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| Cultural Information for: | Antirrhinum Sonnet | Annual |
| Common Name: | Snapdragon | |
| Botanical Name: | Antirrhinum majus | |
| Seed Count: | 181,000/ounce | 6,400/gram |
| Optimum Germination Temperature: | 65°F / 18°C | |
| Optimum Growing Temperature: | 55-60°F / 13-15°C | |
| Optimum pH: | 5.8 – 6.2 | |
| EC – Plug: | 0.4 – 0.8 mmhos/cm (1:2) / 0.9 – 2.0 (SME) / 1.1 - 2.6 (Pour Thru) | |
| EC – Finishing: | 0.9 – 1.3 mmhos/cm (1:2) / 2.1 – 3.5 (SME) / 2.7 - 4.6 (Pour Thru) | |

Seedling Culture – 4 weeks (405 / 15 x 27 tray)

Stage 1 - Sowing to Radicle Emergence (days 1 – 7)

Select a well drained media with a pH between 5.5 – 5.8 and little or no starter charge. Maintain a soil temperature of 65°F/18°C. Maintain even moisture in the seedling flats without over saturating it. Either sow uncovered (chamber) or with a light coating of coarse vermiculite (greenhouse). Antirrhinum seedlings are very sensitive to soluble salts so do not over fertilize. Also, keep ammonium levels at less than 5 ppm.

Stage 2 - Stem and Cotyledon Emergence (days 8-14)

Maintain soil temperature between 60-65°F/15-18°C and sufficient moisture levels once radicle emergence occurs. Maintain even moisture but not saturated for best rooting. Provide bright light up to 1,500 foot-candles/16,000 lux. Once the cotyledons are fully expanded, begin fertilizing with 50-75 ppm N using a well-balanced Calcium and Potassium Nitrate based fertilizer. If the media contains a starter charge additional liquid fertilization may not be necessary at this stage. Watering early in the day will help to prevent disease.

Stage 3 – Development of True Leaves (days 15-28)

To produce the best root growth, keep soil temperature between 55-60°F/13-15°C and allow the soil to dry thoroughly between irrigations, (do not allow seedlings to wilt). Increase fertilizer to 100-150 ppm N from a well-balanced calcium and potassium nitrate-based fertilizer. The use of Cal/Mag Specials like 15-5-15 is ideal as antirrhinum seedlings require adequate levels of magnesium. Attempt to maintain approximately a ratio of 4: potassium 2: calcium: 1 magnesium in the medium for the best growth. Avoid ammonium-based fertilizers. If necessary, or as a preventative, apply fungicides to control pythium and or rhizoctonia.

Stage 4 – Plants Ready for Transplanting or Shipping (day 30)

Seedlings have two pairs of leaves and are now ready for transplanting into flats and pots. **Do not delay transplanting!** If absolutely necessary, plugs can be stored at 36-39°F/2-4°C under fluorescent lights at 250 foot-candles/2,700 lux for 14 hours per day. In order to prevent botrytis, treat with a fungicide.

Transplanting to Flowering

Media: Well drained general purpose with good aeration.

Flats and Pots: Sonnet is best produced green in packs or sold in color in 4 inch/10 cm. pots or gallons.

Temperature: Maintain day temperature at 60-65°F/15-18°C and nights at 55-60°F/13-15°C.

Fertilizer: Select a well-balanced calcium nitrate-based formulation. Avoid ammonium-based fertilizers which promote weak and stretchy plants.

Pinching: Not necessary

Growth Regulators: Bonzi® (paclobutrazol), Cycocel® (chlormequat) and B-Nine® (daminozide) are all effective but maintaining optimum temperatures and watering practices provides the best control.

Insects: Red spider (especially in hot and dry weather), aphids.

Diseases: Powdery or downy mildews

Scheduling: Snapdragon Sonnet requires 12 hours to initiate flower buds. For spring, summer or early autumn sales in the Northern Hemisphere please see the reference chart below.

| Container Type | Sowing Range | Total Crop Time |
|---------------------------|--------------------|---------------------|
| Cell Packs | January – mid-July | 8-9 weeks (green) |
| 4 inch / 10 cm. | January – mid-July | 11-12 weeks (color) |
| 4 inch / 10 cm. / gallons | Early October | 25-27 weeks (color) |
| 4 inch / 10 cm. / gallons | Early December | 16-18 weeks (color) |

“All information given is intended for general guidance only and may have to be adjusted to meet individual needs. Cultural details are based on North American conditions and Sakata cannot be held responsible for any crop damage related to the information given herein. Application of recommended growth regulators and chemicals are subject to local and state regulations. Always follow manufacturer's label instructions. Testing a few plants prior to treating the entire crop is best.”