

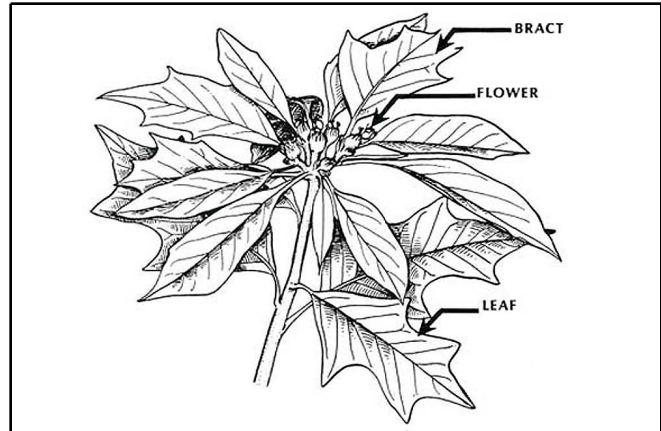


## Poinsettias For Florida, Indoors and Outdoors<sup>1</sup>

Robert J. Black, Rick K.Schoellhorn<sup>2</sup>

The poinsettia, *Euphorbia pulcherrima* Willd., is a member of the Euphorbiaceae or spurge family. The common name—poinsettia—honors Joel R. Poinsett of Greenville, South Carolina. As United States Ambassador to Mexico, Poinsett introduced this plant from Mexico in about 1825. The genus name, *Euphorbia*, comes from the Greek physician Euphorbus and includes many herbs and shrubs having acrid, milky sap. The species name, *pulcherrima*, is from the Latin adjective *pulcher*, meaning beautiful or handsome. When botanist Carl Ludwig Willdenow was searching for a suitable name for the new Mexican plant, he decided to call it the "the very beautiful Euphorbia" or *Euphorbia pulcherrima*.

The showy portion of the plant, popularly referred to as the flower, consists of modified leaves, which are called bracts (Figure 1). The color of the bracts varies from red to pink, depending on cultivar (cultivated variety). Over the years, breeders of the poinsettia have given us red, pink, white, orange, purple, and multi-colored forms of this durable plant. Much has changed within the last 5 years, and the plants sold in 1995 differ dramatically from those sold today. The true flowers are small, green and yellow nubs clustered in the centers of the bracts (called cyathia).



**Figure 1.** The showy part of the poinsettia, usually considered the flower, consists of colored bracts.

### Poinsettias Are Not Poisonous!

This myth has been around as long as the poinsettia and recent research has shown that the poinsettia is not only nonpoisonous, it is considered to be non-toxic as well. According to the national information center for poison control centers, even large amounts-- 500-600 leaves-- would still not be toxic.

Some people are mildly allergic to the sap of all poinsettia relatives, just as many people are to other forms of latex. Latex is the primary component of the white sap.

1. This document is Circular 628, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida.

2. Robert J. Black, associate professor, Rick K. Schoellhorn associate professor, Environmental Horticulture Department, Institute of Food and Agricultural Sciences, University of Florida, Gainesville FL 32611.

However, poinsettias are not considered edible either, so use common sense and keep plants out of the reach of young children and pets. This goes for all indoor plants, not just the poinsettia.

Poinsettias are grown traditionally as pot plants for use in the home during the Christmas holiday season. However, poinsettias are often used as landscape plants in south and central Florida. Poinsettias are woody perennials and when grown outdoors, usually begin blooming (bracts showing color) as early as Thanksgiving. The colorful bracts are retained until March or even later unless the plants are exposed to freezing temperatures.

Barely a decade ago, the poinsettia did not retain its bracts for more than a few days when placed indoors. As the result of intensive breeding programs, poinsettia cultivars of today have excellent foliage and bract retention and a diversity of leaf patterns, growth habits and bract colors. The new cultivars have developed to such an extent that they can compete with many of the flowering plants used in the Florida landscape.

## Selection

Poinsettias are traditionally grown as Christmas pot plants, and breeders have been concerned with improving them for this purpose. They worked to produce a fast-growing, compact pot plant which would retain its leaves and bracts under the less-than-favorable conditions found in the home.

### Caring for Your Holiday Poinsettia Indoors

Each holiday season, the number one flowering plant sold in America is the Poinsettia. There is always some confusion about the best way to care for and display this popular plant. The following are some tips for getting the most from a Poinsettia during the holidays.

### On Buying a Quality Poinsettia

Poinsettias are tropical plants and prefer a temperature range of 65°F night and 75-80°F daytime temperatures. When purchasing poinsettias for the home, avoid plants that have been allowed to sit outside in the cold, or in windy areas, as these plants will have reduced quality when you bring them

indoors. The beautiful bracts of poinsettias are easily damaged by crowding and rough handling, so check to make sure that leaves and bracts are not damaged before purchasing your plant.

### Care of Poinsettias in the Home

- **Location** - Keep plants in a warm location free of drafts and chilling. Bright light is always best, but avoid placing plants in extremely sunny, hot, and dry situations.

- **Watering** - Water your poinsettia when the surface of the soil is dry to the touch. Remove any excess water from the saucer beneath the plant as Poinsettias do not like to have soggy soil. Most people kill their poinsettias with too much water. Remember this plant came from the tropical desert and is more tolerant of dry conditions than of wet.

- **Humidity** – Poinsettias like a little bit higher humidity than the average household but will do fine in most situations without additional humidity. Misting plants or placing them on gravel trays will prolong the color and life of the poinsettia.

- **Fertilization** – It is not necessary to fertilize your poinsettia during the holiday season. In fact, high levels of fertilizer will reduce the quality of the plant. If you want to keep your poinsettia past the holiday season, see the section on caring for your plants after the holidays.

### After the Holidays

Many people want to keep their poinsettias alive after the holidays and into the following year. Here are some hints on preserving your poinsettia through the winter if you choose to do so.

Throughout the winter, keep the plant somewhat dry and do not fertilize until the weather warms in spring.

After the weather has begun to warm, cut off the fading bracts, leaving 4-6 inches of the stem on each branch.

Begin fertilizing with a well-balanced fertilizer.

Move the plant outdoors to a partly shady situation.

Eventually you'll want to place your poinsettia in a full-sun location, but give the plant a week or two to adjust to both temperatures and brighter light levels before doing so.

## Selecting a Planting Site

Poinsettias can be used in landscapes as accent plants or informal flowering hedges, as container plants for patios and decks, and as cut flowers for interior decorations. They should be planted in areas where they receive full sun most of the day. However, it is essential that they receive no light at night during the bud-setting period. Poinsettias require a long, dark period before they will initiate flower buds. Normally, they set flower buds in early October when nights are becoming increasingly longer. If the dark period is interrupted with the light from a window, street light or any other light source, flowering will be markedly delayed or the plant may not flower at all. Just a short period of light during the dark period is enough to delay or prevent flowering. This should be kept in mind when poinsettias are used in the landscape, and they should be planted in areas that will completely dark during the night.

Poinsettias grow best in moist, well drained, fertile soils. However, they will grow satisfactorily in a wide range of soils, including sand, muck, marl and clay. Soil pH should ideally range from 5.5 to 6.5, but it need not be adjusted if between 5.0 and 7.0. The soil must be well drained because poinsettias will not grow well in wet areas.

## Planting

Plants can be purchased in early spring, or the Christmas poinsettia can be removed from its container and planted outdoors as soon as danger of frost is past. A general rule is to dig a hole 1 foot (30.4 cm) wider and 6 inches (15.2 cm) deeper than the root ball. Backfill the hole with enough soil so that the plant will sit in the hole at the same depth as it was growing in the container. Firm the soil to prevent settling, then gently place the plant straight in

the hole and fill around the ball with soil. Water thoroughly while planting to remove air pockets. Mulch around plant with organic materials to conserve moisture and help control weeds.

## General Care

### Fertilization

Today's poinsettia cultivars respond favorably to an abundant supply of fertilizer and adequate moisture. Neglecting to fertilize them will result in yellow leaves and ultimate loss of most of the lower leaves. Plants should be fertilized monthly, starting in March in central and south Florida and in May in north Florida, with 2 pounds (1 kg) of 18-6-12, or an equivalent amount of another complete fertilizer, per 100 square feet (10 m<sup>2</sup>) of planting area. Continue monthly applications of the fertilizer until October in central and south Florida and until September in north Florida.

### Watering

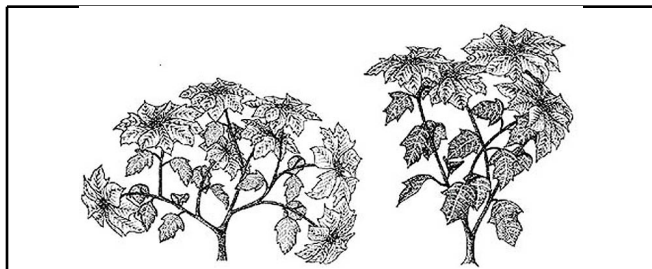
Water relations are a crucial consideration for growing poinsettias, since prolonged dryness will result in the loss of lower leaves. The soil should be kept moderately moist at all times. Frequency of waterings will depend greatly on soil type, time of year and weather conditions.

### Pruning

Poinsettias should be pruned in early spring after blooming is over and the danger of frost has passed. They should be cut back to within 12 to 18 inches (30.5 to 45.7 cm) of the ground unless they have been frozen below this point, in which event they should be cut back to "live" wood.

Pinching the plant during growing season (Figure 2) will result in a compact plant at flowering time, rather than one with a few long, unbranched canes. After four weeks or when it is 12 inches (30.5 cm) long, new growth should be cut back, leaving four leaves on each shoot. This procedure should be repeated every time the new growth develops until about September 10. New growth after the last pinch will usually grow to a length of 8 to 10 inches (20.3 to 25.4 cm) and, in the first week of October, will initiate flower buds. However, pruning after

September 10 does not allow enough time for side shoots to grow and develop before bud initiation in early October. As a result, the bracts will be much smaller than those on a plant where the last pinch was made before September 10.



**Figure 2.** Pinched poinsettia plants (left) will develop into compact plants with many bracts unlike the unpinched plant on the right.

### To Re-bloom Poinsettias

Re-blooming is a tricky proposition in most parts of Florida for two reasons. One, in central and north Florida, killing frosts and freezes usually arrive before plants have a chance to develop their flowers. Two, plants require 14 hours of complete darkness each day for 6-8 weeks before flowering. This is usually difficult to provide in the home or landscape due to outdoor street or security lights which will prevent flowering.

If you are determined to try re-blooming, however, here is a brief timeline to help you in getting a second year of flowering from your poinsettia.

1. In July cut the plant back to about 2/3 the height you desire for your holiday season.

2. On October first, begin 14 hours of uninterrupted darkness each night, every night without interruption, and continue this until the holidays arrive. Each night you do not provide uninterrupted darkness roughly equals a one day delay in getting holiday color.

### Cut Flowers

Poinsettias may be used as cut flowers if special attention is given to the stems. They must be treated to coagulate the milky sap in order to prevent wilting. This may be accomplished by immersing the cut ends of the stems, immediately after cutting, in almost

boiling water for about one minute and then immediately into cool water. Use care to prevent steam from the hot water from damaging the flowers. Another method of treatment is to singe the cut ends of the stems over a flame for a second or two and then place the stems in cool water. After the stems have been treated and placed in water, poinsettia flowers should be conditioned by storing them in a cool place at least 18 to 24 hours before they are to be used in arrangements. It is a good practice to cut several more stems than needed since, no matter what method is used for preservation, there always seem to be some flowers that wilt.

## Problems

### Flowering Disorders

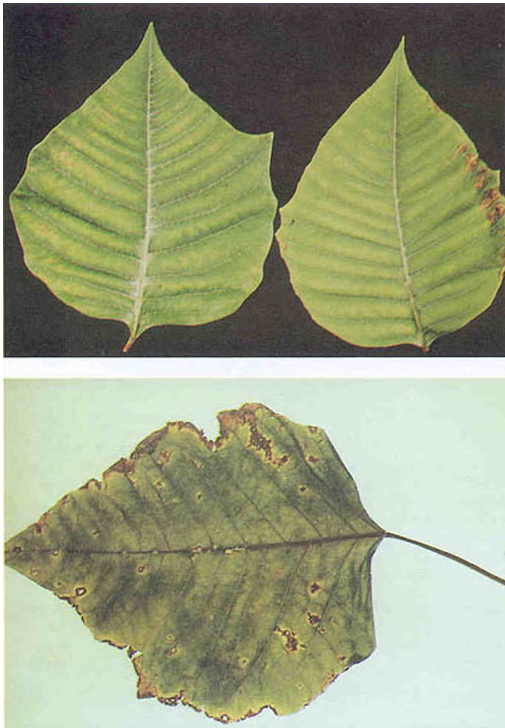
Flowering will be markedly delayed or plants may not bloom at all if the dark period (night) is interrupted by light during early October, when poinsettias normally set flower buds. Also, weather conditions can have an effect on flowering. Periods of dark, rainy weather in late September and early October often will shorten the days sufficiently to cause the plant to set buds and flower early. In addition, temperatures above 70°F (21°C) during the bud-forming periods will delay flowering. Growth will be slow and flowering delayed if temperatures drop much below 60°F (15.6°C), especially if previous temperatures have been high. Flower development is best when night temperatures range from 60 to 62°F (15.6 to 16.7°C).

Flowers that develop on unbranched stems more than 14 inches (35.6 cm) in length or that have 20 to 30 leaves usually develop physiological disorders called "splits." With this disorder, stems that do not normally branch unless pinched will suddenly branch at the growing tip. Then each branch will flower, producing a cluster of small bracts with an open center. This condition is tolerable in a landscape situation because plants are often viewed from a distance. However, if the flowers are cut and used in arrangements indoors, a single large bloom with a tight center is more attractive. Splits can be avoided by routine pinching during the growing season.

### Magnesium Deficiency

Ornamental plants show a difference in susceptibility to magnesium deficiency because some plants may develop symptoms while many others growing under similar soil conditions may not. Magnesium deficiency occurs to a considerable extent in poinsettias grown in the landscape and is more prevalent in plants grown in sandy and calcareous soils than in clay soils.

The symptoms of magnesium deficiency are intravascular chlorosis (yellowing) and marginal scorch or tip burn beginning on leaves at the base of the shoots and advancing toward the tip (Figure 3). The best method of control is to prevent magnesium deficiency from developing by applying dolomite (about one-half is magnesium carbonate) to the soil where poinsettias are to be planted at the rate of 2 pounds per 100 square feet ( $1 \text{ kg}/10 \text{ m}^2$ ) of area or 1 to 2 ounces (8.3 to 56.7 g) per plant. When magnesium deficiency has developed on established plants, satisfactory control is difficult to obtain.



**Figure 3.** Magnesium deficiency symptoms of poinsettia: Leaves show mild (upper left), moderate (upper right), and severe (lower) symptoms.

Apply magnesium sulfate (epsom salt) twice yearly (February or March and June or July) at 1

teaspoon per square foot, 3 tablespoons per square yard ( $45.2 \text{ cm}^3/0.8 \text{ m}^2$ ), or 2 cup (1 pound) per 100 square feet ( $454 \text{ g}/10 \text{ m}^2$ ).

### Freeze Damage

The poinsettia is very sensitive to cold, and many years plants are frozen before they have had a chance to bloom or soon after they have bloomed. Freeze damage is particularly a problem in unprotected locations of north Florida. Often, plants are killed to the soil line: however, they usually send up new shoots from the crown come springtime.

### Pests

Poinsettias have pest problems, and to grow specimen plants, these problems must be recognized and control measures initiated.

Pests that attack poinsettias also are common to many other plants. Insects and mites with piercing mouth parts such as aphids, mealybugs, soft scales, whiteflies and spider mites damage poinsettias by sucking plant juices.

Occasionally worms (larvae) will feed on poinsettias. The poinsettia hornworm is a particularly serious problem, since it can rapidly defoliate an entire plant (Figure 4). If only a few are responsible for the damage, they should be destroyed individually rather than spraying the entire shrub.



**Figure 4.** Poinsettia hornworm can rapidly devastate a poinsettia plant.

When pest infestations are severe, or where large numbers of plants are involved, chemical control may be needed. For recommendations on selection and application of insecticides and miticides, contact the Cooperative Extension Service Office in your county.

## Diseases

Poinsettia scab (*Sphaceloma poinsettiae*) is a fungal disease that may attack poinsettias, causing circular spots of a light cream color on the midrib and veins of leaves (Figure 5) and raised, often elongated lesions or cankers on stems and leaf petioles. The lesions are usually circular but, in advanced stages, may coalesce to form large, irregular areas which may completely encircle the stem, causing dieback above the infected area. Scab is most prevalent in the summer, and scab-infected branches should be pruned and discarded as soon as they are noted.



**Figure 5.** Poinsettia scab (*Sphaceloma poinsettiae*) causes circular spots of a light cream color on the veins of poinsettia leaves.

Plants may be attacked by fungi, causing both root and stem rots. The incidence of these diseases is usually much higher where the soil remains wet. Therefore, selection of well drained planting sites and good watering practices can help prevent the occurrence of these diseases. When symptoms are apparent, it is usually too late to control root and stem rot disease. The diseased plant should be removed and the area treated with a soil fumigant or fungicidal drench before placing another poinsettia. For recommendation on selection and application of fungicides and soil fumigants, contact the Cooperative Extension Service Office in your county.

### Some Interesting Internet Sites for Poinsettia Information

The Paul Ecke Ranch:

[http://www.ecke.com/html/h\\_corp/corp\\_pntcare.html#durable](http://www.ecke.com/html/h_corp/corp_pntcare.html#durable)

The Society of American Florists:

[http://www.aboutflowers.com/holidays\\_b11a.html](http://www.aboutflowers.com/holidays_b11a.html)

**Table 1. Poinsettia Cultivars for Outdoor Culture.**

Bract Color			
Red	Pink	White	Novelty Types
Freedom	Maren	White Christmas	Winter Rose
Orion	V-14 Pink	Whitestar	Sonora Burgundy
Prestige	Flirt	Cortez White	Plum Pudding
Red Velvet	Noblestar	Sonora White	Marblestar
Success Red	Cortez Pink		Jingle Bells
Max Red			Holly Point
Red Splendor			Monet Twilight
Picachio			Carousel
			Silverstar Series