

CHARMS™, DULCE™, FANDANGO™, SUPER PARFAIT™

dianthus hybrida

Minimum Germination Rate: 85%

Seed Product Form: Pelleted, Raw

FLOWERING

Time Frame when plants are receptive to flower initiation: Days 16 – 21; 3 – 4 leaves present.

Flowering Type: Facultative Long Day Plant (minor impact) - long days enhance flowering.

Specific Flowering Mechanism: Dianthus is an Irradiance Plant. Maturity and high light levels will trigger flowering.

PLUG CULTURE

Germination – Optimum conditions for seedling development that begins the day the crop is sown until cotyledon expansion.

Cover: Seeds may be covered with a thin layer of coarse vermiculite to maintain moisture levels.

Media:

- pH: 5.5 – 5.8 *NOTE: Dianthus will show iron deficiency symptoms at a pH greater than 6.2.*
- EC: <1.0

Light: Light is not necessary for germination. If utilizing a chamber, providing a light source of 10 – 100 foot candles (100 – 1000 lux) will improve germination and reduce stretch compared to seed germinated in the dark.

Temperature: 72° – 74°F (22° – 23°C) from Day 1 – 3. Then lower temperature to 65° – 68°F (18° – 19°C).

Moisture: Level wet (4), from day 1 – 5 or until radicle emergence. Beginning day 6, reduce moisture level to moist (3) and re-saturate to (4) until day 11, or to full cotyledon expansion. Afterwards, begin alternating between moisture levels moist (3) to medium (2).

Humidity: 100% from day 1 – 3.

Dehumidify: On day 4, reduce to 40%. Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

Fertilizers: Maintain EC at <1.0. Fertigation water should not be greater than an EC of 0.5. Dianthus are sensitive to high salt levels.

Plug Bulking/Flower Initiation – Optimum conditions during the vegetative period, beginning at cotyledon expansion, needed for the root to reach the edge of the plug cell; AND to make the plant receptive to flower initiation.

Media:

- pH: 5.5 – 5.8
- EC: 1.0 – 1.5

Light: Provide 3500 – 4500 foot candles (12 – 15 total moles or 35,000 – 45,000 lux) to hasten flower induction. Supplemental lighting under low light conditions at 350 – 450 foot candles (35,000 – 45,000 lux) will enhance shoot and root growth. Extending day length past 10 hours will hasten flowering.

Temperature: 67° – 68°F (20°C) from day 7 – 18. Then 67°F (19°C) night temperature and 62°F (17°C) day temperature.

Average Daily Temperature (ADT): 67°F (19°C)

Moisture: Alternate between moisture levels wet (4) and moist (3). Allow media to approach level (3) before re-saturating to level (4). Watch for excess algae growth. Using R/O (Reverse Osmosis) water will help reduce algae levels.

Fertilizers: Under high light conditions, apply an ammonium-based feed (17-5-17) at 50 – 75 ppm Nitrogen. Under low light conditions, apply a calcium-based feed (14-4-14) at 50 – 75 ppm Nitrogen.

Growth Regulators: If needed, apply Cycocel (chlormequat chloride) at 750 – 1000 ppm, Bonzi (paclobutrazol) spray at 2 – 5 ppm, or Sumagic (uniconazole) at 3 – 5 ppm.

GROWING ON

Transplant Ready: 6 – 7 weeks from a '288' plug tray.

Finish Bulking/Flower Initiation – Optimum conditions during the vegetative period, beginning at transplant, needed for the root to reach the edge of the container; AND to make the plant receptive to flower initiation.

Media:

- pH: 5.5 – 5.8
- EC: 1.25 – 1.5

Light: Provide 3500 – 4500 foot candles (12 – 15 total moles or 35,000 – 45,000 lux) to hasten flower development. Long days may enhance growth.

Temperature: 62° – 65°F (17° – 18°C) day temperatures; 65° – 68°F (19° – 20°C) night temperatures with a 5 – 10 degree negative DIF from 5:00 – 9:00 a.m.

Average Daily Temperature (ADT): 67°F (19°C)

Moisture: Alternate between moisture levels wet (4), and medium (2). Allow media to approach level (2) before re-saturating to level (4).

Humidity: 40 – 70%

Dehumidify: Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

Fertilizers: Under high light conditions, apply an ammonium-based feed (17-5-17) at 100 – 150 ppm Nitrogen. Under low light conditions, apply a calcium-based feed (14-4-14) at 100 – 150 ppm Nitrogen.

Growth Regulators: If needed, apply either 1 -2 sprays of Bonzi (paclobutrazol) spray at 5 – 8 ppm, Sumagic (uniconazole) at 3 – 5 ppm, or B-Nine (daminozide) at 2,500 – 3,000 ppm.

Pre-Shipping Techniques to Enhance Post Harvest Quality

When to treat: 1 – 2 weeks prior to finish or shipping.

Growth Regulators: B-Nine (daminozide) at 2,500 – 3,000 ppm.

Fertilizer: Potassium nitrate drench at 100 ppm Nitrogen.

Common Diseases: Fusarium, (a common disease of Dianthus, but 'Fandango' has a high tolerance to this pathogen), Alternaria leaf spot, Botrytis, Rust To reduce disease pressure, provide good air circulation and maintain humidity levels at 40% - 50%. Keep foliage dry going into night-time hours. Apply appropriate fungicides as needed according to label rates.

Common Pests: Fungus Gnats, Shore Flies, Thrips, Aphids, Sider Mites. Scout plants on a regular basis and apply appropriate pesticides according to label rates.

SCHEDULING

'Charms, 'Dulce, 'Super Parfait' Total crop time: 15 – 18 weeks

'288' Plug crop time: 5 – 6 weeks

Transplant to finish crop time: **Packs:** 9 – 11 weeks

4" crop: 10 – 12 weeks

6" crop or 1 gallon: 9 – 12 weeks

'Fandango' Total crop time: 16 – 19 weeks

'288' Plug crop time: 6 – 7 weeks

Transplant to finish crop time: **4" crop:** 10 – 12 weeks

6" crop or 1 gallon: 9 – 12 weeks

PRODUCT USE

Containers, combinations, mass plantings. 'Fandango' can also be used as a cut flower.

GARDEN SPECIFICATIONS

Light: Full sun

USDA Hardiness Zone: 9

AHS Heat Zone: 9 – 1

'Charm' Garden Height: 8 – 10 inches (20 – 25 cm)

Garden Width: 6 – 8 inches (15 – 20 cm)

'Dulce' Garden Height: 10 – 12 inches (25 – 30 cm)

Garden Width: 10 – 12 inches (25 – 30 cm)

'Fandango' Garden Height: 16 – 18 inches (40 – 45 cm)

Garden Width: 18 – 20 inches (45 – 50 cm)

'Super Parfait' Garden Height: 6 – 8 inches (15 – 20 cm)

Garden Width: 8 – 10 inches (20 – 25 cm)