



Barbarini[®], Charms[™], Diabunda[™], Dulce[™], Elation[™], Fandango[™], Super Parfait[™]

DIANTHUS HYBRIDA

Minimum Germination Rate: Barbarini, Charms, Dulce, Elation, Fandango, Super Parfait 85%; Diabunda 90%

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

Light: Light is not necessary for germination. If utilizing a chamber, providing a light source of 10 – 100 foot candles (100 – 1,000 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. Afterward, 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. 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 – 1.5

Light: Provide 3,500 – 4,500 foot candles (12 – 15 total mols 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 daylength 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 – 1,000 ppm, Bonzi (paclobutrazol) spray at 2 – 5 ppm, or Sumagic (uniconazole) at 3 – 5 ppm.

Note: These suggestions are only guidelines and may have to be altered to meet individual grower's needs. Check all chemical labels to verify registration for use in your region.

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 3,500 – 4,500 foot candles (12 – 15 total mols 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 – 9 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 BNine (daminozide) at 2,500 – 3,000 ppm.

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 and Dulce have 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 nighttime hours. Apply appropriate fungicides as needed according to label rates.

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

PRODUCT USE

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

GARDEN SPECIFICATIONS

Light: Full sun
USDA Hardiness Zone: 5
AHS Heat Zone: 9-1

	Garden Height	Garden Width
Barbarini	8– 10" (20 – 25 cm)	10 – 12" (25 – 30 cm)
Charms	8 – 10" (20 – 25 cm)	6 – 8" (15 – 20 cm)
Diabunda	8– 10" (20 – 25 cm)	8– 10" (20 – 25 cm)
Dulce	10 – 12" (25 – 30cm)	10 – 12" (25 – 30 cm)
Elation	6 – 8" (15 – 20 cm)	8 – 10" (20 – 25 cm)
Fandango	16 – 18" (40 – 45 cm)	18 – 20" (45 – 50 cm)
Super Parfait	6 – 8" (15 – 20 cm)	8 – 10" (20 – 25 cm)

DIANTHUS SCHEDULING IN WEEKS

	Barbarini	Charms, Dulce	Diabunda	Elation	Fandango	Super Parfait
Total crop time	15-18	15 – 18	9 – 11	9 – 11	16 – 19	15 – 18
'288' plug crop time	5 – 6	5 – 6	4 – 5	5 – 6	6 – 7	5 – 6
Transplant to finish crop time						
Packs	9 – 11	9 – 11	5 – 7	4 – 5	N/A	9 – 11
4" crop	9 – 12	9 – 12	6 – 8	6 – 8	9 – 12	9 – 12
6" crop or 1 gallon	10 – 12	10 – 12	6 – 9	7 – 9	10 – 12	10 – 12