

## Aquilegia Swan

(*Aquilegia hybrida*)

A PanAmerican Seed Product

### Germination

- Sow seeds into a 392-tray
- Cover seeds with vermiculite
- Germinate in 392-tray at 70° to 75°F (21° to 24°C)
- Seed germinates in 10 to 14 days
- Grow on at 65° to 68°F (18° to 20°C)
- Fertilize weekly with 100 ppm N in a complete fertilizer
- Spray a tank mix of B-Nine 2500 ppm and A-Rest 10ppm at stage 3 (about 4-5 weeks after sowing)
- Supplemental light will shorten the crop time
- Total time in the 392-tray is 6 to 8 weeks

### Plug Production

Transplant 392-plugs into a 50-tray or 804 flat. Plugs may also be transplanted directly into the final container if space is not limited.

- Grow on at 62° to 68°F (17° to 20°C)
- Vegetative build up can be done under short or long days. However, long days increase petiole length and slightly delay flowering time.
- Fertilize weekly with 200 ppm N of Nitrate nitrogen (<30% NH<sub>4</sub>) in a complete fertilizer.
- Maintain pH at 5.8 to 6.4 with EC levels of 1.0 to 2.0 (1:2 extract).
- Spray B-Nine/A-Rest tank mix at 2,500 ppm/10ppm at 4 weeks after transplant.
- Vegetative build up is essential for rapid, uniform flowering! Plants must develop 12 to 15 leaves before they are mature enough to respond to conditions for floral initiation.
- Total time for vegetative build up is 8 to 10 weeks. If a 50-tray or 804 flat was used for this step, transplant to final container prior to cool treatment.

### Cool Treatment

- Start cool treatment after 12-15 leaf stage.
- Cool treatment temperature can go as high as 55° F (13°C) during the night and 60°F (15°C) during the day. Therefore, this can easily be done in a cool greenhouse when outside temperatures are also cool.
- The length of time for the cool treatment is 4 to 6 weeks depending on the temperature. The warmer the temperature, the longer the cool treatment period will be. For example: 4 weeks at 41°F (5°C) and 6 weeks at 55°F (13°C).

### Controlled Temperature Forcing Option

(For July to November flowering when cool greenhouse temperatures cannot be maintained)

- Sow February to May into a 392-tray.
- 8 weeks after transplanting into 50-trays or about 12 leaf stage, place the 50-tray plugs in a lighted cooler (14-hr. days) for 4 weeks at 41°F (5°C) to induce flower initiation. Water as needed.
- After 4 weeks, remove the 50-tray plugs from the cooler and transplant into final container (5.5 to 6.5-in./14 to 16-cm pots).
- Plants will begin to flower 4 to 6 weeks after transplanting into final containers.
- For flowering after October 1, Supplemental lighting light can hasten flowering and increase flower number.
- Total crop time from sowing is approximately 22 to 26 weeks.
- Note: The crop time for the 50-tray is shorter when sowing at this time of year.

### Growing On to Finish

#### Container size

5.5 to 6.5-in./14 to 16-cm pots

#### Temperature

Day 60-68°F (16-20°C)  
Night 55-64°F (13-18°C)

#### Photoperiod

After the cool treatment, they are day neutral plants. But if plants do not get enough cool days, long days (about 14 hours) will help flower stem elongation.

#### Fertilizers

Fertilize weekly with 200 to 250 ppm N in a complete fertilizer

Avoid ammonium-based N

Maintain pH at 5.8 to 6.4 with EC levels of 1.0 to 2.0

#### Growth Regulators

Tank mix spray of B-Nine at 2500ppm and A-Rest 15-25ppm can be used as needed.

## Common Problems:

**Diseases:** Watch for powdery mildew. In order to prevent powdery mildew, maintain greenhouse relative humidity less than 60%, space plants properly, and rotationally spray fungicides labeled for powdery mildew.

