

Cultural Information for:	Gerbera 'Festival'	Annual
Common Name:	Gerbera / Transvaal Daisy	
Botanical Name:	Gerbera jamesonii	
Seed Count:	7,100/ounce	250/gram
Optimum Germination Temperature:	72-75°F / 22-24°C	
Optimum Growing Temperature:	68-70°F / 20-21°C	

Plug Culture – 7 weeks (128 / 8 x 16 tray)

Stage 1 (days 1-5) Single sow coated seed into a 128 cell tray filled with a sterile, well-drained media with good aeration. A long fiber peat, or short fiber peat with 30% perlite works well. Target a media pH of 5.5–5.8, with an EC of 0.7 mmhos (1:2 slurry). A steady temperature of 72-75°F/22-24°C yields best results. Gerbera is photosensitive during germination, so no top cover is needed. However, to maintain sufficient moisture, a thin cover of vermiculite may be needed. Alternatively, cover trays with remay (fiber-bound polyester cloth). If using a germination chamber, provide a minimum 10 foot candles/110 lux of incandescent light for 12 hours per day.

Stage 2 (days 6-14) Seedlings have emerged and cotyledons are present. Provide good air movement and an air temperature between 68-70°F/20-21°C. Lower air humidity to 70% and fertilize, around day 10, with 50-75 ppm N from a well balanced calcium nitrate based fertilizer. Gerbera is sensitive to boron and iron deficiency. Maintain media pH between 5.5-5.8 and supply 0.25 ppm of boron when fertilizing. It is important to allow the seedlings to become dry in between watering, but not to the point of wilt, as excess moisture and salts promote distortion.

Stage 3 (days 15-42) As seedlings progress, increase the fertilizer concentration to 100 ppm N and target a media EC between 0.8 and 1.0 mmhos. The young foliage is sensitive to fertilizer salts so rinse foliage lightly with clear water following fertilizer applications. The use of calcium nitrate based fertilizers combined with 20-10-20 every 2nd or 3rd watering works well to maintain proper pH and healthy foliage. Moisture stress is the best option to control plant height. Alternatively, apply B-Nine (daminozide) at 1,500-2,500 ppm/0.15-0.25% as plants fill in. During dark weather apply HID lighting at 300-500 foot candles/3,200–5,400 lux up to 14 hours. Under high light conditions (>5,000 foot candles/54,000 lux) seedlings benefit from a light shade of 30-40%.

Stage 4 (days 43-49) The plugs should have 4 true leaves and are approaching transplant stage. Transplant on time to avoid root bound plugs. Overgrown transplants take longer to finish and produce flowers on smaller plants. Reduce fertilizer levels and lower the temperature down to 62°F/17°C to tone the plants. Burying the plants too deep and covering the crown with soil leads to blindness.

Transplanting to flower – 7-11 weeks

Potting: Select a sterile well drained media with good aeration. Optimum pH is between 5.5–5.8 with an EC of 0.8 to 1.0 mmhos. Festival is a versatile series, suitable for growing in 4, 5, and 6 inch pots with one plant per pot. It also is ideal for larger containers with multiple plants.

Spacing: Initially, keep pot tight for the first four to five weeks after transplant. Then, space before leaves cover the crowns of other plants. Plant crowns require sunlight to form buds. Lack of proper spacing causes tip abortion, delayed flowering, lower bud count and longer leaves.

Temperature:

Ideally, maintain as close to a zero DIF as possible, with 68-70°F/20-21°C days and 66-68°F/18-20°C nights. At dawn, drop the temperature 5-7°F / 3-4°C for two hours. Avoid dropping the temperature below 60°F/15°C, as this delays flowering and increases production time.

Watering and Fertilization: Gerberas perform best if allowed to dry slightly between watering. Optimum NPK ratio is 1 part N, ½ part P and 2 parts K. Initially, fertilize at 100-150 ppm N using a well balanced calcium nitrate based formulation. When established, increase to 150-200 ppm N for best performance. A pH over 6.0 can induce iron and manganese deficiency, characterized by interveinal chlorosis. A lack of magnesium initially results in interveinal chlorosis (yellowing) of older leaves. Boron deficiency is characterized by deep dark green foliage, crinkled leaves and tip abortion. Maintain the media pH between 5.5 and 5.8 and apply 0.25 ppm of boron when fertilizing. Cal/Mag formulations, such as 15-5-15, work well combined with 20-10-20 as needed to maintain proper pH level. Ideal EC is 1.2–1.5 mmhos (1:2 slurry). NOTE: A pH below 5.5 can induce iron and manganese toxicity; characterized by black spots.

Lighting: Gerbera responds to high light levels more than photoperiod for flower bud initiation. If the day length is less than 12 hours, supplemental lighting, up to 14 hours, at 40 watts per square meter is recommended. A photoperiod greater than 14 hours promotes stretching. During the short days of winter, supplemental lighting will greatly increase the quality of the plant. Optimum light level is between 4,000-6,000 foot candles/43,000-65,000 lux.

Growth regulators: An application of B-Nine (daminozide) 14-21 days after transplanting at 1,500-2,500 ppm /0.15-0.25% is recommended to control plant height and open up the crown for light penetration. A second application 10-14 days later may be necessary. Festival is a standard Gerbera variety and additional PGR applications may be necessary depending on the pot or pack size used. Avoid spraying after the buds are pea-sized as this reduces stem length and flower size.

Pests and Diseases: Major pests include leaf miner, thrip, whitefly, cyclamen mite, broad mite and aphid. Major diseases include alternaria, phytophthora, pythium, sclerotinia and powdery mildew.

Crop Time: 4 and 5 inch/10 and 15 cm. pots flower in 14-18 weeks from sowing depending on time of year and light levels. 1 plant per pot.

May Flowering Schedule

	4 inch / 10 cm	5 inch / 12 cm	6 inch / 15 cm
Sow – 128 cell	Early January	Early January	Early January
B-Nine 0.25%	Early February	Early February	Early February
Transplant	Late February	Late February	Late February
B-Nine 0.25%	Mid March	Mid March	
B-Nine 0.25%	Late March		
Flower	Early May	Early May	Early May

More or less PGR may be required depending on climate and growing conditions.

Factors that favor compactness (shorter flower stems and leaf petioles)

- transplanting on time
- close to zero DIF with morning temperature drop
- nitrate-based fertilizer
- moisture stress
- high light
- photoperiod =/< 14 hours