

# Culinary Herbs

## Introduction

Culinary herbs are the fresh or dried leaves of herbaceous plants that are used as a food flavoring. There are literally hundreds of plants that can be grown for this purpose. Some of the more popular commercially grown herbs include cilantro (*Coriandrum sativum*), chives (*Allium schoenoprasum*), dill (*Anethum graveolens*), French tarragon (*Artemisia dracunculus*), horseradish (*Armoracia rusticana*), mint (*Mentha* spp.), oregano (*Origanum vulgare*), parsley (*Petroselinum* spp.), rosemary (*Rosmarinus officinalis*), sage (*Salvia officinalis*), sweet basil (*Ocimum basilicum*), and thyme (*Thymus vulgaris*).

## Marketing

Culinary herbs may be sold fresh, dried, and as live plants. Potential fresh herb growers should talk to upscale restaurant chefs, caterers, or to produce brokers, especially those who sell to restaurants. Kentucky restaurants surveyed in 2006 indicated they were most interested in sourcing basil, chives, cilantro, parsley, and rosemary from local growers. Other herbs of specific interest to restaurants include horseradish, oregano, parsley, sage, tarragon, and thyme.

Chefs purchasing fresh herbs will need to be guaranteed a daily supply of quality herbs throughout the year. In addition, fresh cut herbs may be sold to gift shops and natural food stores. Herbs are also excellent for early and late season sales at farmers markets; however, only low volumes can



BASIL

be moved this way. Kentucky producers have had some success in marketing greenhouse-grown herbs wholesale to major grocery chains. Direct marketing through roadside stands is also a possibility.

Live herb plants are often promoted as “edible landscaping.” Possible outlets include farmers markets, local garden centers, landscape contractors, discount stores, grocery stores, and roadside stands.

Value-added products, such as herbal teas, butters, jellies, sauces, and wreaths are another way to market herbs. Displaying recipes with fresh-cut or live herbs can help promote the sale of these crops.

## Market Outlook

Current consumer demand for herbs and herb products is high, as is the interest in natural, organically grown products. In addition, the market for ethnic herbs, such as cilantro, is expanding.

**Crop Diversification  
& Biofuel Research  
& Education Center**

Wholesale market channels are often more difficult to access than direct markets; however, some Kentucky producers have gained access to regional wholesale markets because of superior product quality.

Providing fresh, high-quality herbs when a comparable product is not available is one key to successful herb marketing. Off-season production may mean the use of row covers, high tunnels, or greenhouses to extend the season. Another key is providing a fresher product than the one currently available. For example, field-grown fresh cilantro from California is commonly available at local supermarkets; however, the quality is reduced by the 3-day shipment from out-of state. Local growers could successfully compete for this market by providing a fresh, consistent supply of this herb.

In general, herbs are part of a specialized niche market that may take some time to develop. Growers may find that they spend more time marketing their product than actually producing it. Producers are cautioned against entering herb production as their primary business, but instead should consider beginning small and expanding only as the market expands. Herbs may be a good supplement to the existing product line of a greenhouse or farm already in business.

## **Production Considerations**

### *Site selection and planting*

#### FIELD-GROWN

Specific cultural requirements do vary depending on the herb. However, as a rule, herbs are easy to grow, tolerating a wide range of soils and growing conditions. Generally, select a warm, sunny site with good soil drainage and few weed problems. Raised beds with plastic mulch and drip irrigation increase yields and produce a cleaner product. Some herbs can be direct-seeded, while others

should be transplanted. The use of row covers or tunnels can help extend the season.

#### GREENHOUSE-GROWN

Herbs can be grown in the soil floor of a small or large greenhouse. Grow plants in soil just as you would in a garden or field by sowing seeds directly into rows or beds. Drip irrigation greatly reduces splashed soil so the leaves are easier to clean. Plants can also be grown in raised bed systems. These utilize a greenhouse bench with a 6-inch to 8-inch tall frame filled with an appropriate sterilized growing substrate. This reduces the incidence of soil-borne diseases and gives the grower more control over the root zone moisture level. Drip irrigation is often used in raised bed systems as well. This system performs best when a single herb is grown in the entire bed. For growers seeking to produce smaller quantities of many different herbs, growing the plants in individual pots is more practical. For most herbs, a 1- to 3-gallon size nursery pot is sufficient.

Some herbs may be adapted to the tobacco greenhouse float system and could possibly be grown on protected outdoor float beds as well. While University of Kentucky trials showed cilantro did not perform well in a float bed system, it did well on a constant water table mat sub-irrigation system. Growing herbs hydroponically eliminates the need for washing after harvest; however, hydroponic production is difficult to do organically and requires significant investment and knowledge.

### *Pest management*

Few pesticides are available for use on herbs and fewer still for those produced organically. Preventative pest management practices, such as a good Integrated Pest Management (IPM) program, are the main means of disease and insect control. Following good cultural practices, such as proper crop rotations and sanitation, is essential



SAGE

in minimizing losses due to pest problems. Weed control in beds is accomplished through hand hoeing and mechanical cultivation. Greenhouses must be kept weed-free, often requiring manual weeding. Proper cultural practices are the key both in the field and greenhouse. Plants should receive adequate, but not excessive, water and fertilizer to prevent stress. Healthy plants are much less susceptible than stressed plants to attack by both insect and disease pests.



CHIVES

### *Harvest and storage*

The proper stage of harvest will depend upon a number of factors, including the type of herb and market. Herbs are hand-harvested and then washed, weighed, and packaged. Hydroponic plants are generally harvested and shipped with the roots intact for longer post-harvest life. Plants are often packaged individually in plastic bags and then boxed as the market requires. Excess fresh herbs can be dried and stored until marketed.

### *Labor requirements*

Herb production is labor intensive because these crops are planted and harvested by hand. Labor is needed for seed sowing, transplanting, harvest, packaging, and shipping. The harvest and packaging process can especially be time-consuming. For example, the total labor for one 100-foot by 4-foot bed of basil is at least 7 hours; harvest and packing labor is nearly half that amount.

## **Economic Considerations**

Initial investments include land preparation, purchase of plants or seeds, and installation of an irrigation system. Additional expenses can be incurred by growers using season extension structures, such as high tunnels. Growers planning to market dried herbs will need an on-farm drying facility. Investment will be required to train laborers for herb production, harvest, and packaging.

Culinary herb production can result in significant returns to the owner's land, labor, and investment. A 100-foot by 4-foot bed of basil marketed at \$10 per pound can return over \$150 to land and management. Higher-value herbs, such as chives, can generate even greater value per square foot of production. For well-managed, small-scale, direct-market herb production, producers could generate returns to land, labor, and management in excess of \$5,000 to \$10,000 per acre. Greenhouse production of herbs, depending on the crop produced, can generate greater profits but requires significantly more investment. As with any new enterprise it is critical that producers carefully analyze the economic viability of the operation. A well developed production and marketing plan should be in place before beginning production of culinary herbs.

## **Selected Resources**

- Culinary Herbs, HO-74 (University of Kentucky, 2005)  
<http://www.ca.uky.edu/agc/pubs/ho/ho74/ho74.pdf>
- Greenhouse Production of Garlic Chives and Cilantro (University of Kentucky, 1996)  
<http://www.hort.purdue.edu/newcrop/proceedings1996/V3-594.html>
- RAFT System for Vegetables: Cilantro (University of Kentucky)  
[http://www.uky.edu/Ag/Horticulture/anderson/raft\\_veg/cilant.htm](http://www.uky.edu/Ag/Horticulture/anderson/raft_veg/cilant.htm)
- Selected Internet Resources for Herb Marketing (University of Kentucky, 2011)  
<http://www.uky.edu/Ag/cdbrec/herbmarketing.pdf>

- Herbs *in* Ohio Vegetable Production Guide (Ohio State University, 2010)  
<http://ohioline.osu.edu/b672/pdf/Herbs.pdf>
- Herb Production in Organic Systems (ATTRA, 2005)  
<https://attra.ncat.org/attra-pub/summaries/summary.php?pub=42>
- Herbs: Organic Greenhouse Production (ATTRA, 2005)  
<https://attra.ncat.org/attra-pub/summaries/summary.php?pub=53>
- International Herb Association  
<http://www.iherb.org>
- Iowa Vegetable Production Budgets: Basil (Iowa State University, 2006)  
<http://www.extension.iastate.edu/Publications/pm2017.pdf>
- Local Foods No. 1 – Seed Spices: Cumin, Dill, Anise, Fennel, Caraway, Ajwain  
<http://attra.ncat.org/attra-pub/summaries/summary.php?pub=344>
- Local Foods No. 2 – Cilantro (ATTRA, 2010)  
<http://attra.ncat.org/attra-pub/summaries/summary.php?pub=345>
- Local Foods No. 3 – Basils (ATTRA, 2010)  
<http://attra.ncat.org/attra-pub/summaries/summary.php?pub=346>
- Local Foods No. 4 – Oregano (ATTRA, 2010)  
<http://attra.ncat.org/attra-pub/summaries/summary.php?pub=347>
- Medicinal and Culinary Herbs (USDA National Agriculture Library, 2005)  
[http://afsic.nal.usda.gov/nal\\_display/index.php?info\\_center=2&tax\\_level=2&tax\\_subject=298&topic\\_id=1426](http://afsic.nal.usda.gov/nal_display/index.php?info_center=2&tax_level=2&tax_subject=298&topic_id=1426)

---

*Reviewed by Bob Anderson, Extension Specialist (Issued 2003, Revised 2006)*

*Reviewed by Rebecca Schnelle, Extension Specialist (Revised 2010)*

*Photos courtesy of Rosie Lerner, Purdue University*

**June 2010**

---

For additional information, contact your local [County Extension](#) agent