Songbird & Swan Aquilegia

Early & Economical, These First-Year Flowering Perennials Offer Exceptional Garden Performance!

Germination & Plug Stage
- 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

Vegetative build up (Bulking)
- 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_4) 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).

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.

Insects and disease
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.

Crop Scheduling
Sow mid-September to late October for mid-March through April flowering.

Plug stage:	6 to 8 weeks
Bulking:	8 to 10 weeks
Cool treatment:	4 to 6 weeks
Growing on to finish:	4 to 6 weeks
Total crop time:	22 to 28 weeks

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.

Recommended Varieties

Songbird Blue Bird	**Swan** Burgundy & White
Songbird Bunting	**Swan** Lavender
Songbird Dove	**Swan** Rose & White
Songbird Nightingale	**Swan** Violet & White
Songbird Robin	**Swan** Yellow

PanAmerican Seed