

Aquilegia Kirigami™

Culture Guide



Botanical name: *Aquilegia caerulea*

Product form: Seed

Containers: Quarts, Gallons

Habit: Upright

Vernalization: Required

Garden Specifications

Garden Height: 14–24" (35–60 cm) tall

Garden Width: 12–20" (30–50 cm) wide

Exposure: Part sun–Full sun

USDA zone: 4–9

AHS zone: 8–1

Product use: Containers, Landscapes

Germination

Stages 1 & 2

Germination time: 6–8 days

Media temp: 70–72 °F (21–22 °C)

Chamber: Optional

Light: Required for germination

Seed cover: No

Moisture level: 4 - WET: Soil is dark brown but not shiny, no free water is seen at the surface of the soil, when pressed or squeezed water drips easily, and trays are heavy with a visible bend in the middle.

Rec. tray size: 288–cell tray

Seeds per cell: 1 (3–4 seeds per cell for more flower stems)

Young Plant Production

Stage 3 & 4

Temperature

Day: 66–68 °F (19–20 °C)

Night: 64–66 °F (18–19 °C)

Average daily temperature: 66 °F (19 °C)

Lighting

Day extension lighting: Necessary to 14 hours

Light intensity: 200–250 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ for the first two weeks after sowing or until true leaf development occurs. Light levels can be increased up to 600 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ as rooting increases and the seedling matures.

Day length response: Facultative long day

Daily light integral: 10–12 $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$

Media pH: 5.5–5.9

Media EC: SME 0.5 to 0.75 mS/cm



Kirigami™ Mix

Fertilizer: 125–175 ppm N

Moisture level: Media should be allowed to dry between irrigations. Alternate between moisture level 2 and 3.

2 - MEDIUM: Soil is light brown in color, no water can be extracted from soil, and soil will crumble apart.

3 - MOIST: Soil is brown in color, strongly squeezing the soil will extract a few drops of water, and trays are light with no visible bend.

Pinching: No

Plant growth regulators (PGRs): If needed, spray B-Nine® WSG (daminozide) at 1,500–3,000 ppm.

Plug grow time: 9–10 weeks in a 288–cell tray

Comments: Light is required for germination, so make sure seed is not covered after sowing.

Bulking and Vernalization

Vernalization: Required

Bulking

Bulking Time: See Scheduling Section

Temperature: 52–54 °F (11–12 °C)

Pinch: No

PGR: Not necessary

Vernalization

Vernalization Time: 4–5 weeks

Temperature: 50 °F (10 °C) to 55 °F (13 °C)

Tech tip: Cold treatment can be delivered during the young plant stage or during finish production. If vernalizing the young plant, increase cell size to 72 or larger. Plants are receptive to vernalization treatment once plants have established root system and are 6–8 weeks old.



Finishing

Temperature

Day: 62–64 °F (17–18 °C)

Night: 52–54 °F (11–12 °C)

Average daily temperature: 62 °F (17 °C)

Lighting

Day extension lighting: Beneficial to 14 hours

Light intensity: 800–1,200 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$

Day length response: Facultative long day

Daily light integral: 12–14 $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$

Transplanting: Transplant directly into the finished container. Place the rooting media slightly above the level of media in the container. Make sure that the root ball is covered and that the plug is situated in the center of the pot.

Media pH: 5.5–5.9

Media EC: SME EC: 1.5–2.1 mS/cm, PourThru EC: 2.3–3.2 mS/cm

Fertilizer: 125–175 ppm N

Pinching: No. Pinching is not recommended or needed.

Plant growth regulators (PGRs): If needed, B-Nine® WSG (daminozide) spray at 2,500–5,000 ppm, or Bonzi® (paclobutrazol) drench at 10–15 ppm are effective. PGR applications are more effective if applied early in the crop cycle.

Tech tip: PGR applications should be applied before the flower initiation to ensure that the flowers grow above the foliage.



Try Chrysal Alesco®, a postharvest foliar spray, to protect ethylene sensitive crops during shipping and retail.

Moisture level: Media should be allowed to dry between irrigations. Alternate between moisture level 2 and 3.

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3 - MOIST: Soil is brown in color, strongly squeezing the soil will extract a few drops of water, and trays are light with no visible bend.

Common pests: Aphids, Thrips, Foliar Nematode, Leafminers

Common diseases: Powdery mildew, Alternaria leaf spot, Pythium, Rhizoctonia, Thielaviopsis, Cucumber mosaic virus (CMV infections attracts aphids), Impatiens necrotic spot virus (INSV can be vectored by thrips)

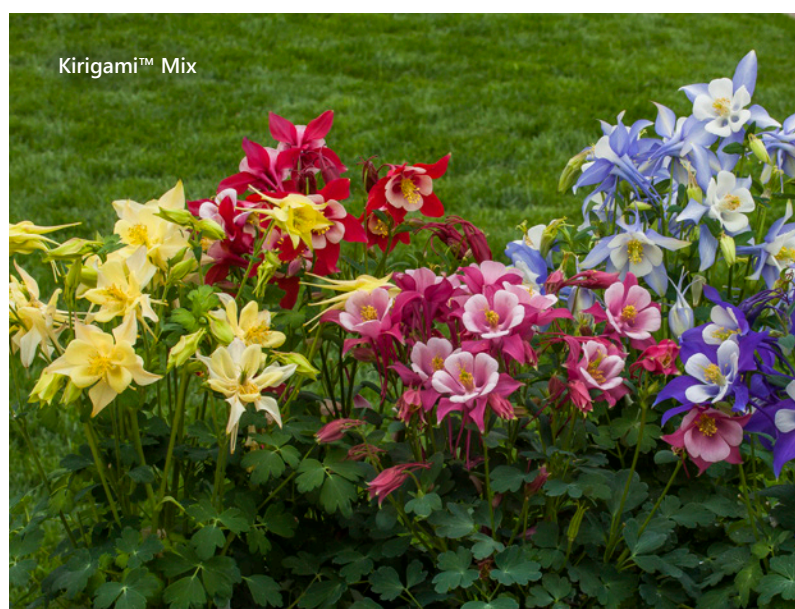
Scheduling

Size	Crop Time			Plants Per Pot
	Bulk	Vern.	Finish	
1.0 quart (4.5 to 5 inch)	4 weeks	4–5 weeks	8–10 weeks	1 ppp
1.25 to 2.5 quart (5.5 to 6.5 inch, trade gallon)	4 weeks	4–5 weeks	8–10 weeks	2–3 ppp
3.0 quart to 2.0 gallon (7.5 to 10 inch)	4 weeks	4–5 weeks	8–10 weeks	4–5 ppp

Estimated finish crop time is from transplant of a 288-cell tray and finished at an average daily temperature (ADT) of 62 °F (17 °C).

Example crop schedule for a 1.0 quart

Weeks From Transplant	Description
1 week	Transplant one plug into the finished container
4 weeks	Vernalize and bulk at 50–55 °F (10–13 °C) for approximately four weeks
8 weeks	Increase temperatures to 60–65 °F (16–18 °C) ADT to force flowering
13 weeks	Apply B-Nine® WSG or Bonzi® as needed
16 weeks	Finish



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