

# Specialty Cut Flower Production

## Resources: References

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Specialty cut flowers, sometimes called “old fashioned garden flowers,” are species other than roses, carnations, and chrysanthemums and include annuals, perennials, bulbous plants, and woody plants. They have been in the trade more than 50 years.

Roses, carnations, and chrysanthemums have long postharvest life. The long postharvest life is reinforced by a modern breeding program, enabling long distance and international shipping from specialized cut flower growers in California and overseas with refrigerated shipping.

Fragrance compounds, associated with ripening and causing flowers to mature, are often lost during the breeding. This makes storage and shipping important considerations. Specialty cut flowers usually are difficult to store and ship, so many times they are not readily available from large wholesale producers. But more than ninety percent of the respondents in a survey said they would include specialty cut flowers in their next flower purchases.

In addition, compared to row crops, vegetables, and fruit and nut crops, cut flowers are the highest-value crop on a per-acre basis. Field-grown, cut flower production, in general, is a low overhead business, and does not require a lot of capital to get started. Specialty cut flowers are a niche product for small- and

medium-sized farmers with limited resources who mainly sell at local markets. If the flowers are grown and marketed well, farmers could generate \$25,000 to \$30,000 per acre.

This publication points specialty cut flower growers to valuable resources.

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## General Production

*Specialty Cut Flowers: A Commercial Growers Guide*, by Alan B. Stevens and Karen L.B. Gast, Kansas State University Cooperative Extension Service  
<http://www.oznet.ksu.edu/library/hort2/MF1034.pdf>

*Specialty Cut Flower Production and Marketing*, by Janet Bachmann, a publication of ATTRA  
<http://www.attra.org/attra-pub/PDF/cutflower.pdf>  
(Lots of marketing tips for smaller farms and new farmers.)

*Specialty Cut Flower Production Short Course*, presented by Frank and Pamela Arnosky at Southern SAWG 16th Annual Conference  
<http://www.ssawg.org/ConfPres2007/CutFlowers%20SCourse%201-07%20Proceedings.pdf>  
The Arnosky website is <http://www.texascolor.com>

*Southeast Outdoor Cut Flower Manual*, edited by Bryan E. Whipker and Todd J. Cavins, North Carolina Commercial Flower Growers Association, 8600 Crowder Road, Raleigh, NC 27603, telephone 919-779-4618  
[http://www.ces.ncsu.edu/depts/hort/floriculture/manuals/se\\_cut\\_flwr.pdf](http://www.ces.ncsu.edu/depts/hort/floriculture/manuals/se_cut_flwr.pdf)

*Dried and Fresh Cut Flowers*, by Randy Sell  
<http://www.ag.ndsu.edu/pubs/alt-ag/flowers.htm>

*Enterprise Guide for Southern Maryland: Producing Cut Flowers – General Field Crop Management*, by Scott Aker and William Healy  
<http://extension.umd.edu/publications/PDFs/FS468.pdf>

*Field Cut Flower Production: An Alternative Income Consideration*, North Dakota Extension Report 65, December 2000, by Barb Laschkewitsch and Ron Smith  
<http://www.ag.ndsu.edu/pubs/plantsci/landscap/er65w.htm>  
(Contains results of cultivar trials held in North Dakota.)

*Growing and Marketing Cut Flowers*, by Efurú and Owusu Bandele  
<http://marketingoutreach.usda.gov/info/99Manual/flowers.html>  
(Good info for new farmers, organic practices, and selling at farmers' markets)

*Resources for Specialty Cut Flower Production*  
[www.ncsu.edu/project/ncagproducts/presentations/Cut\\_flowers.pdf](http://www.ncsu.edu/project/ncagproducts/presentations/Cut_flowers.pdf)

## Marketing

*Wholesale Cut Flowers: Selling Sustainably Produced Cut Flowers to Retailers*, by Dan Sullivan  
[http://www.rodaleinstitute.org/wholesale\\_cut\\_flowers](http://www.rodaleinstitute.org/wholesale_cut_flowers)  
(Profiles a small farmer selling to several local florists and deals with some wholesaler issues)

*Specialty Flowers: a small-scale agriculture alternative*, University of California Small Farm Program  
<http://www.sfc.ucdavis.edu/pubs/brochures/specialtyflo.html>  
(Interesting markets such as edible flowers, candied flowers, and dried flowers)

*Market Gardening: A Start-up Guide*, by Janet Bachmann, published by ATTRA  
<http://attra.ncat.org/attra-pub/PDF/marketgardening.pdf>  
(Focuses mainly on produce growers but contains references and ideas for marketing to farmers' markets, local restaurants and grocery stores, direct farm marketing and Community-Supported Agriculture)

*Farmers' Markets: Marketing and Business Guide*, by Janet Bachmann, published by ATTRA  
<http://www.attra.ncat.org/attra-pub/PDF/farmmarket.pdf>

*Boston Ornamental Terminal Prices*, Federal-State Market News Service, USDA

[http://www.ams.usda.gov/mnreports/bh\\_fu201.txt](http://www.ams.usda.gov/mnreports/bh_fu201.txt)

(Daily wholesale prices for wide range of cut flowers and other ornamentals provided by USDA Agricultural Marketing Service. Other terminals reported include Philadelphia, San Francisco, Chicago, and Seattle.)

*Production Cost for Selected Varieties of Cut Flowers in Mississippi*, by M.J. Romo Leroux, K.W. Hood, and R.C. Sloan, MAFES Bulletin 398:464-474

<http://msucares.com/nmrec/reports/2002/ornamental/hood01orn.pdf>

(Provides total estimates for producing four species of cut flowers in Mississippi and tables for fixed costs, equipment costs, and depreciation, labor, and other variable costs)

## Season Extension/High Tunnels

*Season Extension Techniques for Market Gardeners*, by Janet Bachmann, published by ATTRA

<http://attra.ncat.org/attra-pub/PDF/seasonext.pdf>

(Plastic mulches, row covers, low tunnels, high tunnels, and hoop houses)

<http://www.hightunnels.org>

(Resource for growers and educators using high tunnels for season extension of high-value crops)

(USDA sponsored project for testing and promoting high tunnel systems in the Central Great Plains)

Penn State Center for Plasticulture

<http://plasticulture.cas.psu.edu>

*Production of Vegetables, Strawberries and Cut Flowers Using Plasticulture*, edited by Dr. William J. Lamont Jr., NRAES-133, Available for \$26.50 payable to the Pennsylvania State University, Dr. Bill Lamont, Department of Horticulture, 206 Tyson Building, The Pennsylvania State University, University Park, PA 16802

*Hoophouse Dreams – Building a Beginning*, by Don DeVault

[http://newfarm.rodaleinstitute.org/depts/beginning\\_farmers/0303/hoophouse/shtml](http://newfarm.rodaleinstitute.org/depts/beginning_farmers/0303/hoophouse/shtml)

(Part of a 'How-To' column for building your own hoophouse; many links to hoophouse/greenhouse supply firms)

*1998 Hoophouse Cut Flower Trial*, by Steven Upson, The S. R. Noble Foundation

<http://www.noble.org/Ag/Horticulture/98CutFlowers/index.html>

(Cultivars and the profitability of different species of cut flowers grown in hoop houses)



## Crop Selection/Cultivars

*Maintaining a Succession of Cut Flowers*, by Conrad B. Link, Maryland Cooperative Extension Fact Sheet 561  
<http://extension.umd.edu/publications/PDFs/FS561.pdf>  
(Month-by-month list of bloom time for common floral crops)

*Perennials for Cut Flowers*, by Leonard P. Perry, University of Vermont Extension  
<http://pss.uvm.edu/ppp/percuts.html>  
(Perennials for Vermont {USDA Zone 5}, but good info on the harvest stage of perennial cut flowers)

*Field Grown Annuals for Cut Flowers*, by Tina M. Smith, University of Massachusetts Extension  
[http://www.umass.edu/umext/floriculture/fact\\_sheets/specific\\_crops/anncut.html](http://www.umass.edu/umext/floriculture/fact_sheets/specific_crops/anncut.html)  
(Cultivar info on some common cut flowers and transplanting vs. direct seeding for major species)

*Woody Ornamentals for Cut Flower Growers*, by Janet Bachmann, published by ATTRA  
<http://attra.ncat.org/attra-pub/PDF/woodyornamentals.pdf>  
(Diversifying your selection with woody ornamentals for branches, flowers, and berries, and extended growing seasons)

*Gerbera Daisies: A Potential Field-Produced Cut Flower Crop*, by Robert J. Dufault, Tyron Phillips and John W. Kelly, from *Advances in New Crops*  
<http://www.hort.purdue.edu/newcrop/proceedings1990/v1-457.html>  
(Investigates outdoor production of Gerbera daisies in coastal areas)

*Commercial Specialty Cut Flower Production: Zinnias*, by Susan Stevens, Alan B. Stevens, et. al., Kansas State Cooperative Extension Service MF-1079  
<http://www.oznet.ksu.edu/library/hort2/mf1079.pdf>  
(Cultural info on zinnias with cultivar list but missing the newer releases)

*Commercial Specialty Cut Flower Production: Sunflowers*, by Susan Stevens, Alan B. Stevens, et. al., Kansas State Cooperative Extension Service MF-1084  
<http://www.oznet.ksu.edu/library/hort2/mf1084.PDF>"[www.oznet.ksu.edu/library/hort2/mf1084.pdf](http://www.oznet.ksu.edu/library/hort2/mf1084.pdf)

*Using Coral Bells as Cut Flowers*, by Dr. Susan S. Han, University of Massachusetts Extension  
[http://www.umass.edu/umext/floriculture/fact\\_sheets/specific\\_crops/heuchera.html](http://www.umass.edu/umext/floriculture/fact_sheets/specific_crops/heuchera.html)  
(Greenhouse forcing of heuchera and postharvest handling)

*Commercial Specialty Cut Flower Production: Gladiolus*, by Susan Stevens, Alan B. Stevens, et. al., Kansas State Cooperative Extension Service MF-1080  
<http://www.oznet.ksu.edu/library/hort2/MF1080.pdf>"[www.oznet.ksu.edu/library/hort2/MF1080.pdf](http://www.oznet.ksu.edu/library/hort2/MF1080.pdf)

*Cut Flower Production in Mississippi*, by R. Crofton Sloan, Susan Harkness, and K. W. Hood, MAFES Bulletin 398:372-463  
<http://msucare.com/nmrec/report/2002/ornamental/sloan01orn.pdf>  
(Opportunities for cut flower production in Mississippi)  
(Evaluation of different cultivars of summer and winter cut flower species for production in the field, in cold frames, and for greenhouse use)

*Annual and Perennial Flowers for Mississippi Gardens*, by Lelia Kelly and Steven E. Newman (Felder Rushing, earlier edition), Mississippi State University Extension Service Publication 1826  
(Flowers adapted to growing conditions in Mississippi and general cultural information)

*Field Evaluation of Pollen-free Sunflower Cultivars for Cut Flower Production*, by R. Crofton Sloan and Susan Harkness, *HortTechnology* (2006) 16:2  
(Experiment at North Mississippi Research and Extension Center to determine which single-stem and branching sunflower cultivars produce high-quality cut flowers)

*Effect of Spacing on Sunflower Production*, by R. Crofton Sloan, Susan Harkness and K.L. Reel, MAFES Bulletin 398:475-478

<http://msucares.com/nmrec/reports/2002/ornamental/sloan02orn.pdf>

(Experiment at North Mississippi Research and Extension Center to determine how spacing effects stem diameter, bloom size, and plant size for field-grown sunflowers)

*Snapdragon Production for Fresh Cut Flowers*, by Susan Harkness and R. Crofton Sloan, SNA Research Conference Proceedings 2007, Vol. 52, Floriculture Section p.80-83

[http://www.sna.org/research\\_proceedings\\_2007/Floriculture%20Section.pdf](http://www.sna.org/research_proceedings_2007/Floriculture%20Section.pdf)

(Evaluation of two snapdragon cultivars for production in north Mississippi under high tunnels)

*Hybrid Lily Cultivar Evaluation*, by R. Crofton Sloan and Susan Harkness, MAFES Bulletin 419:267-275

<http://msucares.com/nmrec/reports/2004/ornamentals/hybrid.pdf>

(Evaluation of hybrid Oriental and Asiatic lily cultivars for field grown cut flowers)

*Gladiolus Cultivar Evaluation*, by R. Crofton Sloan and Susan Harkness, MAFES Bulletin 419:306-308

<http://msucares.com/nmrec/reports/2004/ornamentals/gladiolus.pdf>

(Evaluation of 13 gladiolus cultivars for field production of cut flowers)





## **Fertilization**

*Fertilization of Field Grown Specialty Cut Flowers*, by Alan B. Stevens, Kansas State Cooperative Extension Service MF-2154

<http://www.oznet.ksu.edu/library/hort2/MF2154.pdf>

(Basic info on fertility, fertilizer injectors, types of fertilizers, and application rates)

## **Pest Management**

*Integrated Pest Management for Cut Flower Growers*, by Leanne Pundt, University of Connecticut Cooperative Extension

<http://www.hort.uconn.edu/ipm/greenhs/htms/cutflwr.htm>

(Basic introduction to integrated pest management (IPM) principles and practices)

*Insect Problems in Commercial Production of Outdoor Cut Flowers*, by Tina M. Smith, University of Massachusetts Extension

[http://www.umass.edu/umext/floriculture/fact\\_sheets/pest\\_management/cutf\\_pests.html](http://www.umass.edu/umext/floriculture/fact_sheets/pest_management/cutf_pests.html)

(Common cut flower insect and mite pests and a listing of some synthetic and bio-pesticides)

*Weed Management for Outdoor Cut Flowers*, by Tina M. Smith, University of Massachusetts Extension

[http://www.umass.edu/umext/floriculture/fact\\_sheets/specific\\_crops/cutweed.html](http://www.umass.edu/umext/floriculture/fact_sheets/specific_crops/cutweed.html)

(Cultural practices to reduce weed pressure and both pre- and postemergent herbicides)

## **Harvest**

*Commercial Specialty Cut Flower Production: Harvest Systems*, by Alan B. Stevens, Kansas State Cooperative Extension Service, MF-2155

<http://www.oznet.ksu.edu/library/hort2/MF2155.pdf>

(Labor strategies for harvesting quality stems)

(Harvesting equipment and accessories)

## **Postharvest**

*Postharvest Handling of Fresh Cut Flowers and Plant Material*, by Karen L.B. Gast, Kansas State Cooperative Extension Service MF-2261

<http://www.oznet.ksu.edu/library/hort2/mf2261.pdf>

(Steps from harvest to shipping covered in depth)

(Tables of harvest stage and average vase life for common floral crops)

*The Care and Handling of Flowers*, by John M. Dole and Michael A. Schnelle, Oklahoma Cooperative Extension Service F-6426

<http://osuextra.okstate.edu/pdfs/F-6426web.pdf>  
(Basics of handling cut flowers from harvest to end user)

*Sugar and Acidity in Preservative Solution for Field-Grown Cut Flowers*, by Dr. Susan S. Han, University of Massachusetts Extension

[http://www.umass.edu/umext/floriculture/fact\\_sheets/specific\\_crop/presvcut.html](http://www.umass.edu/umext/floriculture/fact_sheets/specific_crop/presvcut.html)  
(Guidelines for sugar and biocide levels for homemade floral preservative solutions)

*Cold Storage for Specialty Cut Flowers and Plant Material*, By Karen L.B. Gast, Rolando Flores, et. al., Kansas State Cooperative Extension Service MF-1174

<http://www.oznet.ksu.edu/library/hort2/MF1174.PDF>  
(Buying and building cold storage for post-harvest holding of cut flowers; many basic plans included)

*Water Quality: Why It Is So Important for Florists*, by Karen L.B. Gast, Kansas State Cooperative Extension Service MF-2436

<http://www.oznet.ksu.edu/library/hort2/mf2436.pdf> [www.oznet.ksu.edu/library/hort2/mf2436.pdf](http://www.oznet.ksu.edu/library/hort2/mf2436.pdf)

*Chain of Life Network*

<http://www.chainoflifeflowers.org>  
(Free subscription service with information on postharvest handling from the grower down the supply chain)  
(Postharvest and ethylene issues)

## **Associations**

Association of Specialty Cut Flower Growers, MPO Box 268, Oberlin, OH 44074, telephone 440-774-2887  
<mailto:ascfg@oberlin.net>

Society of American Florists

1601 Duke Street  
Alexandria, VA 22314  
703-836-8700 or 800-336-4743  
<http://www.safnow.org> [www.safnow.org](http://www.safnow.org)

ATTRA – National Sustainable Agriculture Information Service, P.O. Box 3657, Fayetteville, AR 72702, telephone 800-346-9140

<http://www.attra.ncat.org>

Southern Sustainable Agriculture Working Group (SSAWG)

<http://www.sswag.org>  
[info@sswag.org](mailto:info@sswag.org)  
(Nonprofit organization promoting sustainable farming systems in the southern US)  
(Offers cut flower and high tunnel short courses)

## **Periodicals and Books**

*Growing for Market*, edited by Lynn Byczynski, P.O. Box 3747, Lawrence, KS 66046, telephone 800-307-8949  
[growing4market@earthlink.net](mailto:growing4market@earthlink.net)

<http://www.growingformarket.com>  
(Monthly newsletter/magazine for market gardeners in general, often columnists with cut flower experience)

*The Cut Flower Quarterly*, published by the Association of Specialty Cut Flower Growers

<http://ascfg.org> <http://ascfg.org>

*Greenhouse Management and Production*, GM Pro, P.O. Box 1868, Fort Worth, TX 76101, telephone 800-434-6776  
<http://www.greenbeam.com>

*Grower Talks*, Ball Publishing Co., P.O. Box 9, Batavia, IL 60510, telephone 630-208-9080  
info@ballpublishing.com  
<http://www.growertalks.com>

*Florists Review*, Florists Review Enterprises, P.O. Box 4368, Topeka, KS 66604, telephone 785-266-0888 or 800-367-4708  
<http://www.floristsreview.com>

*Specialty Cut Flowers*, 2nd edition, by Allan Armitage and Judy Laushman, Timber Press, Portland, OR  
(Section on general cultural techniques for outdoor cut flower production and entries for different cut flower species)

*The Flower Farmer: An Organic Growers Guide to Raising and Selling Cut Flowers*, by Lynn Byczynski, Chelsea Green Publishing Co., White River Junction, Vermont  
<http://www.chelseagreen.com>  
(Great resource for anyone new to cut flowers; instructions for growing cut flowers from start to finish)

*Woody Cut Stems for Growers and Florists: Production and Postharvest Handling of Branches for Flowers, Fruit, and Foliage*, by Lane Greer and John Dole, Timber Press, Portland, OR  
<http://www.timberpress.com/>

*Floriculture: Principles and Species*, 2nd edition, by John Dole and Harold Wilkins, Prentice Hall, Upper Saddle River, NJ  
(Greenhouse production of cut flowers/foilage and flowering potted plants and a few chapters on outdoor production)



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**Publication 2559**

Publication Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. MELISSA J. MIXON, Interim Director  
POD 07-09