

TECHNICAL GUIDE

Aquilegia hybrida F₁ Spring Magic®

Flowering

Flowering Type: Early spring flowering perennial; vernalization is required. Facultative long day plant. A day length > 13 hours with high light levels will result in flower initiation.

Flowering Mechanism: Flowering is affected by day length. High light intensity and warmer temperatures shorten the total crop time.

Plug Culture

Germination: Provide optimum conditions for seedling development beginning on the day of sowing until radicle emergence. Expect radicle emergence in 7–10 days.

Cover: Lightly covering the seeds with vermiculite promotes germination.

Sowing Method: 2–3 seeds per plug.

Media: pH 5.8–6.2; EC < 0.5.

Temperature: Maintain 20–22 °C (68–72 °F) until radicle emergence. From stage 2, reduce to 16–18 °C (58–64 °F).

Moisture: Keep the substrate wet (4) for the first 10 days. After radicle emergence, alternate between moist (3) and medium (2), allowing the media to dry back before watering.

Humidity: 95–100% until radicle emergence, then reduce to 40–60%. Provide proper ventilation and horizontal airflow to improve oxygen levels in the media.

Light: Long days and high light levels are required during the plug stage. After radicle emergence, provide 1,000–2,500 ft. candles (10,000–25,000 lx), increasing to 3,000–5,000 ft. candles (30,000–50,000 lx) during the final stage of plug production.

Fertilizer: Maintain EC < 0.75. Fertilized water should not exceed an EC of 0.5. Begin fertilizing early to improve seedling quality. Start after radicle emergence at 50–100 ppm nitrogen and gradually increase to 100–175 ppm.

Plug Bulking and Flower Initiation: After 6–7 weeks plug time, transplant seedlings. *Aquilegia* requires 6–8 weeks of vernalization, which can be done in large plugs or the final pot. Ensure foliage is well established before the chilling period begins. Plants will then grow faster in spring and initiate many flowers.

Growth Regulators: If necessary, B-Nine (daminozide) sprays at 1,500–3,000 ppm are effective for toning and growth control during the plug stage. A wetting agent is required for adhesion. Pinching is not required.

Growing On

Media: pH 5.8–6.2; EC 1.5–2.0.

Light: High light levels and long days > 13 hours will produce high-quality, uniform plants and promote flower initiation. Light levels of 3,000–4,500 ft. candles (30,000–45,000 lx) are recommended. The shorter the day length, the longer the crop time.

Temperature: After transplanting, plants require 6–8 weeks of vernalization at 2–5 °C (36–41 °F). Frost must be strictly avoided; for outdoor cultivation, fleece covering is necessary. Afterwards, increase temperatures to 12–14 °C (54–57 °F) to stimulate growth and initiate flowering. Gradually raise temperatures until an average daily temperature of 16–18 °C

(61–64 °F) is reached for finishing.

Moisture: Alternate between moist (3) and medium (2). Allow the media to reach medium (2) before re-saturating. Avoid waterlogging and do not water from above.

Humidity: 40–60% humidity is ideal. Provide good ventilation and horizontal airflow to reduce humidity and dry back the media, improving root oxygenation.

Fertilizer: High fertilization levels are required. Feed weekly with 150 ppm nitrogen using a complete balanced fertilizer. Once buds occur, increase to 200 ppm nitrogen to prevent older leaves from becoming necrotic.

Growth Regulators: With proper temperature and moisture management, growth regulators are generally not required. If necessary, apply B-Nine (daminozide) early in the crop cycle as a spray at 2,500–5,000 ppm. A wetting agent is required for adhesion. Apply PGRs only before flower initiation. Pinching is not recommended or needed.

Fungicides: Apply fungicides during extended periods of low light, cool temperatures, and high humidity. A wetting agent is required, otherwise fungicides will not adhere to the leaves.

Common Diseases: Powdery mildew, Alternaria leaf spot, Pythium.

Pests: Primarily aphids, thrips, and leaf miners.

Plug & Finished Crop Time

Plug Time

288 tray: 6-7 weeks

128 tray: 7-8 weeks

Vernalization Time: 6-8 weeks

Finished Time (from 288 tray)

12-15 cm (5-6") pots (1*): 9-10 weeks

17-19 cm (7-8") pots (3*): 11-13 weeks

*plants per pot

Expert Tip

A perfect combination for Viola and Pansy production.

Aquilegia is an early spring flowering perennial that requires vernalization. Sowing takes place in summer, mainly June to July, to obtain flowering pots in the following year. A chilling period of around 6 to 8 weeks at cool temperatures during winter is required for flower initiation. The foliage must be well-established before the chilling period begins. The plants can be forced for flowering with increasing temperatures from January onwards, so that they are ready for sale in spring.

Moisture Codes

Saturated (5) Water is easily observed when finger is pressed on cell. Water moves freely from the top of the plug to the bottom.

Wet (4) Media looks black and is not glistening. The media feels wet to the touch but there is very little water movement.

Moist (3) Water is not easily visible. When finger is pressed on the cell there is very little movement from top to bottom.

Medium (2) Media is not black, but now looks medium brown. There is no water movement when pressed with finger.

Dry (1) Media has changed color to a very light brown and is dry to the touch.

All information in our technical guide is based on our own trials and would therefore be as guideline only. Detailed cultivation aspects vary depending on climate, location, time of year and environmental conditions. Benary expressly disclaims any responsibility for the content of such