Origami™

AQUILEGIA CAERULEA

Minimum Germination Rate: 85%

Seed Product Form: Raw

FLOWERING

Time frame when plants are receptive to flower initiation: 4 – 6 leaves present.

Flowering Type: Facultative long-day plant – long days enhance flowering.

Specific Flowering Mechanism: A vernalization treatment is needed to initiate flowering. Origami can be vernalized once the plugs have established root systems and are at least 6 – 8 weeks old. Light intensity enhances flowering.

PLUG CULTURE

Germination: Optimum conditions for seedling development that begins the day the crop is sown until cotyledon expansion. Expect radicle emergence in 6 – 8 days.

Seed Handling: No special treatments are needed prior to sowing. Chilling the seed prior to sowing is not advisable. It may be desirable to double sow larger plug trays.

Cover: No cover is necessary. However, seeds may be covered with a thin layer of coarse vermiculite to maintain moisture levels.

Media: • pH: 5.5 – 5.8
• EC: 0.5

Light: Light is necessary for germination. If utilizing a chamber, providing a light source of 10 – 100 foot candles (100 – 1,000 lux) will improve germination and reduce stretch.

Temperature: 70° – 72°F (21° – 22°C)

Moisture: Wet (4) until radicle emergence. Then reduce moisture level to medium (2).

Humidity: 100% until radicle emergence then reduce to 70%.

Dehumidify: Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

Plug Bulking: Optimum conditions during the vegetative period, beginning at cotyledon expansion, needed for the root to reach the edge of the plug cell.

Media: • pH: 5.5 – 5.8
• EC: 0.5 – 0.75

Temperature: 65° – 68°F (18° – 20°C)

Moisture: Alternate between moisture levels moist (3) and medium (2). Allow media to approach level (2) before re-saturating to level (3).

Humidity: 65 – 70%. Provide horizontal airflow to aid in drying down the media through evapotranspiration under cool, low light conditions.

Fertilizers: 50 – 100 ppm nitrogen weekly or as needed with a calcium-based fertilizer (13-2-13 or 14-4-14).

Plug Flower Initiation: Optimum conditions to make plant receptive to flower initiation.

Light: Provide 3,500 – 4,500 foot candles (12 – 15 total mols or 35,000 – 45,000 lux) to hasten flower induction. Supplemental lighting under low light conditions at 350 – 450 foot candles (35,000 – 45,000 lux) will enhance shoot and root growth.

Temperature: Maintain night temperatures within 40° – 50°F (5° – 10°C) for 14 – 21 days. Bred in Gilroy, CA, Origami is more tolerant of higher vernalization temperatures than other Aquilegia. This is an advantage for Southern growers.

Average Daily Temperature (ADT): After vernalization ADT is 65° – 67°F (18° – 19°C).

Fertilizers: 100 ppm nitrogen as needed of a calcium-based fertilizer 13-2-13 or 14-4-14).

Growth Regulators: If necessary, Origami will respond to B-Nine (daminozide) at 2,500 ppm. PGRs are more effective in the early stages of production.

Fungicides: Apply preventative fungicides for Botrytis prior to vernalization.

GROWING ON

Origami's unique habit easily adapts to a variety of container sizes. Suitable for packs and larger containers, Origami naturally adjusts to finish habit to fit proportionally into whatever container you choose – without the use of growth regulators.

Transplant Ready: 9 – 10 weeks from sow in a '288' tray.

Finish Bulking: Optimum conditions during the vegetative period, beginning at transplant, needed for the root to reach the edge of the container.

Media: • pH: 5.5 – 5.8
• EC: 1 – 1.2

Light: Provide 3,500 – 4,500 foot candles (12 – 15 total mols or 35,000 – 45,000 lux) to hasten flower induction. Supplemental lighting under low light conditions at 350 – 450 foot candles (35,000 – 45,000 lux) will enhance shoot and root growth.

Temperature: After crop has been vernalized, night temperatures may be increased to 60° – 65°F (16° – 18°C). Cooler temperatures are tolerated but will increase the final crop time. Keep day temperatures cool. High night temperatures will negate the vernalizing process and reduce uniformity to flower.

Average Daily Temperature (ADT): After vernalization ADT is 65° – 67°F (18° – 19°C).

Moisture: Alternate between moisture levels wet (4) and medium (2). Allow media to approach level (2) before re-saturating to level (4).

Dehumidify: Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

Fertilizers: Aquilegia is a moderate feeder. Alternate between potassium and calcium-based fertilizers at 150 – 200 ppm nitrogen as needed. Under cool weather conditions, avoid ammonium-based fertilizers that may encourage root rot problems and excessive vegetative growth or stretching. Excessive phosphorus will promote stretching.

Growth Regulators: If necessary, Origami will respond to B-Nine (daminozide) at 2,500 ppm. PGRs are more effective in the early stages of production.

Finish Flower Initiation: Optimum conditions to make plant receptive to flower initiation.

Temperature: Locate plants in a cool area where they will not freeze for 14 – 21 days. The upper temperature threshold for proper vernalization is 40° – 50°F (5° – 10°C). Plants will grow slower at lower temperatures. If plants turn purple, temperatures are too low.

Average Daily Temperature (ADT): After vernalization ADT is 65° – 67°F (18° – 19°C).

TECHNIQUES TO ENHANCE POST HARVEST QUALITY

When to Treat: 1 – 2 weeks prior to finish or shipping.

Fertilizer: Calcium nitrate at 150 ppm nitrogen. A calcium chloride spray at 150 ppm nitrogen applied one week prior to shipping may discourage flower drop in shipment.

Common Diseases: Powdery Mildew

Common Pests: Spider Mites, Aphids

PRODUCT USE	GARDEN SPECIFICATIONS
Packs, pots, containers, mass plantings. Traditionally a spring blooming perennial, Origami has been bred for an extended bloom window that will increase its value in the landscape.	***Light:*** Filtered shade to full sun ***USDA Hardiness Zone:*** 4 ***AHS Heat Zone:*** 8 – 1

	Garden Height	Garden Width
Origami	14 – 16" (35 – 40 cm)	10 – 14" (25 – 35 cm)

AQUILEGIA SCHEDULING IN WEEKS

	Origami
Total crop time	20 – 24
'288' plug crop time	9 – 10
Transplant to finish crop time	
Vernalization in finish container	2 – 3. A well established root system is required before plants are vernalized.
4" crop	9 – 11

Note: These suggestions are only guidelines and may have to be altered to meet individual grower's needs. Check all chemical labels to verify registration for use in your region.