

Calliope® Geranium

Culture Guide

Pelargonium interspecific

Calliope® geraniums are interspecific hybrids with zonal-type flowers and leaves. They have outstanding flower color and branching, unmatched by regular zonal geraniums. Calliope Large varieties are vigorous growers with a mounding to semi-trailing growth habit. They are not recommended for smaller pots (i.e. 4-inch and quarts) unless adequate spacing is provided and significant growth regulation is used. Calliope Medium varieties are bred for a more controlled habit and generally are more upright with smaller leaves and slightly smaller flowers compared to Calliope Large types. They flower earlier than the Calliope Large varieties.

Container size: Quarts, 6-inch pots, gallons, baskets

Habit: Mounded to semi-trailing

Garden Specifications

Garden height: Large: 14–16 inches, Medium: 12–14 inches

Garden width: Large: 20–24 inches, Medium: 16–20 inches

Light: Full sun or partial shade

USDA Hardiness Zone: Not hardy

AHS Heat zone: 3–11

Product use: Beds, containers, hanging baskets, mixed combinations



Calliope® Medium Crimson Flame Geranium

Propagation of Unrooted Cuttings (URCs)

Root emergence: 8–10 days

Rooting hormone: Not required

Bottom heat temperature: 70–73 °F (21–23 °C) for the first 3 weeks. After roots are well developed, temperatures can be lowered to hold and tone the cuttings.

Misting: Mist schedules vary depending on light and temperature conditions. Apply just enough moisture to re-hydrate the cuttings and keep them from wilting. Cuttings should be hydrated and in a non-wilted stage within 24 hours after sticking. Cuttings that continue to wilt heavily after 24 hours will callus unevenly and will be delayed in rooting. CapSil (spray adjuvant) can be sprayed on the cuttings 1–2 days after sticking to help in water rehydration of the cuttings. Misting should be significantly reduced after roots begin to form on the cuttings

Recommended tray size: 84 cell (30 mm plug) or larger

Propagation time: 3.5–4 weeks for a 30 mm plug

TEMPERATURE:

Day: 70–73 °F (21–23 °C)

Night: 70–73 °F (21–23 °C)

LIGHTING:

Recommended day length: Greater than 12 hours

Light intensity: 1,000–1,200 foot candles (200–250 micro mols) for the first two weeks after sticking or until root development occurs. Light levels can be increased up to 3,000 foot candles (600 micro mols) as rooting increases and the cutting matures.

Day length response: Day neutral

Daily light integral: 4–6 mols/day for the first two weeks after sticking or until root development occurs. Light integral can be increased to greater than 12 mols/day after root formation.

Media pH: 6.0–6.4

Media EC: 0.8–1.2 mS/cm (saturated media extract)

Fertilizer: Begin fertilization at 100 ppm nitrogen when roots become visible. Rates can be increased up to 200 ppm nitrogen after roots become well developed. Use primarily Cal-Mag (calcium nitrate + magnesium nitrate) fertilizers in propagation

to prevent unwanted stretch.

Pinching: No

Plant growth regulators (PGRs): To help reduce bottom leaf yellowing during propagation (ex. on delayed shipments or where cuttings have gotten warm during shipping), Fascination can be sprayed on the cuttings at 2.0–2.5 ppm within 24 hours after sticking. To control growth after rooting, Calliope Large types respond well to sprays of Cycocel at 1,000 ppm or Cycocel + B-Nine (1,000 ppm + 1,500–2,500 ppm, respectively). Calliope Medium types are best controlled with slightly lower spray rates, such as Cycocel at 750–1,000 ppm and Cycocel + B-Nine (750–1,000 ppm + 1,500 ppm, respectively). Bonzi sprays are not recommended in propagation because of the chance of getting into the rooting media and stunting the plant. Florel can also be sprayed at 300–350 ppm 2.5–3 weeks after sticking and after good root formation to improve branching, reduce premature flowering, and control growth. Do not spray Florel on stressed or weak cuttings. For all sprays listed above, the mist should be off for a minimum of 1 hour for the PGR to absorb into the leaf tissue.

Tech tips: Calliope geraniums consist of both vigorous (Calliope Large) and medium to vigorous (Calliope Medium) varieties. Transplant on time and use appropriate PGRs as needed to keep top growth under control, especially for Calliope Large types.

Finishing

TEMPERATURE:

Day: 70–75 °F (21–24 °C)

Night: 65–70 °F (18–21 °C)

Average daily temperature: 68–73 F (20–23 C)

LIGHTING:

Recommended day length: Greater than 12 hours

Light intensity: 4000–6000 foot candles (800–1200 micro mols)

Day length response: Day neutral

Daily light integral: Greater than 12 mols/day

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

Media pH: 6.0–6.4. Watch for iron/manganese toxicity (bronze speckling of older leaves) when pH drops below 5.8.

Media EC: 2–2.5 mS/cm (saturated media extract)

Fertilizer: 250 ppm Nitrogen

Pinching: No. Pinching is not recommended or generally needed if proper chemical growth regulation is used.

Moisture level: Media should be allowed to dry between irrigations. However, avoid severe drying out and consistent wilting.

Pests: Aphids, thrips

Diseases: *Botrytis*, *Pythium* root rot and *Xanthomonas*

Scheduling

CALLIOPE LARGE:

Container size	Crop time after transplant (wks)	Plants per pot
4-inch pots	6–7	1
Quarts	7–8	1
5-inch pots	8–9	1
6-inch pots	9–10	1
Gallons	10–12	1
10-inch baskets	10–12	3
12-inch baskets	10–12	4

CALLIOPE MEDIUM:

Container size	Crop time after transplant (wks)	Plants per pot
4-inch pots	5–6	1
Quarts	6–7	1
5-inch pots	6–7	1
6-inch pots	8–9	1
Gallons	11–12	1
10-inch baskets	10–12	4
12-inch baskets	10–12	5

Estimated finish crop time is from transplant of a 30 mm plug and finished at an average daily temperature (ADT) of 68 F (20 C) and under a DLI of a least 12 mols/day.

Tech tips: Maintain warm temperatures throughout production. Warm temperatures are recommended early on to promote growth and to allow plants to respond to PGR (i.e. Florel). Temperatures can be lowered towards the end of production to tone or hold the plant.

EXAMPLE CROP SCHEDULE FOR 12-INCH HANGING BASKETS

Week 1: Stick cuttings and spray Fascination at 2 ppm. Add CapSil at 2–4 oz/100 gal with the Fascination spray. Apply fungicide sprays for Botrytis control. Mist sufficiently until rooting begins.

Week 3: PGR spray of Florel at 350 ppm plus CapSil at 2–4 oz/100 gal.

Week 4: Transplant four liners per 12-inch basket and finish at an ADT of 68 F (20 C)

Week 6: PGR spray of Florel at 350 ppm plus CapSil at 2–4 oz/100 gal.

Week 8: PGR spray of Cycocel at 1,000 ppm plus CapSil if needed.

Week 10: PGR spray of Cycocel at 1,000 ppm plus CapSil if needed.

Week 14: Finish

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