



COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Poinsettias

Introduction

Poinsettias (*Euphorbia pulcherrima*) are subtropical plants that originated in Mexico and Guatemala. In their native climate, poinsettias are small woody shrubs that may reach a height of more than 10 feet. In the U.S., poinsettias are grown as indoor potted plants popular at Christmas time. While the showy bracts are suggestive of flower petals, they are really modified leaves. The actual poinsettia flowers are less conspicuous by comparison, forming a yellow to red cluster in the center of the bracts.

Marketing

Potential retail markets include farmers markets and direct sales from the greenhouse or farm. Wholesale markets include local garden centers, florists, groceries, discount department stores, farm stores, and roadside stands. Other potential markets include interior designers, as well as organizations that use poinsettia sales as fundraisers (such as schools and clubs).

Market Outlook

This traditional Christmas plant is the best selling potted flowering plant in the U.S. Poinsettias are sold over a 6-week period beginning in early November. Greenhouse operators have become quite efficient in growing poinsettias, so while the market is relatively large, profits remain small due to over-production. Red-colored poinsettia cultivars remain the most popular, with novelty cultivars gaining some popularity in recent years. Producers should always identify market opportunities before producing novelty cultivars.



Production Considerations

Cultivar selection

Cultivar selection is a critical decision for commercial poinsettia growers, but as breeders continue to release new and exciting varieties each year it can seem an overwhelming task. In addition to the classic red and white, bracts may come in various novelty colors such as pink, peach, orange, and lilac. Bract colors may also be solid, variegated, marbled, or flecked. Other horticultural variations include leaf color (light to dark green colors; solid or variegated), leaf and bract shape, and growth habit. Knowing your customer preferences and the market demand will be critical in selecting cultivars with the desirable traits. Additionally, growers will need to consider other characteristics from a production standpoint: adaptability to local greenhouse conditions, ease of branching, light requirements, cold tolerance, disease and pest resistance, and plant vigor.

Growers who produce multiple varieties will have the market advantage. However, different varieties can also have different scheduling needs and production practices will have to be modified accordingly.



Production

A heated greenhouse structure is necessary for producing poinsettias. Tobacco greenhouses can be used; however, poinsettia production during the late summer and fall might compete for labor with tobacco harvest, housing, and stripping.

Poinsettias are propagated vegetatively from cuttings taken from stock plants. A key decision facing new growers is whether to produce their own stock plants for cuttings or to purchase cuttings, either unrooted or rooted. Intermittent mist is essential for rooting cuttings. Once rooted, cuttings are transplanted directly to the final container for “finishing.”

There is no single best growing substrate for producing quality poinsettias; however, a very well-drained substrate that is on the coarse side is important. Poinsettias are sensitive to day-length. Flowers are initiated in mid-to-late September, depending on the variety, and require less than 12 hours of daylight continuously to initiate bloom production. Lighting from artificial sources, such as street lights, can delay flowering. Where external light sources are a problem, black-out curtains should be used. Varieties are categorized by response time, the time required from transplanting to market. Specific information on varieties is usually provided by breeders and/or marketers.

Typically, plants are pinched in late August or early September to stimulate the production of lateral shoots. It is critical that pinches be made on time according to schedule. Growth retardants can be used for height control.

Pest management

Greenhouse conditions that favor plant growth also favor the rapid build-up and spread of insects and diseases. Prevention and careful monitoring are the keys to insect and disease management. Controlling weeds under benches and around the greenhouse will also help reduce insect pests and disease problems; however, herbicides must never be applied in a greenhouse when crops are present.

Potential disease problems include *Rhizoctonia* root and stem rot, *Pythium* root rot, *Thielaviopsis* black root rot, *Botrytis* blight, and bacterial soft rot. Regular preventative fungicide drenches in combination with good sanitation and cultural practices are essential to controlling poinsettia diseases. Common insect pests include white flies, thrips, fungus gnats, shoreflies, and spider mites. Using yellow sticky cards to monitor insect populations can help growers determine when and how often insecticides should be applied.

Post-production

Poinsettias are finished and ready to be shipped when the primary bracts are fully colored and pollen is visible. Plants should be removed from the greenhouse environment within 1 to 2 weeks of reaching maturity. Sleeving helps protect plants during transport; however, sleeves should not be left on more than 24 hours from greenhouse to market. Temperature must be controlled through the shipping and selling process. Prolonged exposure to temperatures below 45°F will damage poinsettia bracts and below freezing temperatures will damage the entire plant in a very short amount of time.

Economic Considerations

Poinsettia production is a high risk business with significant start-up costs as well as demanding labor and management. Typically, the profit margin for growing poinsettias is very low because of a highly competitive marketing environment. Some growers choose to produce poinsettias in a rotation with bedding plants. This enables them to keep their greenhouse in full production year round and to receive some profits during the fall.

Initial investments include greenhouse construction, production system costs, and equipment. The cost of a production-ready greenhouse, excluding land costs, can run from \$5 per square foot range for a Quonset-style poly house to more than \$20 per square foot for glass panel houses. Production costs and returns vary greatly depending on crops grown, greenhouse size, production system, and marketing strategy.

Producers should develop production cost estimates specific to their situation. Useful worksheets for developing poinsettia production budgets may be found at the links under Budgets in the resource list, below. A thorough discussion of poinsettia budget considerations is found at the Texas A&M Poinsettia Producers Guide.

Selected Resources

On the Internet

- Poinsettia Economics and Marketing (Texas A&M) <http://aggie-horticulture.tamu.edu/ornamental/the-texas-poinsettia-producers-guide/economics-marketing/>
- Controls for Greenhouse Ornamental Insect Pests, ENT-421 (University of Kentucky, 2004) <http://www.uky.edu/Agriculture/Entomology/entfacts/trees/ef421.htm>
- Greenhouse Business in Kentucky – A Review of Crops and How to Begin a Business (University of Kentucky, 2002) <http://www.uky.edu/Ag/CCD/anderson/greenhousesinkentucky.pdf>
- Managing the Greenhouse Environment to Control Plant Diseases, PPFS-GH-01 (University of Kentucky, 2004) http://www.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-GH-1.pdf
- Preventing Greenhouse Poinsettia Diseases (University of Kentucky, 2010) http://www.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-OR-H-2.pdf
- Selected Resources and References for Commercial Greenhouse Operators (University of Kentucky, 2002) <http://www.uky.edu/hort/sites/www.uky.edu/hort/files/documents/greenhousereferences.pdf>
- Floricultural Science (North Carolina State) <http://www.ces.ncsu.edu/depts/hort/floriculture/>
- Floriculture and Greenhouse Production (Purdue University) <https://ag.purdue.edu/hla/lopezlab/Pages/default.aspx>

- Greenhouse Costs of Production Budgets: Poinsettias (Rutgers Cooperative Research and Extension, 2008) <http://aesop.rutgers.edu/~farmmgmt/Green-House/poinsettias/ghpoinsettiasbudget.htm>
- Greenhouse Production of Poinsettias, ANR-1222 (Alabama Cooperative Extension, 2002) <http://www.aces.edu/pubs/docs/A/ANR-1222/>
- Interactive Greenhouse Crop Budget with Five Crops (Rutgers University) <http://aesop.rutgers.edu/~farmmgmt/green-house/greenhouseinteractiveform.html>
- Integrated Pest Management for Greenhouse Crops (ATTRA, 1999) <http://attra.ncat.org/attra-pub/gh-ipm.html>
- Mastering Poinsettia Production (British Columbia Ministry of Agriculture, Fisheries and Food, 1996) <http://www.agf.gov.bc.ca/ornamentals/floriculture/points.pdf>
- Poinsettia: Commercial Greenhouse Production (Auburn University, no year) <http://www.ag.auburn.edu/dept/hf/landscape/poinset.htm>
- Poinsettia Cultivar Trials (Kansas State University, University of Illinois, and Virginia State University) <http://www.ksre.ksu.edu/poinsettias/DesktopDefault.aspx>
- Poinsettia Production Guidelines (Paul Ecke Ranch) <http://www.ecke.com/poinsettias/productionguidelines/>
- Texas Poinsettia Producers Guide (Texas A & M, 1994) <http://aggie-horticulture.tamu.edu/ornamental/the-texas-poinsettia-producers-guide/>
- Virtual Grower 3 (USDA-ARS) <http://www.ars.usda.gov/Research/docs.htm?docid=22087>

In print

- Ball RedBook: Crop Production (Vol. 2). Jim Nau, editor. 2011 (18th edition). Ball Publishing, Inc.: West Chicago, IL. 800 pp. http://www.ballpublishing.com/BallPub/_RedBook.aspx

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