GrowerFacts

Gerbera Midi Revolution

(*Gerbera jamesonii*)

Germination

Approximate seed count (film coated): 8,550-11,400 S./oz. (300-400 S./g)

Media
Use a well-drained peat lite mix with good aeration, with a pH of 5.5 to 6.0.

EC range:
Stages 1 to 2: 0.5 to 0.7

Stages 3 to 4: 0.7 to 1.0

Sowing
Plug tray size from 144 to 128. Sow 1 seed per plug. Dibble is important to ensure central seed placement in the cell. Cover the seeds lightly with coarse to extra-coarse vermiculite to prevent drying out. Some of the top of the plug tray should be visible after covering but seed should be covered completely. Preventative fungicide (for example, Decree/fenhexamid or Rovral/iprodion) against damping-off diseases directly after sowing is beneficial.

Stage 1 - Germination takes 4 to 7 days.

Soil temperature: 68 to 70°F (20 to 21°C)

Light: Light is optional.

Moisture: Keep soil saturated (level 5) during Stage 1 for optimal germination.

Humidity: Maintain 95% relative humidity (RH) in chamber or germ tent on bench until radicle emergence.

Plug Production

Stage 2
Soil temperature: 68 to 70°F (20 to 21°C)

Light: Maintain moderate levels, up to 2,500 f.c. (25,000 Lux).

Moisture: Start to slightly reduce soil moisture (level 4) to allow the roots to penetrate into the media.

Humidity: Following radicle emergence 85 to 90% RH is preferred. Reduce to 80 to 85% RH by end of Stage 2. Rapid reduction in humidity can result in decreased uniformity.

Fertilizer: Apply at less than 100 ppm N/less than 0.7 mmhos/cm EC from nitrate-form fertilizers with minor elements added.

Stage 3
Soil temperature: 68 to 72°F (20 to 22°C)

Light: Moderate light levels – 2,500 to 3,500 f.c. (25,000 to 35,000 Lux).

Moisture: It is critical to allow media to dry until surface becomes light brown (level 2) before watering. Keep the moisture level at wet-dry cycle (moisture level 4 to 2).

Humidity: During this stage, continue humidity reduction to build stress tolerance and support normal seedling growth.

Fertilizer: Increase fertilizer to 100 to 125 ppm N/0.7 to 1.0 mmhos/cm EC from nitrate-form fertilizers plus trace elements.

Growth Regulators: None

Stage 4
Soil temperature: 68 to 72°F (20 to 22°C)

Light: 3,500 to 5,000 f.c. (35,000 to 50,000 Lux) if optimal temperature can be maintained.

Moisture: Same as Stage 3.

Humidity: Same as Stage 3.

Fertilizer: Increase fertilizer to 125 to 150 ppm N/0.7 to 1.0 mmhos/cm EC from nitrate-form fertilizer plus trace elements.

NOTE: During plug production, fine drip or mist is best. Avoid water below 58°F (15°C). Cold water will cause foliage to cup or become hard and brittle. Research shows a slightly hungry plug promotes a faster take-off after transplanting; avoid over-rooting of plugs prior to transplant.

Growing On to Finish

Media
Use well-drained, disease-free, soilless medium with pH of 5.5 to 6.0 and a medium initial nutrient charge.

Container size

Micro Revolution: 3-in. (8-cm) and smaller pots

Mini Revolution: 3.5 to 4-in. (9 to 10-cm) pots

Midi Revolution: 3.5 to 4.5-in. (9 to 11-cm) pots

Revolution: 4.5 to 5.5-in. (11 to 13-cm) pots, quarts

Mega Revolution: 6-in. (15-cm) and larger pots

Potting
Uniformity at all stages will greatly increase uniformity of overall crop. Fill pots 100% and with a uniform soil level. Do not compress soil. Place plugs in a dibbled hole in the center of the pot. Transplant uniform graded plugs approximately 0.25 in. above the soil level in the pot. They will settle a little after watering. Crown should be at soil level after watering. Do not pot too deep as this may result in crown rot.

Temperature

Nights: 62 to 66°F (17 to 19°C) are preferred.

Days: 66 to 68°F (19 to 20°C) are preferred; temperatures above 85°C (29°C) are detrimental to quality.

65°F (18°C) nights are beneficial for the first 2 weeks after transplant. After that, nights as low as 60°F (16° C) can be tolerated. In darker periods, day and night temperatures can be reversed (negative DIF) to keep stem length somewhat shorter.

Light
Gerbera prefers high light conditions.

After potting: Range is 4,000 to 6,000 f.c. (40,000 to 60,000 Lux). Plants tolerate higher levels as they mature. Shade should be applied when levels are above 7,000 f.c. (70,000 Lux).

Irrigation
Gerbera likes a moderate to drier soil condition. Even immediately after transplanting, moderate watering will suffice. Overwatering is a common cause of lower quality and crop losses. Overhead watering is possible until the flower buds appear, but watering directly into pot or growing with ebb/flow floors is preferred. Drip tube culture also works well.

Fertilizer
See below for general guidelines in different stages.

Growth Regulators
PGRs can be used to reduce stretching. B-Nine/Alar (daminozide) can be applied at 1,000 to 2,500 ppm (1.2 to 3.0 g/l of 85% formulation or 1.6 to 4.0 g/l of 64% formulation) 1 to 2 times with an interval of 9 to 10 days. Do not apply when flower buds are the size of a pea or larger to prevent decrease of flower size and a delay in flowering.

Pinching
None

Spacing
Space plants when the leaves of the plants are touching each other, 4 to 6 weeks after transplanting, depending on pot size.

Crop Scheduling
Sow to transplant (144 to 128-cell plug tray): 6 to 7 weeks

Bulking after transplant: 4 to 6 weeks

Finishing the crop: 4 to 6 weeks

NOTE: Crop schedule is dependent on sowing date, available light and required pot/plant ratio. Total crop time is approximately 14 to 15 weeks from sowing to 50% flowering. 100% color will appear 10 to 14 days later.

Common Problems

Insect: Thrips are a major pest. Also watch for white flies, leaf miner, spider mites, shore fly, and fungal gnat larvae and adult flies.

Disease: Good air movement over the crop is critical. Powdery mildew is most common. Downy mildew is problematic in moist warm conditions. Crown rot, Botrytis, Fusarium.

Postharvest Sleeving
Special wrapping sleeves are available in most countries. Do not use plastic; paper or polypropylene is preferred.

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Fertilizer
Gerbera are moderate feeders. Fertilization frequency depends on light and temperature – less feed for lower light/shorter days, more feed for higher light/longer days.

Use clear water 1 time each week or when necessary to maintain EC below 1.5 mmhos/cm.

Avoid excessive ammonia nitrogen levels as this will cause excessive leaf growth and lower bud counts. Extreme levels will burn roots and deteriorate crop quality.

Once every 2 to 3 weeks, drench the crop with a solution containing 1 lb. MgSo4 and 1 oz. FeEDDHA per 100 gallons of water (1:100 injector).

pH range: 5.6 to 6.2

Suggested approximate ppm ratios under normal conditions:

Plug Production (6 to 7 weeks)

N - See stage recommendations above.

P - 25-75 ppm

K - 50-100 ppm

Ca - 50 ppm

MG (MgSo4)* - 25 ppm

Micro - ***

E.C. - See stage recommendations above.

At transplant**

N - 150 ppm

P - 25 ppm

K - 100 ppm

Ca - 50 ppm

MG (MgSo4)* - 25 ppm

Micro - ***

E.C. - 1.2-1.5

At bud initiation and at spacing until flowering****

N - 75 ppm

P - 25 ppm

K - 150 ppm

Ca - 75 ppm

MG (MgSo4)* - 25 ppm

Micro - ***

E.C. - 1.2-1.5

* A good source of Magnesium is MgSo4 (Epsom salt).

** From transplant common fertilizer blends are 17-5-17; 14-4-14.
*** Maintain micro-nutrient minimums throughout production cycle.
**** From spacing and bud initiation onward, use fertilizer blend 13-5-23 or similar.

NOTE: Growers should use the information presented here as a starting point. Crop times will vary depending on the climate, location, time of year and greenhouse environmental conditions. Chemical and PGR recommendations are only guidelines. It is the responsibility of the applicator to read and follow all the current label directions for the specific chemical being used in accordance with all regulations.

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