GrowerFacts

Dianthus Sweet™

(*Dianthus barbatus*)

Germination

Approximate seed count: 26,000 to 34,000 S./oz. (900 to 1,200 S./g)
Use a well-drained, disease-free plug media with a pH of 5.8 to 6.2 and an EC of 0.5 to 0.75 mmhos/cm. Cover the seed with a medium layer of coarse grade vermiculite at sowing. Moving the sowings out of the germ chamber “on time” is critical. If left in the germ chamber longer, the seedlings will stretch very quickly. No supplemental lighting is required.

Plug Production

Plug Tray Size
Best produced in a 406-cell type plug tray. The average plug production time is 4 weeks.

Media

Use a well-drained, disease-free plug media with a pH of 5.8 to 6.2 and an EC of 0.5 to 0.75 mmhos/cm.

Sowing

Cover the seed with a medium layer of coarse grade vermiculite at sowing. Moving the sowings out of the germ chamber “on time” is critical. If left in the germ chamber longer, the seedlings will stretch very quickly.

Temperature

Germination: 64 to 68°F (18 to 20°C)
Cotyledon emergence: 65 to 70°F (18 to 20°C) days; 60°F (15°C) nights.
True leaf stage to shipping/transplant: 60°F (15°C) days; 55°F (13°C) nights.

Humidity

Maintain 95 to 97% relative humidity during germination.

Light

No supplemental lighting is required.

Fertilization

Beginning at Stage 3, start fertilizing with 50 ppm N twice a week. As the true leaves develop, increase the fertilizer rate to 100 ppm. Maintain the plug media EC at 0.75 to 1.0 mmhos/cm and pH at 5.8 to 6.2.

Plant Growth Regulators

PGRs are not needed if the plugs are produced for cut flower production. If needed for bedding plant production programs, a foliar spray of Bonzi at 6 ppm applied during early Stage 3 will tone the plugs.

Growing On to Finish

for Bedding Plant Programs
Container Size

Sweet dianthus is suitable for production in gallon containers with 3 plugs per gallon.

Media

Use a well-drained, disease-free soilless medium with a medium initial nutrient charge and a pH of 5.8 to 6.5.

Temperature

Provide 65 to 70°F (18 to 21°C) day temperatures and 60°F (15°C) night temperatures for the first 2 weeks of greenhouse production to establish the plants. Finish at 60 to 70°F (15 to 21°C) days, and nights in the low 50s (11 to 12°C). Lower temperatures can be tolerated in the mature plant stage.

Fertilization

A week after transplant, begin fertilizing the crop with 150 ppm N once or twice a week. Maintain an EC of 1.5 to 2.0 mmhos/cm and a pH of 5.8 to 6.2 after transplant until finish.

Note: Dianthus require adequate calcium in their fertilization program.

Plant Growth Regulators

Since Sweet dianthus is very responsive to growth regulators, growers should experiment with concentrations and application timing. For example, an application of Bonzi spray at 20 ppm can be applied 2 to 3 times after transplanting into gallon containers. First application can be done 2 weeks after transplant, and the subsequent applications can be applied 2 weeks apart.

Crop Scheduling

406-cell: Approximately 4 weeks

Transplant to flower – Spring: Approximately 11 weeks

Transplant to flower – Late Autumn/Winter: 12 to 16 weeks

Note: Growth regulators are not recommended for cut flower production.

Cultural Tip

In outdoor production, a preventative rust program is recommended.

for Commerical Cut Flower Programs

Transplanting

Transplant directly into ground beds approximately 4 to 5 weeks after sowing, spacing 3 to 4 plants per net sq. ft. (approx. 30 to 40 plants per net sq. m).

Temperature

60 to 72°F (15 to 22°C). Sweet dianthus can tolerate night temperatures as low as 45°F (7°C).

Light

Best results are achieved when plants are grown in full sun or in a high-light greenhouse. The combination of high light with high heat will result in shorter stems.

Fertilization

After plugs are established, apply 200 ppm calcium nitrate per week.

Netting/Pinching

A single layer of support netting is recommended.

Cutflower Crop Schedule

Sweet dianthus can be transplanted year-round in coastal California or similar climates, where mid-August to February 1 transplants will develop the best stem length. Stem length for the Sweet series from transplants April to July may not be of sufficient length for commercial production depending on the environment. Greenhouse-grown plants generally produce taller stems than plants that are field-grown. Harvest stems with at least 3 open flowers.

Plants can be harvested continuously for approximately 2 to 3 weeks. If cut back, a second flush of flowers will be ready to harvest in 8 to 10 weeks.

Note: A second crop is only advisable from an Autumn harvest so the second flush develops under the cooler conditions of late Autumn and Winter and builds stronger plants.

Cultural Tip

Incorporating a preventative program for Fusarium is strongly recommended. In outdoor production, a preventative rust program is also recommended.

Commercial Cutflower Programs

- Produce high yields of saleable stems for commercial greenhouse and field cutflower producers.
- Plants reach 18 to 36 in. (45 to 90 cm), with tallest growth resulting from early Fall transplanted, greenhouse-grown plants.
- Vivid floral colors and intensely sweet fragrance make these dianthus excellent choices as bouquet filler items.

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