

# Calibrachoa

Superbells®



## NUTRITION

**pH:** 5.5 – 5.8

**EC:** (2:1 extraction method) .8 – 1.2

Constant feeding at 200ppm nitrogen with a fertilizer selected for grower's water quality and soil mix is recommended.

## TEMPERATURE

**Rooting out:** 65 – 72 F

**Growing on:** 55 – 68 F

**Holding:** 40 – 50 F

## WATERING

Maintain moderate soil moisture. Allow the soil to cycle from moist to slightly dry. Avoid both severe dry downs/wilting and long periods of wet soil, especially at cooler temperatures. To avoid soft rots or root issues in lower light, cooler temperatures, or higher humidity situations, water early in the day, if possible (to avoid prolonged exposure of water on foliage). Follow the plant grouping suggestions listed below under PGRs to assist in proper water management (Blackberry Punch™ and Lemon Slice® will perform best if watered as an average vigor group plant).

## TIMING

**4" – 5":** 4 – 5 weeks with one 42 cell or 84 cell Supernova® plant per container.

**6"/1GL Royale™:** 6 – 7 weeks with two 42 cell or 84 cell Supernova plants per container.

**8":** 7 – 8 weeks with three 42 cell or 84 cell Supernova plants per container.

**10" – 12" Hanging Basket:** 8 – 11 weeks with three to five 84 or 104 Liner plants per container.

**Supernova 42 Liners are used at Four Star and are recommended for best flower timing, flower count and plant size in smaller containers.** Supernova 84s can also be considered. Supernova 84s may finish about 1 week later than the Supernova 42s. The Supernova 84 finishes faster and more consistently than 84 or 104 Liners. They offer an option that balances shipping costs with improved performance. If 84s or 104s are used for spring production, supplemental lighting, additional crop time, pinching, and additional PGR applications are required.

Supernovas are not recommended or required for baskets and large containers. But, many growers are beginning to use them for early hanging basket and upright needs. Growth habit and timing may be different with 84 or 104 Liners, but flowering time and "retail ready" containers can be produced in periods of the year when not possible from 84s or 104s. If mixing Supernova and 84 or 104 Liners in combination plantings, a pre-plant drench of Sumagic® (uniconazole) or Bonzi® (paclobutrazol) to the 84 or 104 Liners is usually required to even out plant growth and vigor.

Larger upright or basket production needed for earlier season finishing should be planned, using varieties listed below as "earliest" to flower and/or grown from Supernova liners.

## PLANTING

Superbells® should be planted into a well-drained soil mix selected to match individual water quality and fertilizer blends. Water in without saturating the mix and maintain a constant moderate soil moisture level for the first seven to 10 days for establishing new rooting. When using Supernova treated liners, NO pinching is required unless deemed taller than desired. If 84 and 104 Liners are used and if size allows, pinch at transplant. A preventative fungicide drench after planting can be helpful, such as Banrot® (etrifiazole plus thiophanate-methyl).



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The rates and chemicals listed are based on our southeast Michigan growing conditions, and are not recommended for nationwide application. Please adjust the rates and spray applications to your location and facility.



## LIGHT/LIGHTING

Superbells should be grown in a high light area of the greenhouse for optimal flowering and plant development. Supernova liners have been treated for earlier flowering and will not require additional grower lighting. If very early crops are scheduled before the onset of 12-hour natural daylengths, daylength extension lighting is helpful. Also, if growing from 84 or 104 Liners, additional lighting to 14 hours/day lighting is required for early spring finish dates. Additional PGR treatments may also be required on non-Supernova treated plants.

## GROWTH REGULATORS

As required, either a light spray of Sumagic at 5ppm – 10ppm or Bonzi drench at 1ppm – 3ppm can be applied to control growth. Treatments are usually made to smaller containers seven to 14 days after planting. Treatments to larger containers can be made when a desired “pre-finished” size is attained (two to four weeks before scheduled finish). Watch for the “softening” look and lighter green appearance of new growth as an indication for PGR treatment needs. In more northern areas, the lower rates should be used as a starting base, while in more southern areas, the higher rates will probably be needed. Other materials such as Topflor® (flurprimidol) and Piccolo® (paclobutrazol) can be used at rates that correspond with the degree of treatment recommended for Sumagic or Bonzi. Repeated PGR treatments can cause flowering delay.

Cooler growing temperatures, high light levels, proper spacing, and drier growing practices can be very helpful at managing plant size. Supernova treated plants should require fewer PGR treatments than 84 and 104 Liners.

**When using Supernova liners, please refer to the Supernova Culture Guide for specific PGR recommendations. Florel® (ethephon) is not recommended for use with Supernovas, except possibly with *Nemesia* and *Diascia*.**

PGR requirements can vary greatly by variety, and the plants should be grown, if possible, in the following groups for best performance:

- 1) Blue, Garden Rose, Grape Punch™, Morning Star™, Plum Improved, Pomegranate Punch™ and Rising Star™ are the most vigorous varieties and will require the most PGR attention.
- 2) Apricot Punch™, Blackberry Punch, Blue Moon Punch™, Cherry Red, Double Orchid, Double Ruby, Dreamsicle®, Evening Star™, Hollywood Star™, Lemon Slice, Miss Lilac, Over Easy™ Improved, Pink, Red, Saffron, Spicy, White Improved and Yellow have average vigor and will need less PGR treatment.
- 3) Cherry Blossom, Cherry Star®, Coralberry Punch™, Coralina, Holy Moly!®, Strawberry Punch™, Sweet Tart™, Tropical Sunrise and Yellow Chiffon™ are less vigorous and should require fewer PGR treatments.

## PEST and DISEASE MANAGEMENT

Preventative treatments for Aphids are recommended, and plants should also be scouted well for Thrips. Proper growing environments and watering practices should be followed to avoid Botrytis and various stem or root rots. Superbells are trialed and tested for tolerance to these diseases but in poor conditions, diseases can develop. A preventative fungicide drench at time of planting can be considered.

**Avoid the use of fludioxonil-based fungicides on *Calibrachoa* (such as Medallion®, Palladium™, or Hurricane®), as they can cause delayed phytotoxic response 10 – 14 days after treatment.**

## OUTDOOR GROWING SCHEDULE

Superbells *Calibrachoa* can be grown outdoors in the earliest spring conditions (approximately frost to 25 F, or early- to mid-April in Michigan), if frost protection is provided. If no frost protection is provided, they can be moved outdoors during the second earliest spring conditions (approximately frost to 28 F, or mid- to late April in Michigan).



## OTHER TIPS

Supernova treated liners are highly recommended for growers' small container uses. For best combination planting when mixing Supernova treated plants with non-Supernova plants, consider performance vigor. PGR tray drenches or dips should be performed in many cases if mixing Supernova plants with 84 and 104 Liner plants.

Maintain proper soil pH levels to prevent possible root rot issues and iron deficiency. Soil test periodically. Test the water source for water nutrient levels and especially alkalinity levels. Select a soil mix and fertilizer blend to best maintain recommended soil pH levels. Soil pH levels below 6.0 should be a priority for proper plant performance.

It has been shown that something in the fungicides Medallion® (fludioxonil) and Palladium® (cyprodinil) can cause an unusual foliar spotting on Coralberry Punch. The symptoms are a "viral" like spotting on the upper most leaves at the time of chemical application. Symptoms usually appear 10 – 14 days after treatment. Foliage below the treated area and all new growth after the chemical treatment will be fine. It is recommended to avoid treatments of these two products to Coralberry Punch and finish on other *Calibrachoa*s before using on a large scale.

Lemon Slice is a good indicator plant for poor growing conditions or growing practices. Follow culture guide for best plant performance. A preventative Banrot® (etrifiazole plus thiophanate-methyl) or Truban®/OHP 6672™ drench at time of planting and possibly a second OHP 6672 application 3 – 4 weeks later can protect against any potential root rots. This practice can also be followed with any other problematic varieties, based on past experiences.

Flowering from 84 and 104 Liners:

- 1) Apricot Punch, Rising Star, Dreamsicle, Saffron, and Blue Moon Punch flower earliest.
- 2) Followed by Double Ruby, Coralina, Red, White *Improved*, Plum *Improved*, Cherry Star (flowers early but needs higher light quality), Sweet Tart, Evening Star, Garden Rose, Grape Punch, Hollywood Star, Holy Moly!, Lemon Slice, Miss Lilac, Morning Star, Pink, Pomegranate Punch, Cherry Blossom, Spicy, Tropical Sunrise, Yellow, and Yellow Chiffon.
- 3) Blackberry Punch (flowers earlier but needs better light quality), Blue, Coralberry Punch, Cherry Red, and Strawberry Punch are best due to flowering time or vigor for peak season and later finishing. (Garden Rose flowers earlier but performs much better as a group 3 plant.)

