

Poinsettias: A Brief History and Production Guide



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Cuetlaxochitl a Mexican Flower

What is Cuetlaxochitl? It is a flower that is native to Tenochtitlan, an Aztec city. The Cuetlaxochitl can grow as high as 10 feet tall and its beautiful red flowers bloom in the wintertime.



Wild poinsettia photo: Instituto de Biología, Universidad Nacional Autónoma de México. <http://www.explorelifeonearth.org/poinsettia.html>

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Beautiful botanical gardens existed throughout the Mexico empire in pre-Hispanic times. Flowers and herbal plants were cultivated for their beauty and medicinal purposes.

From October to mid-May, the Cuetlaxochitl was admired and observed as it flowered like "birds aflame."

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The Aztecs and later Mexican cultures used the Cuetlaxochitl for curing fevers and in dyeing their clothes.

Most Mexicans now know the Cuetlaxochitl as Flor de Noche Buena (good night and the Mexican term for Christmas Eve) since it blooms around Christmas time and most citizens have been converted to Christianity.

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In the United States, the flower has another history and another name, but its origin is still Mexican.

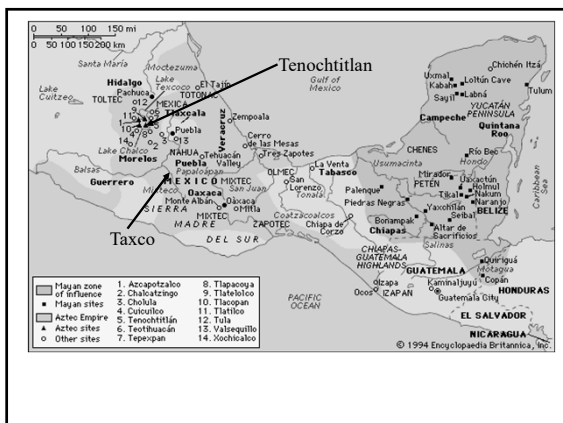
It all began when Joel Robert Poinsett was appointed as ambassador to Mexico.

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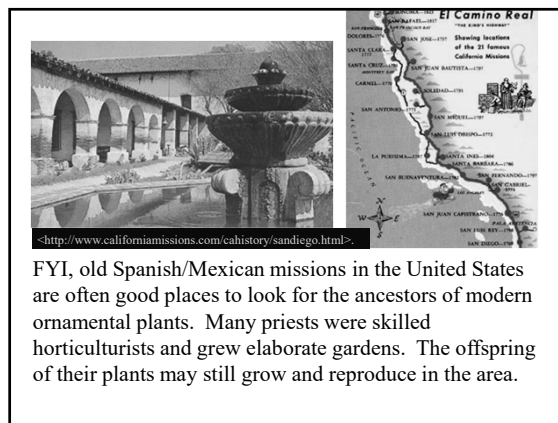
On Christmas day 1825, Ambassador Poinsett visited the Taxco church in Santa Prisca, where the Franciscans had adorned the nativity scene with exotic red flowers that gave it a very elegant and uncommon appearance.

He brought plants back to the US to a friend who had a conservatory. Modern poinsettia cultivars can be traced back to those plants.

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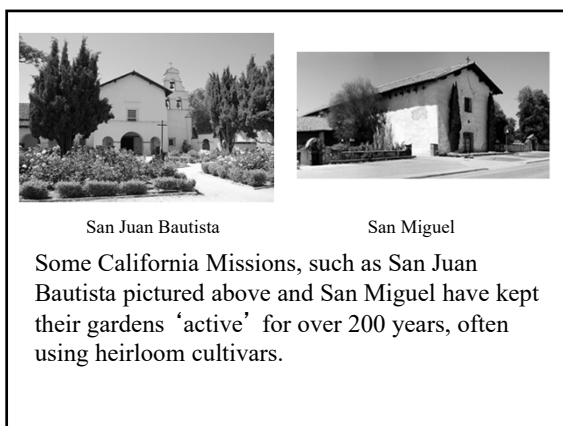


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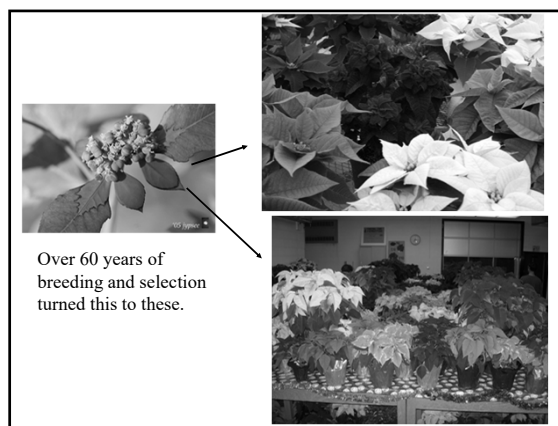


FYI, old Spanish/Mexican missions in the United States are often good places to look for the ancestors of modern ornamental plants. Many priests were skilled horticulturists and grew elaborate gardens. The offspring of their plants may still grow and reproduce in the area.

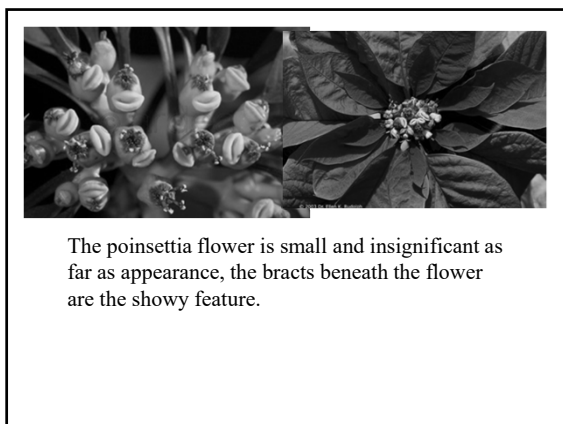
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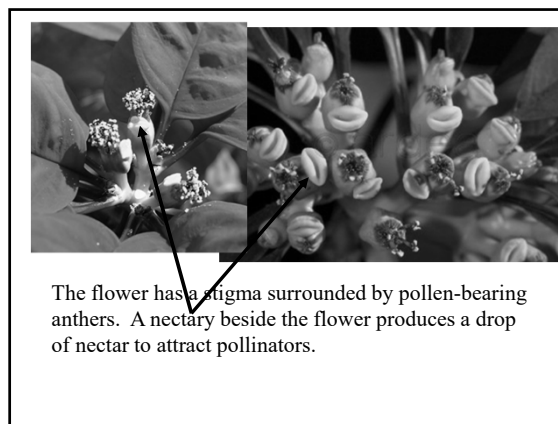
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Modern poinsettia cultivars used as landscape plants in California

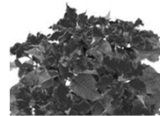


Not particularly aesthetically pleasing, especially when not flowering, but draw a lot of interest. Can get 15+ ft. tall.

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Poinsettia Production



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Stock (or mother) plants are grown with multiple branches to produce cuttings.

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Cuttings are usually harvested multiple times per plant. Critical to leave enough nodes (leaves) on each branch behind to produce stems for future harvests.

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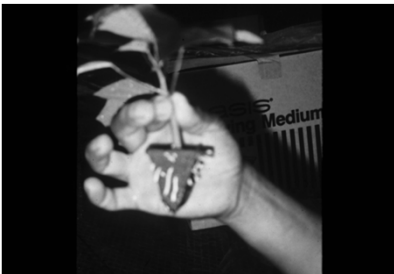
The cuttings are harvested, trimmed to remove excess leaves and, if necessary, the stems are trimmed to a uniform length. Rooting hormone assures uniform rooting.

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Unrooted cuttings are stuck in media and placed in a propagation house under reduced light and frequent misting. Bench heating helps promote rooting.

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As the cutting roots (usually in 2-3 weeks) the light is gradually increased and misting frequency reduced until the cutting is fully rooted.

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Young plants can be grown pot-tight until the leaf canopy starts to develop. (The pot on top of other pots is there for photo purposes, the plants are not "stacked" when being grown).

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When roots are established, the cutting is pinched. It is important for roots to be well-established to be able to provide water and nutrients to all the new shoots.

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It is also important to leave enough nodes on the plant to produce sufficient stems. For 6.5" pots that is \cong 4-5 leaves.

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Latex oozing from fresh pinch. The latex in the stem makes pinching a very messy job. It's hard to get it off your hands and out from under fingernails.

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This is when it is time to space the plants further apart.

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This is also the time when growth regulating techniques, cultural and/or chemical are most effective.
Growth regulation must be done before stem elongation occurs.

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6.5" poinsettias at their final spacing.
Rule of thumb: Space poinsettias twice the width of the pot apart (center to center).
6.5" pots are spaced 13-14" apart.

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Typical poinsettia crops in early October shortly after plants are spaced.



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FYI, after the last cutting harvest, stock plants can be pruned and grown on to become beautiful large (and expensive) plants.

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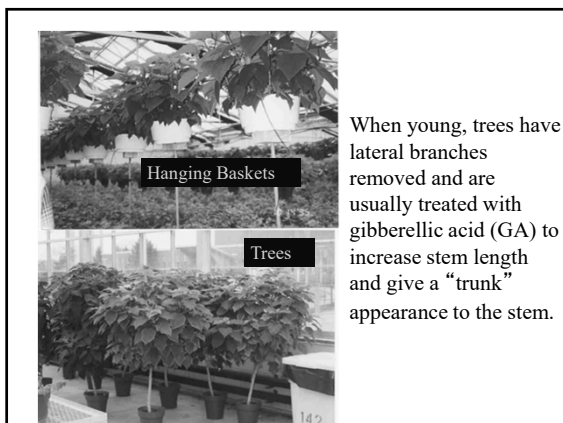
Large poinsettia pots can be created by putting several cuttings in a pot or by using one stock plant after it has finished producing cuttings.

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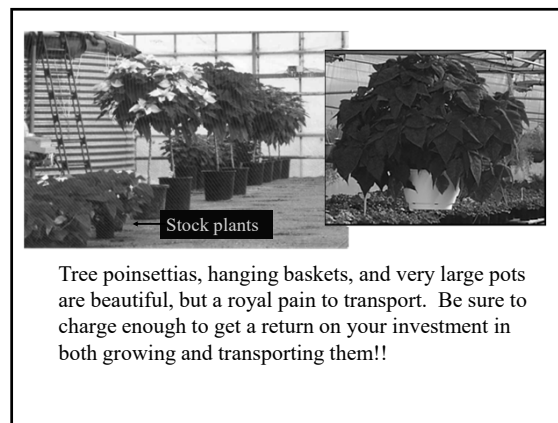
Besides potted plants, poinsettias can be grown as:
Hanging baskets and trees

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When young, trees have lateral branches removed and are usually treated with gibberellic acid (GA) to increase stem length and give a “trunk” appearance to the stem.

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Tree poinsettias, hanging baskets, and very large pots are beautiful, but a royal pain to transport. Be sure to charge enough to get a return on your investment in both growing and transporting them!!

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Tree poinsettias are not to be confused with a poinsettia tree which is constructed with tiers of poinsettia pots.

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Temperature regulation is an important part of regulating poinsettia growth and development so it varies greatly from week to week and year to year.

However, in general, the following temperatures are often used:

Propagation: Air: Day 78-80, Night 68-70,
Media: 75F

Day: mid -70's though can be higher if sunny.

Night: mid-60's

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The last couple of weeks of production if the plants are ready or nearly ready for sale, day temperatures can be dropped into lower 60's during the day and mid-50's during the night to maintain quality and intensify bract color.

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Poinsettias are photoperiodic short-day plants.
12 hrs. or longer of dark is required for floral initiation and development.

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Lights for creating long days



Blackout cloth for short days

They can be timed by using artificial long days to keep them vegetative and artificial short days to force flowering to meet market windows as early as late October and as late as mid-December.

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When the light period is longer than 12 hours, the plants stay vegetative.

When it is less than 12 hours, the plant changes from vegetative to reproductive growth.

In nature, the short days start in late Sept. right after the autumn equinox.

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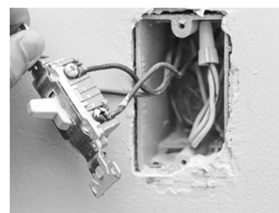
Commercially, most poinsettias will flower for Christmas under natural photoperiods in the northern hemisphere.

However growers can manipulate the photoperiod to time flowering to hit the early market windows that are becoming more common such as early November.

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For commercial growers it is extremely important that no lights are on the plants at night. Streetlights in particular can be a problem.

Often growers will disconnect light switches in poinsettia growing areas after the start of short days to make sure the lights do not get turned on during the night.



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Homeowners who want the poinsettias they've kept over the summer to re-flower for Christmas, need to make sure the plants get 12 hours of dark starting late September.

It is still critical that the plant receive as much sun as possible during the day for photosynthesis!!

So if you put them in a closet, don't forget to take them out every morning and back into the light!!



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Poinsettias have a strong photoperiod requirement to flower. Any 'injection' of long days after short days have started can cause serious problems. The plant below did not receive sustained periods of short days and started to produce bypass growth around the initiated flower.



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Remember, by nature poinsettias are tall and scraggly but growers are trying to make them look beautiful in a small pot.

All photos from: Instituto de Biología, Universidad Nacional Autónoma de México. <http://www.explorelifconearth.org/poinsettia.html>

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<https://encrypted-tbn1.gstatic.com/images?q=tbn:ANdPGc58ApN84Z-i0LEAgORk7XaVgOnMamCf8pPlLDJzaWW7Hfde9>



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Therefore, height regulation is critical to produce an aesthetically pleasing plant.

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Height control can be chemical (plant growth regulators) and cultural (temperature or carefully withholding water). Regardless of method it must be done when the plants are young and shoots are immature.

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A special use of temperature for height control is DIF (Difference in average day and night temperature).

If average day temps are higher than night, it is positive DIF

If day and night are equal, it is zero DIF

When night is greater than day, it is negative DIF

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The more positive the DIF, the greater the stem elongation.

Negative DIF can very effectively reduce stem elongation, keeping the plants short.

The nice thing is that flowering is controlled by light so flowering can continue even under -DIF.

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When grown properly, cultivated poinsettias make some of the most magnificent potted crops produced.

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But don't blow it by handling and transporting them haphazardly.

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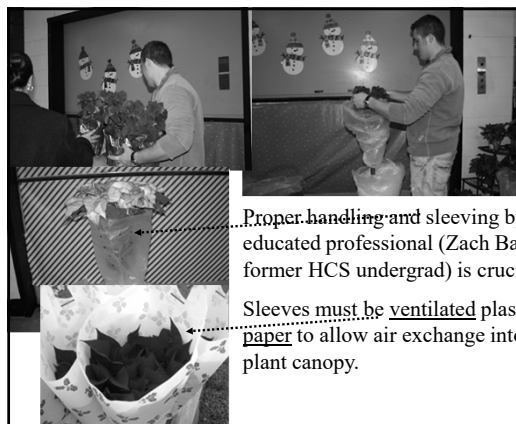
Proper care and display in the retail sales area is very important too!!! Would you want to buy a plant that looked like these???

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Poinsettias that have not been abused in transit or display.



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Proper handling and sleeving by an educated professional (Zach Baker, former HCS undergrad) is crucial.

Sleeves must be ventilated plastic or paper to allow air exchange into the plant canopy.

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If Zach did break off a branch, all is not lost, the bracts make lovely and long lasting cut flowers.

In fact, some growers are now producing longer stemmed plants to sell to florists for arrangements.

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Thank you!

Questions?

Dr. Peg McMahon
mcmahon.43@osu.edu

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