



## Aromas™, Arrow™

### ANTIRRHINUM MAJUS

**Minimum Germination Rate:** Aromas 85%, Arrow 80%

**Seed Product Form:** Raw

### FLOWERING

**Flowering Mechanism:** Irradiance (primary); plants initiate on approximately day 17 – 30 with HID light for 16 – 18 hours OR total 12 – 20 mols (3,500 – 5,500 foot candles) for 4 – 6 weeks at 67°F (19.4°C). Bud/flower initiation at approximately 4 – 6 leaves.

**Flowering Type:** Facultative long-day plants (secondary); long days enhance flowering.

### PLUG CULTURE

The timing approximations are based on optimal culture recommendations below:

**Germination 1** (approximately day 1 – 5): Humidity in the air 100% (humidification) from the time the crop is sown until radicle emergence takes place; root initial has penetrated media; some cotyledon development. Expect radicle emergence in 3 – 4 days.

**Cover:** Not necessary due to seed size.

**Media:** • pH: 5.5 – 6.2  
• EC: 0.5 – 0.75

**Light:** Light is not required for germination. If utilizing a chamber, providing a light source of 25 – 100 foot candles (250 – 1,000 lux) will improve germination and reduce stretch compared to seed germinated in the dark.

**Moisture:** Saturated (5) for days 1 – 5 or until radicle emergence.

**Humidity:** 100% until radicle emergence then reduce to 40%.

**Temperature:** 70 – 75°F (21° – 24°C) until radicle emergence. (Temperatures higher than 79° F (26°C) can decrease the speed of germination and reduce usable seedlings.) Once cotyledons are observed, reduce temperature to 65° – 68°F (16° – 18°C).

**Fertilizers:** Fertigation water should not be greater than an EC of 0.5.

**Germination 2** (approximately day 6 – 18): Change the humidity in the air (dehumidification) to 40%. The result is better root expansion; cotyledons fully expanded; roots are expanding throughout the growing substrate.

**Media:** • pH: 5.5 – 6.2  
• EC: 0.75 – 1.2

**Light:** 1,500 – 2,500 foot candles (15,000 – 25,000 lux); 4 – 8 mols of light.

**Moisture:** Dry back media to wet (4) and alternate to moist (3) within 18 hours beginning at radicle emergence (approximately day 6).

**Dehumidify:** Lower relative humidity to 40% when radicle emerges (approximately day 6). Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

**Temperature:** Once cotyledons are observed, reduce temperature to 65° – 68°F (16° – 18°C).

**Fertilizers:** 14-4-14 at 50 ppm as needed for an EC in the soil of 0.75 – 1.2.

**Plug Bulking/Flower Initiation** (approximately day 19 – 31): Length of vegetative period – time necessary for roots to reach the edge of the plug, for shoots to fill out container, and for plants to become receptive to flower initiation. Before initiation starts, the plants should be a proper size, which includes optimum shoot development, large number of auxiliary shoots and good presentation from pot size to plant size.

**Media:** • pH: 5.5 – 6.2. High pH levels may promote iron deficiency in snapdragons resulting in chlorotic young shoot growth.  
• EC: 0.75 – 1.2. High EC levels may encourage shoot tip abortion.

**Light:** Provide 2,500 – 4,000 foot candles (25,000 – 40,000 lux). Do not exceed 4,000 foot candles (40,000 lux) or 8 – 14 mols of light.

**Temperature:** 64° – 67°F (17.5° – 19.5°C); -3 to -5F (-2 to -3C) DIF or morning drop. Gradually decrease to 62° – 65°F (17° – 18°C) as the seedlings mature.

**Moisture:** Alternate between moisture levels wet (4) and medium (2). Allow media to approach level (2) before re-saturating to level (4). Watering or fertilizing late in the day may cause tip abortion.

**Fertilizers:** 14-4-14 or 17-5-17 at 50 – 75 ppm, as needed for an EC in the soil of 0.75 – 1.2.

**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 (uniclazonol) or B-Nine/Cycozel (chlormequat chloride) tank mix.

**Initiated Bulking** (approximately Day 32 – 44) – Plants are receptive to flowering.

**Light:** Provide 3,500 – 5,500 foot candles (35,000 – 55,000 lux) or 12 – 20 mols of light. To induce early flowering, use supplemental lighting at 300 – 450 foot candles (3,000 – 4,500 lux) for a 14 hour day.

**Temperature:** 64° – 67°F (17.5° – 19.5°C); -3 to -8F (-2 to -4.5C) DIF or morning drop.

### GROWING ON

The timing approximations are based on optimal culture recommendations below:

**Transplant to Finish:** (approximately day 45 – 115)

**Media:** • pH: 5.5 – 6.2 pH levels greater than 6.2 may lead to iron deficiencies.  
• EC: 1.0 – 1.5

**Light:** Provide 3,500 – 5,000 foot candles (35,000 – 50,000) or 12 – 18 mols.

**Temperature:** 64° – 67°F (17.5° – 19.5°C); -3 to -10F (-2 to -6C) DIF or morning drop.

**Moisture:** Alternate between moisture levels moist (3) and medium (2). Allow media to approach level (2) before re-saturating to level (3).

**Humidity:** 40%

**Fertilizers:** 14-4-14 or 17-5-17 at 75 – 125 ppm, as needed for an EC in the soil of 1 – 1.5. At temperatures less than 55°F (13°C), the use of ammonium-based fertilizers may cause 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 (uniclazonol) or B-Nine/Cycozel (chlormequat chloride) tank mix.

### 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 150 ppm nitrogen.

**Common Diseases:** Botrytis Blight, Downy Mildew, Powdery Mildew, Pythium, Tomato Spotted Wilt Virus, and Impatiens Necrotic Spot Virus

**Common Pests:** Aphids, Thrips, and Spider Mite

PRODUCT USE	GARDEN SPECIFICATIONS
Pots, containers, mass plantings	<b>Light:</b> Full sun <b>USDA Hardiness Zone:</b> 9 <b>AHS Heat Zone:</b> 12 – 1

	Garden Height	Garden Width
<b>Aromas, Arrow</b>	24 – 30" (60 – 76 cm)	12 – 14" (30 – 35 cm)

### SNAPDRAGON SCHEDULING IN WEEKS

	Aromas, Arrow
<b>Total crop time</b>	15 – 18 for spring sales; 13 – 16 for fall sales
<b>'288' plug crop time</b>	6 – 7
<b>Transplant to finish crop time</b>	
<b>4" crop, spring</b>	9 – 11
<b>4" crop, fall</b>	7 – 9
<b>6" crop, spring</b>	10 – 12
<b>6" crop, fall</b>	8 – 10

The shortest crop times may be achieved when following recommended optimal culture. Deviations in environmental conditions will result in longer crop times.

*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.*