

Small Farm Herb Production— Is It for You?



Vickie Parker-Clark, Barbara Arnold, and Danny L. Barney

Throughout history, herbs have played important roles in society. The number of herbal products is staggering. We use herbs for cooking, food supplements, medicines, cosmetics, soaps and shampoos, aromatherapy, wreaths, candles, and many other products. In recent years, the demand for herbal products has exploded as our culture adopts alternatives to traditional medicine and personal care.

Herbs are grown in every state, with much of the production on small, privately owned farms. This decentralization makes estimating production and prices difficult. On the other hand, it also provides small-scale growers greater opportunities. Unlike many crops, no single region or organization dominates the market.

For small farmers herbs have many advantages. Many annual and perennial herbs are adapted to wide ranges of climates and soils (Table 1). More tender crops can be grown in greenhouses and large quantities can be produced on small acreages. Many herbs tolerate drought, require little fertilizer, and are relatively tolerant of pests and diseases. Herbs grow quickly and a farmer can be in production and making sales within a few months. You can add value to your herbs and increase profits with inexpensive, low-tech facilities.

As with any business venture, opportunities come with risks. This publication will help

you evaluate the opportunities and risks associated with herb farming and to decide whether an herb enterprise is for you.

Management

As with other high-value crops, herb production requires much labor and expertise. Buyers insist on top quality. Consumer demands change constantly, requiring growers to be knowledgeable about marketing and willing to change crops quickly to meet customers' expectations.

An herb entrepreneur must not only be an expert in growing herbs, but also understand financing, cash flow, business management, and marketing. Paying attention to detail and maintaining accurate records of every aspect of the operation from planting to delivering final products, is critical. You may need state or local permits to market your goods, and must be aware of federal and state laws that relate to your operation. *Licenses and Legal Requirements (Further Reading section)* provides more information. Depending on how you market your herbs and how much you sell, you may need a nursery license which is both easy and inexpensive to obtain. For more information on nursery licenses contact the Idaho State Department of Agriculture at 2270 Old Penitentiary Road, Boise, Idaho 83712-8298.

Table 1. Herbs commonly grown in Idaho¹

Annuals			
basil (10 types)	cardoan	fenugreek	milk thistle
borage	chamomile (<i>Matricaria recutita</i>)	garlic	parsley
blessed thistle	chervil	lemon mint	safflower
Calendula	dill	marjoram	summer savory
caraway	epazote	Mexican mint marigold	sweet Annie
Perennials			
Arnica	evening primrose	lemon balm	self heal
bedstraw	fennel	lovage	soapwort
betony	flax	madder	sorrel, French
bee balm	fleabane	marguerite, golden	southernwood
boneset	foxtglove, Greek	marshmallow	speedwell
burnet	germander	meadowsweet	sweet cicely
butterfly weed	ginger, wild	mints	tarragon, French
catmint	goldenrod	motherwort	thyme
catnip	Hesperis	mugwort	valerian
chamomile (<i>Anthemis nobilis</i>)	hops	mullein	vervain
chives	horehound	oregano	wintergreen
comfrey	horseradish	pennyroyal	woodruff, sweet
costmary	hyssop	pyrethrum	woodsage
Coreopsis	Joe Pye weed	rue	wormwood
curry plant	lady's mantle	sage	yarrow
Echinacea	lambs' ears	Santolina	
elecampane	lavender	savory	

1. Not all of these species are adapted to all growing areas in Idaho. If you are not sure how they will perform at your site, evaluate small test plantings before growing the crops commercially.

Costs and Returns

Establishing and maintaining a commercial herb farm can be inexpensive for a backyard grower or very expensive for a multi-acre farm. Adding a greenhouse increases production flexibility but also increases financial and management inputs. Whatever the size and complexity of your proposed farm, build your business on paper before investing a penny in land, equipment, or plants. Start creating your paper farm by developing an enterprise budget. This simply means that you identify all of the costs for establishing, producing, and marketing your crops. Then estimate how much you can expect to produce and what your earnings will be. Developing an enterprise budget will help you decide whether herb farming will be profitable. To aid in building your paper farm, the *Snapshot of an Herb Farm* section describes a successful small-scale herb farm in northern Idaho.

Although herbs come into production relatively quickly, you must still pay out-of-pocket establishment costs and carry production for at least several months before you see any income. Many businesses take two years or more to break even and become profitable. Storage and processing facilities such as refrigerators, freezers, drying sheds, and dehydrators take money to buy and maintain.

Specialty crop enterprises, especially new ones, tend to be risky. Unless you are an established farmer with good credit, obtaining a bank loan to finance a start-up herb enterprise will probably be difficult. Obtaining a loan from a venture capitalist may also be difficult. In some cases the Idaho State Department of Agriculture (see *Management* section for address) can assist new enterprises with revolving loans.

Most new specialty farmers finance their operations with personal funds or assistance from family and friends. For couples, one partner often

works off-farm to support the family and finance the business start-up. The other partner works to establish the farm.

Regardless of your funding, start small and stay focused. Buy only what you need to grow and market your crops. Keep your production and marketing costs as low as possible while still maintaining high quality.

Marketing

Marketing is much more than selling. It involves deciding where to build your enterprise, what crops to produce, how you will grow and process the crops, who you expect to buy your products, how you will advertise, and how you will deliver your goods to customers. Whether you already have a location picked out or not, the publication *Specialty Farming in Idaho: Selecting a Site* (Further Reading section) will help you make these decisions.

Herbs can be sold in many ways, either directly to consumers or wholesale to brokers and retailers. Each marketing strategy has its advantages and disadvantages.

Direct marketing—Roadside stands, retail garden centers, restaurants, farmers' markets, U-pick farms, and deliveries to customers' homes are traditional direct marketing methods. Internet and catalog sales have opened up today's markets and allow small companies to reach customers worldwide. Because of low marketing costs and higher per-unit returns, direct, local marketing is probably the place for most new growers to start. Remember, however, that local markets are easily flooded and opportunities for local sales are greater near large communities.

Location is critical for on-farm and roadside stand sales. Your site must be highly visible and easily accessible. Provide plenty of parking and safe conditions for your customers and their children. Increase roadside stand and U-pick sales by offering customers a variety of products. If you plan to sell by direct marketing you may find it helpful to grow several different crops such as a variety of herbs, fruits, vegetables, and/or cut

flowers. You may also sell at farmers' markets where a variety of vendors and products help attract customers. For a list of farmers' markets in your area contact the Idaho State Department of Agriculture or your local county extension office. Before opening a stand or selling U-pick check with local zoning and health departments to find out how local regulations will affect your business.

Direct marketing requires that you work closely with customers and respond quickly to their needs. For more information on direct marketing refer to *Marketing Your Produce Directly to Consumers* (Further Reading section).

Wholesale marketing—Wholesale marketing allows you to sell large quantities of produce or goods at once, generally at a lower price per pound or unit than you could get from direct sales. What you lose in per-unit price you try to make up in volume sales or reduced marketing costs. A big advantage with wholesaling is the ability to specialize in one or a few crops. Specialization can reduce management costs and improve quality compared with highly diversified enterprises. Specialization, however, increases your risk of crop losses due to inclement weather, pests, and diseases. It also reduces your marketing flexibility.

Grocery stores, health food stores, produce brokers, and pharmaceutical firms are the usual wholesale buyers for herbal products. Wholesale marketing may require you to learn and comply with grading, packaging, storage, and transportation standards. Transportation across state and national borders often requires permits and tariffs. As a new grower focus on local buyers. For larger sales and to ensure a variety of products consider forming a cooperative with other farmers and processors. The publication *Forming a Cooperative* (Further Reading section) provides more information.

Value-added products—Creating herbal products may increase your profits. Soaps, shampoos, cosmetics, scented candles, essential oils, sachets, ornaments, vinegars, and salad

dressings are just a few of the hundreds of popular herb products marketed today. Creating these products, however, will take time and money away from production. Packaging and transportation costs may increase compared with produce sales. Manufacturing, packaging, and marketing foods, drugs, and cosmetics require conformity with federal regulations. Product liability insurance may be a wise choice. You may need to use a certified kitchen to produce vinegars, herbal jellies, and other edible products. Contact your local health department for more information.

Risks

The herbal industry has long been prone to boom and bust cycles. A news report linking a particular herb to some health benefit will spur incredible demand overnight. By the time you establish your crop and get it ready for market the fad may have passed or you may be facing tremendous competition from other growers who had the same idea. To stay competitive herb entrepreneurs must continually develop themselves professionally through trade journals, newspapers and magazines, seminars, and workshops.

Nature provides many of a farmer's challenges. Untimely frosts or excessive temperatures may damage or destroy crops and greenhouses can collapse under heavy snow. Rain complicates planting and harvest. Wet conditions increase disease problems. Bad weather discourages roadside stand and U-pick customers. Weeds, especially in perennial plantings, can choke off production and increase labor costs. Hiring employees, marketing, and transportation come with their own risks.

You can reduce risks by proper site and crop selection, preparing your site well, installing a reliable irrigation system, and diligently caring for your crops. Advance planning and marketing reduce risks associated with harvesting, transporting, and selling products. Plan for an occasional crop failure and develop a

backup marketing plan. For example, if a buyer unexpectedly cancels a contract for or refuses a shipment of fresh-cut herbs, be prepared to dry the herbs for later sales or processing.

Snapshot of an Herb Farm

Herb enterprises range from tiny backyard operations to huge multinational corporations. Most start-up herb farms cover one to a few acres, produce a variety of herb crops, and focus on local marketing. The following description of one of the authors' farms will give you an idea of what a typical small-scale herb farm is like.

The Nothing But Herbs farm covers 4 1/2 acres and includes 3 acres of field crops, two greenhouses, two cold frames, and a sales area. The large greenhouse (2,400 square feet) is permanently covered with a greenhouse-grade plastic film that lasts four to five years in northern Idaho. The small greenhouse (480 square feet) and sales room are covered with clear plastic each spring. In July the small greenhouse is transformed into a shade house by draping it with shade cloth. The sales room is converted into a drying shed by covering it with black plastic film.

The owner's home, shop, and personal gardens occupy the rest of the property. From this farm the owner grows and sells 230 varieties of herbs. Products include potted plants, fresh-cut and dried herbs and flowers, and value-added herbal products.

Herb production starts in the fall. The owner cleans and sanitizes the greenhouses which have been empty since mid-June. Plants to be propagated during the winter or sold during the holiday season, such as topiaries and herb planters, are brought inside. Fall is a good time to sort, recycle, and clean pots, flats, and other equipment. Plant tags and other supplies must be inventoried, and orders placed for seeds and plugs.

Sowing seeds in the greenhouse begins in November and continues weekly through April.



Some seeds must be exposed to cold, wet conditions (stratification) and others to light before they can germinate. Certain seeds germinate only in the dark, while others must have their seed coats nicked (scarification) to germinate. In short, each crop has its own special needs.

Seeds are planted in nursery flats containing a soilless potting mix and covered with a thin layer of fine vermiculite. The grower then covers the flats with clear, plastic domes to hold in moisture and places the flats on electrical pads or cables that provide bottom heat. Seeds germinate in five days to two months depending on the crop. Following germination, seedlings are transplanted into six-cell inserts for growing out and later into 4-inch pots for sale. Larger plants go into 1-gallon pots. Repeated transplanting is labor intensive but helps ensure stout plants with well developed roots. Starting herbs in small pots also allows you to grow more plants in a given space.

Herb varieties that are sterile or do not produce uniform, true-to-type plants from seed are propagated by taking cuttings from those plants. Cuttings are dipped into a chemical that promotes root formation, stuck into sand or vermiculite, placed on bottom heat, and misted frequently. Delicate cuttings may require clear, plastic coverings or an automated misting system to prevent them from drying out. Most cuttings are taken from actively growing plants during December through March. Once the cuttings have rooted they are transplanted into individual pots for sale or later transplanting into the field.

Although greenhouses containing several to many crops take more time to water and fertilize than houses with single crops, the owner has chosen to grow a large variety of herbs in the greenhouse. This diversification ensures that a single pest or disease is unlikely to damage all of the different crops. She checks each plant daily for pests, diseases, over or under watering, and other problems. Sticky traps placed throughout the greenhouses help monitor insect pest populations. Other daily tasks include watering, monitoring greenhouse temperatures, and ensuring adequate ventilation.

Plants grown in the greenhouse are sold between April and mid-June, with the first-sown crops being marketed wholesale to local garden centers. As the first crops are sold, later sowings fill the greenhouse with plants that will be sold directly to retail customers.

Like many herb farms this is a diversified operation. Some greenhouse plants are not sold containerized but are transplanted into fields. The fields are prepared for planting by rototilling during April and May. At this farm 95 percent of the annual field-grown crops start as transplants from the greenhouse. The remaining 5 percent, including sunflowers, safflower, nigelia, cilantro, and dill, emerge quickly and are sown directly into the field. The owner uses greenhouse-grown stock to replace missing plants and start new crops in perennial fields.

Weeding is an important and labor-intensive task. Weeds stunt crop plants, reduce quality and yields, and can harbor pests and diseases. Workers hand weed each field throughout the growing season and rototill alleys monthly. Some herb growers use mulches to help control weeds, reduce hand weeding, and retain soil moisture.

Maintaining healthy soil is important in field growing. The owner of Nothing But Herbs uses cover crops, compost, and manures to provide organic matter and nutrients. Organic and chemical fertilizers supplement needed plant nutrients.

Field harvests last from late June through October. The weather plays an important role. Wet plants don't dry well and fresh herbs picked on a hot day wilt unless they are cooled immediately. Harvesting includes much more than simply collecting plants from the field because all crops must be processed either by cooling for fresh use, hanging in a drying shed, or being dehydrated.

Deadheading perennial crops is a summer task that involves removing seed heads and dead flowers to promote new growth. Workers harvest seeds for some of next season's crops at this time. Frequent, thorough harvesting helps reduce the need to deadhead.

Access to high-quality irrigation water is

important. Nothing But Herbs lies within a federal irrigation district and the availability of inexpensive water has contributed to the success of the farm. The owner irrigates the fields using overhead sprinklers. On sites where water is limited, erosion is a concern, or plastic mulches cover crop rows, trickle or drip irrigation systems are alternatives to sprinkling. Drip and trickle systems also help reduce weed pressure by keeping water in the crop rows. You must, however, inspect every line regularly to spot plugged emitters.

Office work is essential in operating a successful business. Routine tasks include book-keeping, advertising, marketing, contacting customers and suppliers, researching and ordering supplies, accepting and making deliveries, net-

working, learning and meeting government regulations, continuing education, and more.

Keeping accurate and detailed records is important. Seeding records help determine how long it takes to bring a particular crop or variety to sale or planting size. Labeling plants at every stage reduces confusion, and buying preprinted labels helps save labor. Calculating and recording yields, production costs, sales, and returns for each crop and product allow the owner to figure out where she is making or losing money, and helps her select crops and products.

Table 2 lists labor requirements for Nothing But Herbs. The owner does much of the work, trading her time for employee salaries. While she recognizes the need to market and add value to her crops, the lack of qualified labor in the area

Table 2. Hours of labor required for a 3¹/₂-acre herb farm.

Location	Task	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Greenhouse	Propagation	48	48	48	48	15			4	4		32	32
	Transplanting		4	80	120	80				8			
	Arranging flats ¹			10	32	40	76	8	8	28	52		
	Maintenance ²	14	14	14	14	22	12	12	12	32	14	14	14
	Watering and fertilizing	24	30	36	40	40					30	30	30
	Pest control	4	4	8	8	8	8					4	4
Field crops	Mechanical tillage ³				10	5	10	10	10	10	18	10	
	Planting				10	82	48				6		
	Irrigation						16	16	16	16			
	Fertilizing					10	2	2	2	7			
	Hand weeding				20	40	70	130	130	40			
	Deadheading and seed collection				13	10					10	10	
	Harvesting					11	57	110	200	250	65	3	
	Packaging					2	2	2	2	16	23	30	17
Advertising					6	6	6	6	6	6	6	6	
Marketing		12	12	16	16	16	12	12	12	8	8	8	8
Office ⁴		4	30	8	8	20	20	20	20	16	12	8	2
	Total hours	106	142	220	339	407	339	328	422	441	244	155	113
	Owner's hours	106	142	220	240	268	245	245	245	245	205	155	113
	Hired labor				99	139	94	83	177	196	39		

1. Moving and organizing plants to meet cultural requirements and sales activities.
2. Maintenance includes weeding, cleaning, repairs, snow removal, etc.
3. Includes both tractor and walk-behind tiller work.
4. Includes accounting and record keeping.

Table 3. Sample annual costs and returns for a 3¹/₂-acre herb farm, based on 1998 prices.

Income and variable expenses		Source of income		
		Greenhouse crops	Field crops	
			Annuals and seedling perennials	2-year-old + perennials
Income ¹	Bedding plants – wholesale	\$ 9,040		
	Bedding plants – retail	15,539		
	Specialty plants – wholesale	1,800		
	Specialty plants – retail	1,200		
	Fresh-cut, dried, and value-added field-grown herbs		\$ 22,500	\$ 15,000
	Total gross income	\$ 27,579	\$ 22,500	\$ 15,000
Expenses	Plastic film for seasonal cold frames (does not include greenhouse film)	\$ 435	\$ 75	\$ 10
	Mulch	50		
	Pesticides	100	20	20
	Seeds	855	155	21
	Potting soils	1,878	339	45
	Tags	364	67	9
	Plastic trays, pots and inserts	1,210	219	29
	Specialty containers	640		
	Fertilizer	294	75	75
	Utilities	1,992	360	48
	Water	50	85	85
	Cover crop		50	
	Plants	120	(see Key 2)	
	Fuel	35	60	60
	Labor (figured at \$5.50 per hour)	1,100	1,678	1,683
	Administration	884	883	883
	Miscellaneous expenses, including replacement of tools	120	75	75
Total variable expenses	\$ 10,127	\$ 4,141	\$ 3,043	
Total net income³	\$ 17,452	\$ 18,359	\$ 11,957	

1. Reflects 20% loss due to non-sales or non-harvest of plants caused by insect, disease, or cultural problems.
 2. Cost of plants figured in greenhouse production, since these are transplants from the greenhouse.
 3. Fixed expenses for land, taxes, insurance, equipment, greenhouse construction, and depreciation would have to be deducted from net income.

requires that she spend much of her time in production activities.

Table 3 lists average annual costs and returns for the farm. Use these figures only as a guide in evaluating whether herb farming is right for you. Every farm design and operation is unique and your costs may be higher or lower. The table does not include fixed costs such as land purchase or rental, taxes, greenhouse construction, major equipment purchases, depreciation, insurance, or taxes. Remember that gross and net

incomes vary with the season, market, product quality, competition, and other factors.

You Still Want to Grow Herbs?

So you still have visions of becoming an herb entrepreneur. What do you do now? First, understand that many small, specialty farms fail because growers tend to start with too much acreage and too little knowledge and experience. If you are not already experienced in *commercial* herb

production, start with no more than 1/2 acre of field crops or a greenhouse 1,500 square feet or smaller. Read everything you can on herb growing and marketing. Attend herb conferences and join herb growing and marketing organizations, many of which can be found on the internet. Take the time to learn about your site, crops, production practices, and markets. If, after gaining some experience, you still want to be an herb farmer, you will have developed many of the skills and resources needed to safely expand your business.



Further Reading

University of Idaho Publications

The University of Idaho carries many publications on specialty farming. To order publications or a catalog, contact Agricultural Publications, University of Idaho, Moscow, Idaho 83844-2240. The internet address is <http://info.ag.uidaho.edu>.

- Forming a Cooperative. *CIS 840*.
- Business and the Family. *CIS 940*.
- Licenses and Legal Requirements. *CIS 941*.
- Conduct Your Own Garden Research. *CIS 1041*.
- Marketing Your Produce Directly to Consumers. *EXT 742*.
- Specialty Farming in Idaho: Is It for Me? *EXT 743*.
- Specialty Farming in Idaho: Selecting a Site. *EXT 744*.

Commercially Available Books

Many excellent books about growing and using herbs are available through book stores. A few suggestions appear below.

Ball, V. The Ball Redbook. Ball Publishing, 1991.

Goettemoeller, J. Directory of Flower & Herb Buyers. Prairie Oak Seeds, 1998. Available from Prairie Oak Seeds, P.O. Box 382, Maryville, Missouri 64468.

Holm, W.R., and MacGregor, D. Processing Guide for Specialty Crops. Science Council of BC-Okanagan, 1998. Available from BC Herb Growers Association, P.O. Box 1415, Aldergrove, BC V4W2V1 Canada.

Kowalchik, C., and Hylton, W. Rodale's Illustrated Encyclopedia of Herbs. Rodale Press, 1998.

Miller, R. The Potential of Herbs as a Cash Crop. Acres, 1998.

Murray, M. The Healing Power of Herbs. Prima Publishing, 1995.

Nau, J. Ball Culture Guide: The Encyclopedia of Seed Germination. Ball Publishing, 1993.

Reppert, B. Growing Your Herb Business. Storey Communications, 1994.

Shandy, P. Herbal Treasures: Inspiring Month-by-Month Projects for Gardening, Cooking, and Crafts. Storey Communications, 1990.

Stevens, A. Field Grown Cut Flowers. Avatar's World, 1997. Available from Avatar's World, 106 E. Hurd Road, Egerton, Wisconsin 53534. (800) 884-4730. Email: avatar@inwave.com.

Sturdivant, L., and Blakley, T. Medicinal Herbs in the Garden, Field, and Marketplace. 1999.

Taylor, T. Secrets to a Successful Greenhouse Business. GreenEarth Publishing Co., 1994.

Encyclopedia of Herbs. Published by the Herb Society of America.

The Business of Herbs. Bimonthly newsletter. Northwind Publications, 439 Ponderosa Way, Jemez Springs, New Mexico 87025-8036. (505) 829-3448. Email: Oliver@jemez.com.

About The Authors

Vickie Parker-Clark is a University of Idaho Extension educator in Coeur d'Alene, Idaho. Barbara Arnold is owner and operator of the Nothing But Herbs farm in Hayden, Idaho. Danny L. Barney is a University of Idaho Extension horticulturist and superintendent of the Sandpoint Idaho Research and Extension Center.