

# Sriracha™ Cuphea

## Culture Guide

### F1 CUPHEA LLAVEA

Minimum Germination Rate: 90%

Seed Product Form: Raw

### FLOWERING

**Photoperiod Response:** Facultative short-day plant; short days enhance flowering.

**Flowering Mechanism:** High light and short days shorten time to flower.

### PLUG CULTURE

The timing approximations are based on optimal culture recommendations below:

#### GERMINATION STAGE 1 (Approximately day 1 – 5)

**Tray size:** 105 to 288 cell size plug tray. One seed per cell.

**Cover:** Seed cover is optional. Seeds can be covered lightly with coarse-grade vermiculite to maintain moisture levels and humidity around the seed.

**Light:** Light is not required for germination.

**Temperature:** Day and night: 70 – 75°F (21 – 24°C).

**Moisture:** Saturated (level 5) for days 1 – 5 or until radicle emergence.

**Relative humidity:** 95 – 100% from the time seed is sown until radicle emergence takes place, root has penetrated media and there is some cotyledon development. Expect radicle emergence in 3 – 5 days.

**Media:** pH 5.8 – 6.2. EC 0.7 – 1.0 mS/cm (saturated media extract)

**Plant Growth Regulators (PGRs): CRITICAL! To control hypocotyl stretch, spray or sprench media surface with 1 ppm paclobutrazol at a volume of 3 – 6 qts./100 sq. ft. within 48 hours of sowing seed.** Perform a small trial

to determine appropriate rates and volumes for your growing conditions. The hypocotyl length on treated seedlings should not be greater than 1 in. (2.5 cm).

#### GERMINATION STAGE 2 (Approximately day 6 – 13)

**Light:** 1,500 – 2,500 foot candles (16,000 – 27,000 lux; 300 – 500 micro mols/m<sup>2</sup>). DLI (Daily Light Integral): 4 – 8 mols/day.

**Temperature:** 70 – 75°F (21 – 24°C).

**Moisture:** After radical emergence, alternate media between wet (level 4) and moist (level 3).

**Relative Humidity:** Lower relative humidity to 40%. Provide horizontal airflow to aid in the drying of media through evapotranspiration.

**Media:** pH 5.8 – 6.2. EC 0.5 – 0.7 mS/cm (saturated media extract)

**Fertilizers:** 14-4-14 or 17-5-17 at 50 – 100 ppm Nitrogen as needed.

#### PLUG BULKING (Approximately day 14 – 28)

**The time necessary for the shoots to proportionally fill the plug and for the roots to develop throughout the media. Plug time will vary based on growing environment and culture.**

**Light:** 3,000 – 4,500 foot candles (32,300 – 48,400 lux; 600 – 900 micro mols/m<sup>2</sup>). DLI: 10 – 16 mols/day. Provide supplemental lighting if the DLI is less than 8 mols/day.

**Temperature:** 70 – 75°F (21 – 24°C).

**Relative humidity:** 40 – 50%

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

**Media:** pH 5.8 – 6.2. EC 1.0 – 1.3 mS/cm (saturated media extract)

**Fertilizer:** 100 – 150 ppm Nitrogen. Use Cal-Mag™ (calcium nitrate + magnesium nitrate) fertilizers.

**Plant Growth Regulators (PGRs):** Apply at time of sowing as described under Germination Stage 1. No other PGRs are required during plug production.

## GROWING ON

The timing approximations are based on optimal culture recommendations below:

### TRANSPLANT TO FINISH (Approximately day 29 – 91)

**Container size:** Quarts, 6 inch (15 cm), gallons or larger

**Plugs per Container:** See table.

**Light:** 3,500 – 5,500 foot candles (37,700 – 59,200 lux; 700 – 1,100 micro mols/m<sup>2</sup>). DLI: 12 – 20 mols/day. Provide supplemental lighting if DLI is less than 10 mols/day. Facultative short-day plant; short-days are not required, but flowering is 1 – 1.5 weeks faster with day lengths less than 12 hours.

**Temperature:** Day: 70 – 85°F (21 – 29°C); Night: 62 – 70°F (18 – 21°C). For shorter finishing times, maintain a minimum average daily temperature (ADT) of 68°F (20°C). Sriracha can be grown as low as 55 – 60°F (13 – 16°C), but crop time is significantly longer. Crop can be held at 50 – 55°F (10-13°C).

**Moisture:** Use porous media with good drainage. Alternate moisture levels 4/2. Water-stress is not recommended as a growth control technique.

**Relative humidity:** 40 – 50%. High relative humidity in combination with over-watering and light conditions can cause intumescence (edema) on leaves of some varieties.

**Media:** pH 5.8 – 6.2. EC 1.8 – 2.2 mS/cm (saturated media extract)

**Fertilizer:** Cuphea is a moderate feeder. Alternate between Cal-Mag (e.g., 15-5-15, 14-4-14, etc.) and ammonium-containing (e.g., 20-10-20, 15-15-15, etc.) fertilizers at 150-200 ppm Nitrogen.

**Pinching:** Not recommended. Sriracha Cuphea has excellent branching without the need to pinch.

**Plant Growth Regulators (PGRs):** For growth control, use Bonzi® (paclobutrazol) sprays at 20 – 40 ppm or Bonzi drenches at 0.5 – 1 ppm. One to two applications are generally needed. Late Bonzi applications can delay flowering. Plants are more compact when grown under short days compared to long days. PGRs may not be required if grown cool at 50 – 62°F (10 – 17°C).

## DISEASES, PESTS AND CONTROLS

**Common Diseases:** Fusarium, Pythium, Thielaviopsis Root Rot

**Common Pests:** Aphids, Thrips, Whiteflies

**Recommended Fungicides:** Daconil®, Heritage®, Medallion® WDG, Palladium®, Subdue Maxx®

**Recommended Insecticides:** Avid®, Endeavor®, Flagship®, Scimitar® GC

## Recommended Bioline™ Biological Control Agents:

Target Pest	Biological Control Agent
Aphids	Aphiline™ c, Aphiline e, Aphiline ce, Aphidoline™ a
Thrips	Amblyline™ cu, Swirskiline™ as, Exhibitline™ sf, Hypoline™ m, Oriline™ i, Thripline™ ams
Whiteflies	Encarline™ f, Eretline™ e, Swirskiline™ as

## SCHEDULING

**Plug time:** 288-cell trays: 3.5 – 4 weeks; 128-cell trays: 5 – 6 weeks when grown at an average daily temperature (ADT) of 70°F (21°C) and a DLI of 10 – 15 mols/day.

**Finish time from transplant:** Timing will vary depending on plug size and growing environment. At an ADT of 68°F (20°C) and under long days with a DLI of 12 – 15 mols/day: 8 – 9 weeks from transplant of 288 cell plugs (4 weeks old). See table.

**Total crop time:** Under long days and a DLI of 12 – 15 mols/day: 13 – 14 weeks at an ADT of 63°F (17°C) and 11 – 12 weeks at an ADT of 73°F (23°C).

Container Size	Plugs per pot	Finish crop time from transplant of 288-cell trays at different ADTs (weeks)*		
		63°F (17°C)	68°F (20°C)	73°F (23°C)
Quarts	1	9-10	8-9	7-8
6 inch (15 cm)	1	9-10	8-9	7-8
8 inch and Gallons	2	9-10	8-9	7-8

\*Finish time assumes a 4-week old 288 plug, long-day photoperiod, and a DLI of 12 – 15 mols/day.

## GARDEN SPECIFICATIONS

**Light:** Full sun

**USDA Hardiness Zone:** 9

**Garden Height:** 14 – 18 inches

**Spacing:** Space plants 14 inches apart in well-drained garden soil.



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