



**White Paper: Calliope® Geranium PGR Tips**  
**By: Syngenta Technical Services**  
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Calliope® baskets and containers have excellent sell-through at retail because of their outstanding mounding habit and stunning dark red color. Calliope is a breakthrough interspecific cross that combines the best characteristics of ivy and zonal geraniums. Because of its excellent branching characteristics, heat tolerance and vigor, Calliope maintains a mounding habit and incredible flower power in the garden - even under extremely hot conditions. In addition, it does not become overgrown by other plants in mixed containers.

Since Calliope is a vigorous geranium, it is critical that plants are grown with sufficient space, under good light conditions, with adequate fertilization and proper growth regulation. In general, plants require about 30% more growth regulation during production than other vigorous geraniums like the Syngenta Rocky Mountain™ series.

Like other vigorous geraniums, Calliope responds extremely well to early Florel® treatments, which ensure maximum branching, short petioles and small leaf size. Based on research trials, we recommend spraying Florel at 350 ppm early in production when the roots are established in the pot (about 7 – 10 days after planting). One to two repeat applications can be made every 5 – 7 days. Gallon and basket crops usually respond well with two Florel sprays. An early Florel spray at 300 ppm can also be given to well-rooted cuttings at the end of propagation and before transplant.

Florel works best when the pH of the water is first adjusted to 5.0 – 5.5 before mixing and also when sprayed in the early morning on plants that have been fertilized the day before. The last Florel spray should be applied at least 6 weeks prior to sale as Florel will delay flowering. Under dark and cool conditions, the delay can be as much as 8 weeks, so make sure to provide adequate light conditions and night temperatures of at least 65 °F. If flower timing is a concern, then Cycocel® can be applied at 1,000 ppm at 7 and 14 days after the first Florel application.

**After Florel® sprays, options include:**

1. Bonzi® sprays at 2.5 ppm (twice) or 5.0 ppm (once) for moderate growth control (Figure 1).
2. One to two Cycocel sprays at 1,000 ppm under northern (dark and cool) climate conditions. Under southern climate conditions with high day temperatures, B-Nine® at 1,500 – 2,500 ppm can be added to the Cycocel spray solution for increased activity (moderate-severe growth control).
3. A single Bonzi drench at 0.1 to 0.25 ppm for moderate to moderate-severe growth control, respectively. The 0.25 ppm Bonzi drench rate should only be used under very warm growing conditions or for holding mature plants.

We recommend evaluating the response from growth regulator treatments weekly, as Calliope can start to stretch quickly when the days are warm. When plants are about 3 weeks away from finish and growing strong with a healthy root system, a Bonzi drench at 0.1 ppm is effective for holding plants.

## Calliope® PGR Tips (continued)



**Figure 1.** The effects of different growth regulator treatments on Calliope® Dark Red grown in 10-inch hanging baskets. Photo taken 10 weeks after transplanting rooted cuttings. All plants received one early Florel® spray at 350 ppm.

## Additional Syngenta Resources on Geranium Production

- Calliope Geranium Culture Tips  
<http://www.syngentaflowersinc.com/pdf/cultural/CalliopeGeraniumCulture.pdf>
- Caliente Geranium Culture Tips  
<http://www.syngentaflowersinc.com/pdf/cultural/CalienteGeraniumCulture.pdf>
- Producing High Quality Geraniums  
[http://www.syngentaflowersinc.com/pdf/cultural/VegetativeGuidelines\\_Geraniums%20final.pdf](http://www.syngentaflowersinc.com/pdf/cultural/VegetativeGuidelines_Geraniums%20final.pdf)
- Vegetative Cuttings General Rooting Requirements  
<http://www.syngentaflowersinc.com/pdf/cultural/GeneralRootingRequirements.pdf>
- Technical questions? Reach the Syngenta Flowers Technical Team at:  
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