BY Stephen A. Carver, Ohio Florists' Association

"Twas the night before Christmas, and all through the house, All the kiddies were stirring, and even a mouse. The poinsettias had been placed 'round the house with great care, in hopes that the children could not get to them there..."

The color, beauty, and gaiety of poinsettias have all contributed in making them THE Christmas holiday potted plant in the United States. In fact, the poinsettia had become so universally received that it has been the number one potted plant in our country for a number of years. Floriculture researchers continue to look at this crop from many "angles" – looking for ways to increase its appeal and value for homeowners.

However, each year, scattered reports in the popular press and via the "grapevine" suggest that poinsettias can be toxic to people and pets. The concern is that young children will be attracted by the beauty of the plants and try eating the leaves. Are these reports true? If they are, or even if they are just suspected, prudence dictates that great caution be used when bringing these plants into the home.

The Question
What IS known about potential poisonous effects of poinsettias? If we can examine the evidence, we can draw our own conclusions about the relative safety of these plants. Then we can feel comfortable using them (or not) in our homes.

The Rumors
The poinsettia belongs to the spurge family (Euphorbiaceae). Like other members of this family, it has a white, latex-like sap. Perhaps the poinsettia’s milky sap lends to the perception of its toxicity since the sap, leaves, and stems of several other members of the spurge family are documented to be poisonous. There are several references that list poinsettias as being poisonous, but the basis of these claims appear to be anecdotal – repeated stories without careful follow-up to objectively evaluating the role poinsettia may have played in the problem. In one incident in 1919 that has been widely cited, a two-year-old child of an Army officer in Hawaii died after eating a leaf. Even in this case, it is admitted that the evidence is only hearsay.

The Studies
A study was conducted at The Ohio State University to evaluate the potential toxic effects of poinsettia leaves, bracts (colored leaves), and flowers on rats. They used rats between 0.2 and 0.8 ounce per pound of body weight (that's as high as 2.5 pounds of leaves per 50-pound child or 8.75 pounds of leaves per 175-pound man). At the end of the study, the researchers stated that none of the rats in the study showed signs of being poisoned or any other apparent ill effects within seven days of ingesting the poinsettia tissue.

Supporting this study are reports from Dominguez (1967) and Khastgir and Pradhan (1967) who analyzed leaves, bracts, and sap as well as the whole plant. Neither report noted finding any chemicals commonly considered toxic.

Researchers from Children’s Hospital of Pittsburgh and Carnegie Mellon University released a study in 1995 using data collected by the American Association of Poison Control Centers. The study found that out of the 22,793 reported poinsettia exposures, there was essentially no toxicity of any significance.

According to the American Medical Association Handbook of Poisonous and Injurious Plants, the poinsettia has been found to produce either no effect (orally or topically) or occasional cases of vomiting.

The POISINDEX Information Service, the primary information resource used by the majority of poison control centers around the country, states that a 50-pound child would have to ingest 1.25 pounds of poinsettia bracts (500 to 600 bracts) to surpass experimental doses. At the experimental levels, there was no toxicity.

In 1975, the Consumer Product Safety Commission was petitioned to require poinsettias carry caution labels when offered for sale to the public. After reviewing all available information relating to the poinsettia, the
Commission denied the petition. The Commission pointed out that poinsettia bracts, like leaves of many other plants, may cause varying degrees of discomfort if eaten and should be placed out of the reach of small children.

The Conclusion
Therefore, the research evidence and the judgment of several advisory/regulatory agencies shows few if any effects of poinsettia ingestion on humans. This mounting weight of evidence absolves the poinsettia of its toxic reputation, and it should help allay concerns of parents worried about children or pets being poisoned by eating poinsettias.

However, when dealing with questions of safety – especially of young children – it is not always easy to be totally objective in our decisions and actions. A summary statement found in a brochure published by the Society of American Florists presents a sensible conclusion and course of action.

"The poinsettia is the most widely tested consumer plant, and there is no indication ingestion will cause death or serious injury. The plant, however, is inedible – not grown for food – and some individuals may experience discomfort if parts of the plant are eaten. Non-edible materials should be kept out of reach of small children and pets." So sit back, relax, and enjoy the beauty that poinsettias can bring to your holiday season.

"Santa took his gift, a poinsettia, to his team and gave a whistle, And away they all flew like the down of a thistle. But clutching his plant very tight, as he drove out of sight. He said, 'MERRY CHRISTMAS TO ALL AND TO ALL A GOOD NIGHT!"

A special thank you to the Society of American Florists for allowing us to reprint portions of their bulletin, "A Clean Bill of Health for the Poinsettia Plant."

Key tips for success
Keep soil moderately moist, periodic applications of fertilizer will promote a long-lasting poinsettia.

Bright light and cool night temperatures will help delay flower bud drop and will maintain brightly colored bracts.

Other literature cited
Winek, C.L. et al, Toxicology of Poinsettia. 1979 Toxicology Annual, V.3, pp.1 27-45.

