.5-7.0, EC: 0.5-1 ms/cm.

✓ Generally, one dripper per plant with approximately 700 ml per plant/day is required.

✓ In hot summer foggers can be utilized to maintain the humidity of the air.

Growth regulators

✓ Foliar spray of 10-100ppm GA3 induce early flowering by 10days.

✓ CCC @ 500ppm promotes flowering while @ 750ppm fewer number of heavy flowers were produced.

✓ Application of B-nine at 2500ppm after 10-14 days of transplanting produces more flower heads.

Centurion UNIVERSITY
Shaping Lives...
Empowering Communities...

Harvesting and yield

- ✓ Gerbera is a 24-30 months crop.
- ✓ Harvesting is done when the two outer rows of the disc florets are fully expanded and perpendicular to the stalk.
- ✓ The average yield is 200-240 flower stems per sqm (6-7 plants/sqm).
- ✓ Pluck the flowers in the morning or late in the evening or during the day when temperature is low.
- ✓ Pluck the flower from the plant rather than cutting them.

Centurion University
Shaping Lives...
Empowering Communities...

Pests

- ✓ Whitefly
- ✓ Leaf Miner
- ✓ Thrips
- ✓ Red mites
- ✓ Cyclamen Mites
- ✓ Catterpiller

Diseases

- ✓ Root rot
- ✓ Crown rot
- ✓ Fusarium
- ✓ Alternaria Leaf Spot
- ✓ Powdary Mildew
- ✓ Nematodes

Centurion UNIVERSITY
Shaping Lives...
Empowering Communities...

Physiological disorders

Flower Bent

- ✓ It occurs due loss of cell turgidity and calcium.
- ✓Application of adequate irrigation and Ca based fertilizers.

Premature wilting of flower

- ✓ It occurs due to cloudy weather followed by bright sun
- ✓ It also occurs due to carbohydrate depletion.

Pre-harvest stem break

- ✓ It occurs due to high root pressure and high humidity in the air.
- ✓ Keeping the soil moist during heat of the day or reducing air temperatures can minimize pre harvest stem break.

Centurion UNIVERSITY
Shaping Lives...
Empowering Communities...

Double-faced flowers

✓ It is caused due to imbalance of nutrients.

✓ Sufficient amount of nutrient application during flower initiation stage

Non uniform flower blooming

✓ It occurs due to physical injury to flower stem/ pest damage/ phytotoxicity.

✓ Avoid physical injuries and control pest damage.

Short Stem Length

✓ It occurs due to high salinity level, moisture stress, and low soil temperature.

✓ Frequent irrigations are to be given to avoid water stress