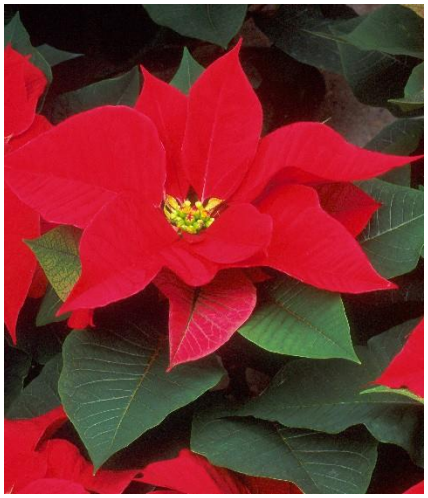
Poinsettia



In the early 1900s, most poinsettias were sold as fresh cut flowers and not as plants. The sale of poinsettia plants began in the 1920s with the introduction of new cultivars that were shorter in stature and more freely branched. By the1960s, poinsettias were flashy plants that made a brief appearance in public places shortly before Christmas, only to drop their leaves and colorful flower-like bracts a few days later. In addition, they were expensive to grow because their blooming time was difficult to synchronize with the holidays, and the plants easily grew tall and leggy. Research preformed at the USDA in Beltsville, MD has made significantly contributions to the modern poinsettia you see this holiday season.

1920s - Drs. Wightman Gardner and Harry Allard discovered that poinsettias require longer nights to induce flowering. When a poinsettia flowers, the upper leaves (the bracts) turn bright red and the center of the plant forms small yellow flowers.

1960s - Poinsettias require longer nights to induce flowering. When a poinsettia flowers, the upper leaves (the bracts) turn bright red and the center of the plant forms small yellow flowers. It is critical to time flowering for the holiday season. Dr. H. Marc Cathey determined that exposing poinsettias to 3 seconds of light every minute—or 3 minutes every hour—from 11 p.m. to 1 a.m. each night held poinsettias on the brink of flowering until growers were ready to ship them for the holidays. Dr. Cathey discovered several compounds that could regulate plant growth and be used to produce compact plants. Dr. Cathey's research resulted in a production protocol that not only guaranteed when the poinsettia would "flower" but also a plant with a compact growth form.

1970s - Dr. Robert Stewart bred new poinsettias that retained their leaves under non-greenhouse conditions for the entire holiday season. Dr. Stewart determined that the commercial cultivars at the time were tetraploid with twice as many chromosomes as normal. Since the tetraploid plants were difficult to breed with, he developed new diploid cultivars with the normal number of chromosomes. His diploid 'Ruff and Ready' cultivar is still used as a parent, nearly 40 years later. The new poinsettia colors like pinks and yellows, and spotted types are an outgrowth of the work done by Dr. Steward on chimeras. Chimeras are plants with tissues that are genetically different than their parents. In a pink poinsettia the pigment is in a different cell layer than in a red poinsettia. The basic science done by Dr. Steward has enabled commercial breeders to produce new color variations.

1990s - Dr. Ing-Ming Lee discovered that phytoplasmas - minute organisms that usually cause plant diseases- can induce a dwarf, dense, free branching growth habit in poinsettia. The "new" cultivars developed during 1920-1950 that were shorter in stature and more freely branched were mostly like infected with phytoplasma. Besides these positive effects, phytoplasmal infection also has negative effects, such as a reduction in yield and quality.