



# Field-grown Specialty Cut Flowers

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## Introduction

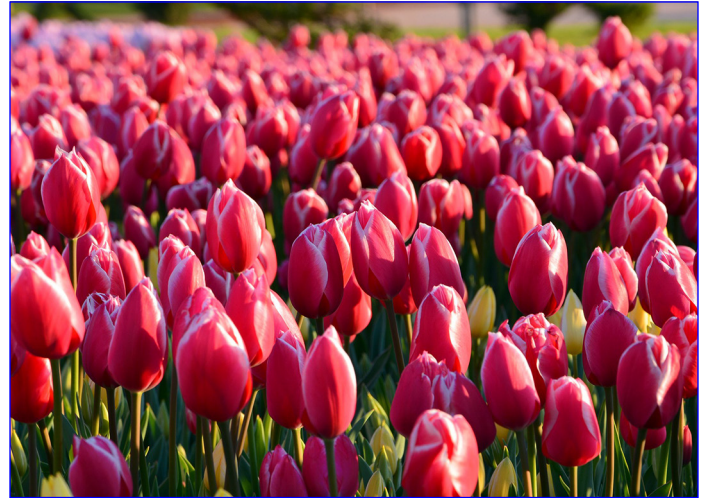
Cut flowers can be grown in open fields or in protected environments such as high tunnels or environmentally controlled greenhouses and sold fresh or dried. Non-flowering cut stems, such as seed heads, stalks and woody cuts, may also be grown for floral or decorative purposes. Cut flowers and cut stems are well-suited to small-scale production and are a good way to diversify or expand an existing farm operation. Specialty cut flowers can be sold by the stem, in bunches, or in mixed bouquets or value-added products.

## Marketing

The cut flower market constantly shifts as consumer preferences change. Growers must be willing to adjust their production to meet these demands. Potential retail outlets include farmers markets, roadside stands and U-cut. Consumers often purchase fresh flowers along with fresh produce and other farm products. Value-added products such as bouquets and specialty or seasonal arrangements can be successful in these markets. Cut flowers may also be included as part of a community supported agriculture (CSA) share. Wholesale options include supermarkets, garden centers and craft stores. Marketing difficult-to-find or novelty cut flowers to retail and wholesale florists is also a possibility. Hotels, restaurants, caterers and the internet may offer other marketing opportunities. Growers should develop several different marketing avenues.

## Market Outlook

Demand for cut flowers has been increasing since the early 1990s. Many traditional cut flowers, such as roses, chrysanthemums and carnations, are now produced in Central and South America, where production costs are considerably less. There the cost of labor is much lower and the climate allows these flowers to be produced with little or no environmental



control. However, numerous specialty cuts, such as lilies, snapdragons, gerbera, tulips and gladiolas have emerged as important domestically produced favorites. The reason certain flowers are competitive when produced locally varies. Flowers such as gerbera and lily do not ship well at prime maturity. Others, such as snapdragon, must be shipped upright to prevent bending, which is not feasible when shipped from international sources. Cut stems of bulb crops have a very short vase life, so long distance shipping reduces their vase life to the point that they would be unmarketable to U.S. consumers.

The total value of cut flowers produced in the U.S. increased from \$403 million in 2009 to \$462 million in 2014, according to the USDA. This increase mainly occurred from increased value of production in California. While it can be difficult to break into current markets, particularly wholesale florists, there is a niche for uncommon cut flowers grown in Kentucky. Local growers can have a marketing advantage if they are able to provide difficult-to-ship or otherwise hard-to-find specialty flowers. In addition, locally produced flowers are fresher with a longer vase-life than those



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shipped from distant markets. Organic certification may be a way to add value to your cut flowers if your potential customers value organic production.

## **Production Considerations**

### *Plant selection*

There are numerous annuals, perennials, woody plants, vines and ornamental grasses that can be produced commercially for cut flower markets. Each potential crop/cultivar should be evaluated in light of intended market, consumer demand and sales potential. Ease of production, harvest and handling are also critical concerns. In addition, consider the crop's adaptability to local growing conditions, resistance to diseases and insect pests, storage and vase-life, and flowering season. Producing new introductions, as well as old favorites, increases the market appeal. Take into account the crop's production expenses, especially labor costs, and compare those estimates with the flower's market value and expected revenue.

### *Site selection and planting*

Cut flower growers need to be familiar with the different production and harvest requirements of a diverse group of plant material. In general, cut flowers prefer fertile, well-drained soil and full sun throughout the day. Many producers prefer growing plants in 4- to 6-inch raised beds to improve drainage and ease of harvest. Plasticulture has proved effective in reducing weed competition and conserving moisture for plants grown in raised beds. A source of water for trickle irrigation is essential to production. Some cut flowers will require support to prevent lodging and to ensure straight stems.

Planting dates depend upon the market and type of plant being grown. Annuals are planted as soon as all danger of frost has passed in the spring and staggered plantings are common. Because transplants come into flower sooner than direct-seeded plants, growers may choose to use transplants to capture the early market and then direct-seed later plantings. Transplants can be started in a greenhouse or cold frame or they may be purchased from a supplier. High tunnels have been successfully used to extend the cut flower season in Kentucky from late winter/early spring to well into the fall months. Biennials and perennials are generally planted in the fall for spring flower production, although some fast-growing perennials may be started in the spring for late summer or early fall sales. Staggered plantings of selected annuals, perennials and bulbs can be planned to yield cut flowers throughout the season. A continuous, consistent supply of flowers can be important in some markets.

### *Pest management*

The most common insect pest problems encountered include aphids, leafhoppers, mites and thrips. Disease problems include foliar bacterial and fungal leaf spots, powdery mildew, and root rots. Growing resistant cultivars and following good cultural practices is the best means of controlling these problems. In some cases, preventative pesticide applications are warranted. Weed control is critical since competition from weeds not only reduces plant quality and quantity, but also raises labor costs by increasing the time needed for harvest. Many growers use few pesticides, if any.

Growers considering certified organic cut flower production must be aware that it is much more challenging to produce organic compared to conventional cut flowers. The threshold for pest damage on cut flowers is essentially zero, so insect, disease and weed control in the field are more difficult within the limits of organic production. It is vital for all growers to have a pest management strategy in place before beginning cut flower production.

### *Harvest and storage*

The proper stage of harvest will depend upon a number of factors including the type of market, cultivar, distance to market and intended use. Flowers are hand-harvested with a sharp knife or scissors during the coolest part of the day. Once harvested, stems are placed in a bucket of water containing floral preservative. Harvested flowers should then be placed in a cooled area or cooler until sold. Floral preservative and refrigeration are essential to keeping flowers fresh and extending their shelf and vase life. Do not store cut flowers with ethylene-producing fruits and vegetables as it can have an adverse affect on the buds and blooms of sensitive plants.

A separate shaded packing area or shed near the field is useful for sorting and grading harvested plant material. Depending on the market, cut flowers are commonly sold individually, in bunches of five or 10 stems, or in mixed arrangements. Bunches should contain uniformly sized flowers of the same developmental stage. Packaging containers may vary from 5-gallon plastic buckets to clear cellophane sleeves.

### *Labor requirements*

Cut flower production is labor and management intensive. Planting, weeding and harvesting all require trained labor. Crops that flower all at once, such as daffodils or tulips, will require the instant availability of additional laborers during harvest.

## Economic Considerations

Field-grown cut flowers can be a way into the floriculture industry without the capital investment and overhead necessary for some greenhouse crops. The trade-off for lower capital investment is usually higher labor costs; a half acre of flowers may yield a gross income in the \$10,000 range but require high labor hours for harvest and marketing. Worksheets that help a grower determine their costs of production, such as the sample budget worksheets developed by Penn State University or those in the “Pricing Specialty Cuts” article in the Southeast Outdoor Cut Flower Manual (see Selected Resources below to access these publications), will help a grower gauge economic profitability.

As with other high-value crops, cut flower profitability can be highly variable, depending greatly on price and yield. Assuming a 1,000-square foot production area, budget worksheets developed by Penn State University indicate returns above total costs for lisianthus ranging from a loss of \$880 to returns of \$4,450. The same production area devoted to sunflowers could generate returns above total costs ranging from a loss of \$1,315 to \$3,465 in positive returns. These estimates include the cost of 95 hours of hired labor for lisianthus and 125 hours of hired labor for sunflowers, valued at \$12.50 per hour.

## Selected Resources

### Online publications

- 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>
- Cut Flower Production (Penn State University Agricultural Alternatives, 2012) <https://extension.psu.edu/cut-flower-production>
- Care and Handling of Cut Flowers (Oklahoma State University) <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-1115/HLA-6426web.pdf>
- Commercial Specialty Cut Flower Production Harvest Systems, MF-2155 (Kansas State University, 1995) <http://www.ksre.ksu.edu/bookstore/pubs/mf2155.pdf>

- Fertilization of Field Grown Specialty Cut Flowers, MF-2154 (Kansas State University, 1995) <http://www.ksre.ksu.edu/bookstore/pubs/mf2154.pdf>
- Field Grown Annuals for Cut Flowers (University of Massachusetts) <https://ag.umass.edu/greenhouse-floriculture/factsheets/field-grown-annuals-for-cut-flowers>
- Getting Started in the Production of Field-grown Cut Flowers (Virginia Tech, 2009) <http://pubs.ext.vt.edu/426/426-618/426-618.html>
- Postharvest Handling of Fresh Cut Flowers and Plant Material, MF-2261 (Kansas State, 1997) <http://www.ksre.ksu.edu/bookstore/pubs/mf2261.pdf>
- Southeast Outdoor Cut Flower Manual (North Carolina State University, 2000) [https://cutflowers.ces.ncsu.edu/wp-content/uploads/2017/11/se\\_cut\\_flwr.pdf?fwd=no](https://cutflowers.ces.ncsu.edu/wp-content/uploads/2017/11/se_cut_flwr.pdf?fwd=no)
- Specialty Cut Flower Production and Marketing (ATTRA, 2006) <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=39>
- Specialty Cut Flowers: A Commercial Grower’s Guide, MF-1034 (Kansas State, 1992) <http://www.ksre.ksu.edu/bookstore/pubs/MF1034.PDF>

### Floriculture websites and associations

- Association of Specialty Cut Flower Growers <http://www.ascfg.org>
- Floriculture (Purdue University) <http://ag.purdue.edu/hla/Extension/Pages/floriculture.aspx>
- e-Gro, Electronic Grower Resources Online. <https://e-gro.org>

### In print

Specialty Cut Flowers, 2nd edition. Allan M. Armitage and Judy M. Laushman. 2008. Portland, OR: Timber Press. 636 pp.

### Suggested Citation:

Kaiser, C. and M. Ernst. (2018). *Field-grown Specialty Cut flowers*. CCD-CP-70. Lexington, KY: Center for Crop Diversification, University of Kentucky College of Agriculture, Food and Environment. Available: <http://www.uky.edu/ccd/sites/www.uky.edu/ccd/files/cutflowers.pdf>

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April 2018

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