Antirrhinum majus
INTERMEDIATE SERIES:
Mme BUTTERFLY™

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.

Minimum Germination Rate: 80%
Seed Product Form: Raw; Montego raw, pelleted

FLOWERING

Time frame when plants are receptive to flower initiation: Days 16 – 20; 4 – 6 leaves are present.
Flowering Type: Facultative long-day plants – long days enhance flowering.
Specific Flowering Mechanism: High irradiance (15 – 20 mols) will trigger and enhance flowering.

PLUG CULTURE

Germination: Optimum conditions for seedling development that begins the day the crop is sown until cotyledon expansion. Expect radicle emergence in 3 – 4 days.
Cover: Seeds may be covered with a thin layer of coarse vermiculite to maintain moisture levels.
Media: pH: 5.5 – 5.8. EC: <0.75
Light: Light is not required 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.
Moisture: Saturated (5) for days 0 – 5 or until radicle emergence. On days 6 – 18 reduce moisture to moist (3). Beginning day 19 reduce further to medium (2).
Humidity: 100% until radicle emergence then reduce to 40 – 70%.
Dehumidify: Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.
Temperature: 72° – 75°F (22° – 24°C) until radicle emergence. Higher temperatures can decrease the speed of germination. Reduce to 65° – 68°F (16° – 18°C) until cotyledon expansion.
Fertilizers: Fertigation water should not be greater than an EC of 0.5.
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 High pH levels may promote iron deficiency in Snapdragons resulting in chlorotic young shoot growth. EC: 0.5 – <1 High EC levels may encourage shoot tip abortion.
Light: Provide 2,000 – 3,000 foot candles (20,000 – 30,000 lux). Do not exceed 3,000 foot candles (30,000 lux). To induce early flowering, use supplemental lighting at 300 – 450 foot candles (3,000 – 4,500 lux) for a 14-hour day. Days less than 12 hours will promote vegetative growth and delay flowering.
Temperature: 65° – 68°F (18° – 20°C). Gradually decrease to 62° – 65°F (17° – 18°C) as the seedlings mature.
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). Watering early in the day and providing good ventilation is important to avoid tip abortion under wet, cool and low light conditions. Shoot tip abortion can occur if tips are left wet overnight.
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: As needed, begin feeding established seedlings at 25 – 50 ppm nitrogen with a calcium-based fertilizer (13-2-13 or 14-4-14). Mature seedlings can be fed at 100 ppm nitrogen. If additional shoot growth is needed, alternate between calcium nitrate and ammonium phosphate-based fertilizers. Chlorosis of lower leaves may indicate ammonium levels are too high.
Growth Regulators: If needed, apply B-Nine (daminozide) at 2,500 – 5,000 ppm to tone plugs. Also responds to A-Rest (ancymidol), Bonzi (paclobutrazol), Sumagic (uniconazol) or B-Nine/Cycocel (chlormequat chloride) tank mix.

GROWING ON

Transplant Ready: 6 – 7 weeks from sow in a '288' 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. Low pH may allow sodium to become toxic. High pH may lead to iron deficiencies. EC: 1 – 1.5 Snapdragons are salt sensitive. Leach occasionally to reduce EC levels.
Light: Snapdragons are long-day plants. Provide high light levels. Under low light conditions supplemental lighting will aid flowering.
Temperature: 50° – 55°F (10° – 14°C) nights; 60° – 70°F (16° – 22°C) days.
Average Daily Temperature (ADT): 67°F (19°C)
Moisture: Alternate between moisture levels moist (3) and medium (2). Allow media to approach level (2) before re-saturating to level (3).
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: Feed at 150 – 200 ppm nitrogen with calcium nitrate (13-2-13 or 14-4-14). Under cool weather

conditions, avoid ammonium-based fertilizers which may encourage root rot problems.
Growth Regulators: If needed, apply 1 – 2 applications of B-Nine (daminozide) at 2,500 – 5,000 ppm. Also responds to DIF treatments, A-Rest (ancymidol), Bonzi (paclobutrazol), Sumagic (uniconazol) or B-Nine/Cycocel (chlormequat chloride) tank mix.
Common Diseases: Botrytis Blight, Downy Mildew, Powdery Mildew, Pythium, Rust, Tomato Spotted Wilt Virus, and Impatiens Necrotic Spot Virus
Common Pests: Aphids, Thrips, and Spider Mite

PRODUCT USE

Packs, pots, containers, mass plantings

GARDEN SPECIFICATIONS

Light: Full sun
USDA Hardiness Zone: 9
AHS Heat Zone: 12 – 1
Madame Butterfly 24 – 30" (60 – 75 cm) 14 – 16" (30 – 35 cm)

Snapdragon SCHEDULING in Weeks

Total crop time 16 – 18 for spring sales; 12 – 14 weeks for fall sales 9 – 12
'288' plug crop time 6 – 7 6 – 7
Transplant to finish crop time
Packs N/A 4 – 5
4" crop 10 – 12 5 – 6
6" crop 12 – 13 N/A

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