



## EDITOR'S NOTE

Welcome to the second issue of ECKE Fresh! The current status of your poinsettia crop is the focus of a full-color diagnostic poster and timely article on poinsettia nutrition. Finishing the crop you have grown to date is foremost in your mind. To that end, note the Q&A on cool temperatures and poinsettia production. We are mindful of everyone's concerns about rising energy costs and have added new **FastFaxes** to our website at [www.ecke.com](http://www.ecke.com).

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With an eye toward spring, check out the condensed version of the new FastFax on cold temperature production of selections from The Flower

Fields. The technical advisory team is working diligently to give you the best information on cool temperature growing. Expanded information on this topic is also available on our website or by calling the FastFax line at 760-944-4045 to request the publication.

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Our third edition of the newsletter should reach you in early January. As always we request and appreciate your feedback. All of us at ECKE Fresh, Paul Ecke Ranch and The Flower Fields wish you a profitable Holiday Season.

Warm Regards,

Shannen Ferry, Editor  
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## October Poinsettia Nutritional Checkup

It is October and most poinsettias have been growing for months. Root media limestone is gone and the weather in most parts of the country is changing rapidly. Days are shorter, temperatures are cooler and growers everywhere are busy checking the timing, height and status of their crops.

Growers are getting accustomed to fertilizing dark leaf poinsettias about 25% less than green leaf varieties. Growers commonly apply a balanced fertilizer at the rate of 200-250 ppm N to the dark leaf cultivars. Water quality has determined the best mix of fertilizers for optimum poinsettia growth.

The first week of October marks one of the most critical times in poinsettia nutrition. Growers who periodically send in media for nutritional analysis consistently note several things at this time of year:

- **Calcium needs to be supplemented.** Use a calcium fertilizer at least once per week to supply plant needs of 80 to 100 ppm Ca in the root zone. Alternating fertilizers such as 20-10-20 or 21-8-18 with a dark weather feed like 15-0-15 or 14-0-14 will accomplish this as will the use of calcium containing fertilizers like 15-5-15, 17-4-17 or 13-2-13. Base fertilizer selections should on a full water analysis.

- **Calcium may be needed as a foliar spray.** Calcium is taken up into the plant by mass water flow. If weather or environment limits transpiration, then calcium does not

Source	% Calcium	Rate per 25 gallons	Approx. ppm Ca in final solution
Calcium chloride anhydrous	~39	3 oz.	357
Calcium chloride dihydrate	~27	4 oz.	324
Calcium nitrate	15.5	6 oz.	324

get into the plant even if it is abundant in the root zone. Puckering or edge chlorosis and "burn" of leaves or bracts are classic symptoms of calcium deficiency due to incomplete cell formation. Weekly calcium sprays using calcium chloride or high quality calcium nitrate plus enough Capsil® (4-8 fl oz per 100 gallons) to get good coverage on the plant. See the table for recommended calcium application rates.

Calcium sprays are applied until the day before shipping to combat bract edge burn. Reduce use of Capsil® if prior applica-



Calcium deficiency on leaves

tions provide enough residual for coverage.

- **Molybdenum needs constant addition.** At least 1 gram of Mo needs to be supplemented per 1000 gallons of final fertilizer solution with almost all fertilizers, even "poinsettia fertilizers". Mo deficiency frequently begins during October. Add Mo to your stock tank on a continuous basis and increase if tissue levels are not between 3 and 5 ppm. In case you're worried, we have never seen a case of Mo toxicity.

- **Micronutrients, in general, are predictably on the low side of normal or they are deficient.** Now is the time to apply a booster shot of a soluble micronutrient mix like S.T.E.M. Typically, a one-shot treatment of 2 to 4 ounces of S.T.E.M. per 100 gallons of final solution NOW and again at the beginning of November will provide the necessary micronutrients for good leaf/bract expansion and color. Only a complete analysis can verify media needs.

- **Magnesium may be low.** Pay attention to Mg levels if you supplement Ca. Typically, the Ca:Mg ratio in media is targeted for 2:1 but a constant level of 30 to 40 ppm Mg is adequate for good poinsettia development.

Switch from urea/ammonium heavy fertilizers to those higher in nitrate nitrogen. Key applications of fertilizers higher in ammonium and phosphorus during higher sunlight/warmer temperatures will typically green up and "flush out" a plant that may be a bit on the short side. Exercise caution since this same nutrient mix may not be easily utilized by the plant unless the weather is right. Continue to keep phosphorus off of the foliage to avoid stunting/distortion.

Two weeks before sale, stop fertilization should so plants can tone up and excess salts are leached. This is tough to do with multiple response groups per bench/bay. Careful monitoring, periodic sampling and understanding the fertilization needs of the crop all work with the grower to produce a successful poinsettia crop.



Magnesium deficiency on lower foliage

## Cut Fuel Costs with Selections from The Flower Fields

High fuel costs force growers to look for energy efficient crops. Fortunately, many of The Flower Fields crops can be grown for the cool, early season with great success. Cultural factors like media, fertilization, insect and disease management, light intensities and growth regulator applications are influenced.

**CROPS:** The following vegetative annuals plants may be grown cold and placed outside after the risk of killing frost, making them ideal early spring sales.



**Antirrhinum** (*Chandelier™ trailing snapdragons*)  
**Argyranthemum** (*Star™ and Comet™ series*)  
**Bacopa** (*Shower series and Candy Floss™*)  
**Bracteantha** (*Florabella and Matilda Yellow*)  
**Brachyscome** (*mini and jumbo flower types*)  
**Calibrachoa** (*Colorburst and Liricashower series*)

**Chrysocephalum** (*Golden Buttons™*)

**Diascia** (*Sun Chimes™ series*)

**Nemesia** (*Sachet™ series*)

**Osteospermum** (*Cape Daisy™, Sunny™ and Side series*) Require 4 weeks of 45-55° F / 7-13° C vernalization to bloom.

**Petunia** (*Cascadias®, Petunia®, Double™, Marco Polo™ and The Pocket™ Series*)

**TEMPERATURES:** Establish cuttings at temperatures between 60°-65° F / 15°-18° C. 3-4 weeks later, pinch and reduce temperatures to 45-55° F / 7-13° C for production.

**MEDIA:** The media should provide good drainage and aeration. Monitor irrigation closely. Cooler media will dry slower and this encourages diseases.

**FERTILIZATION:** Avoid fertilizer mixtures high in ammonium/urea forms of nitrogen. Use blends of calcium and potassium nitrate that include micronutrients (like 15-5-15).

- Maintain media pH between 5.5 – 6.0. Calibrachoa, petunias, and many of the Australian native species (Bracteantha, Brachyscome and Chrysocephalum) exhibit micronutrient deficiency at higher pH. Provide additions of iron and manganese.

- Species like Antirrhinum (snapdragon) are best grown with nitrate nitrogen at lower EC.

- Native Australian species are not tolerant of high rates of phosphorous; fertilizer blends like 15-5-15 are ideal for their production.

**INSECTS AND DISEASES:** Cold temperatures do not favor insect development, making pest control a little easier. Pathogens (Pythium, etc.) are more of a risk. Monitor closely and treat as needed.

**LIGHT INTENSITIES:** Brighter is best! During winter, avoid growing under excessive plant canopy (too many hanging baskets, etc.) or in conditions that limit light availability.

**PLANT GROWTH REGULATORS:** High light and cool temperatures minimize stretch. If needed, plant growth regulators like B-Nine may be sprayed with good results.

Cool temperature production benefits are obvious. You save energy and production related costs; successful culture results in larger blooms, more intense flower color and plants that are toned for gardens. This can be a win-win for the grower, retailer and gardener!

## TECHNICAL Q & A:

### Lower Temperature Impact on Poinsettias

**Q:** Now that my poinsettias are established and growing, can I grow them at reduced temperatures to save energy costs? What will this do to my crop?

**A:** Lower temperatures will slow down plant metabolism, lengthen production times and may reduce quality. Early response groups perform better under cooler regimes since the majority of their flower development occurs early in the season during naturally warmer, brighter weather. Those varieties/series include Freedom™ (except Bright Red in northern locales), Pepride™, Jester™ (will develop a tulip shape), Punch™, Peterstar, Plum Pudding™ and Prestige™. Varieties or series that should NOT be grown cool are Winter

Rose™, Success™, Monet™/Monet Twilight™, V-14 Glory (Pink or White), Jingle Bells and Jingle Bells 3, and Red Velvet™.

Target an average of 66-68° F for best cool production although 65-66° F will work. Do not let temperatures fall below 60° F at any time or plants will suffer. Maximize light intensity to warm the soil, maintain warmer daytime temperatures and create an energy reserve in benches, media and walkways. Save more by lowering night temperatures, but resist creating too much differential in day and night temperatures causing stretch. PGR applications have longer lasting effects so adjust accordingly. Raise average temperature during critical times of bract expansion to produce a nice salable crop for Christmas.

Lower temperatures and cool, moist media creates a more favorable environment for diseases like Pythium and Rhizoctonia. Botrytis and other foliar fungi are also encouraged. Cool media will also affect nutrition. Foliar sprays of calcium may also be needed.

Keep good records and note adjustments for next year.

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