

Beekeeping Business Plan Workbook



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TABLE OF CONTENTS

INTRODUCTION	3
THE BUSINESS PLAN – Title Page/Executive Summary	5
THE BUSINESS PLAN – General Business Information	7
The U.S. and Midwest Beekeeping Industry.....	7
Characteristics of Beekeeping in Illinois	8
THE BUSINESS PLAN - Marketing	11
Mission Statement.....	11
Target Market	11
Competition	12
Marketing Strategy	14
THE BUSINESS PLAN - Management/Operations	19
Business Organization	19
Management and Employees.....	21
Labor Planning	23
Insurance.....	24
Suppliers	25
Professional Consultants.....	25
Licenses & Permits.....	26
Outside Influences.....	27
THE BUSINESS PLAN – Financial Plan Checklist	28
Financial Projections and Supporting Information	28
The 5 “C’s” of Credit	29
Sample Illinois Honey Production and Pollination Budget.....	30
Sample Apiary Establishment Cost Worksheet	31
Apiary Establishment and Equipment Cost Worksheet	32
Equity Investment Worksheet.....	33
Sources and Uses of Funds Worksheet	34
Sales Projection Worksheet	35
Operating Expense Worksheet.....	36
Personal Financial Statement.....	37
ADDITIONAL RESOURCES	39
Basics of Bee Biology and Management.....	39
Additional Opportunities in Beekeeping.....	40
Apiary Resource Section.....	42
Beekeeping Calendar	47

This business plan workbook is intended for those who are interested in beekeeping as a means of providing income. This includes those who are currently hobby beekeepers as well as those who do not yet keep bees, but wish to learn more about the business aspects of beekeeping. Small-scale beekeepers who currently sell honey will also find the information on business plans and practices useful. Apiculture, or beekeeping, offers opportunities for additional income for city dwellers as well as those living in rural areas. It's relatively inexpensive to produce a crop to sell on a modest scale. In addition, it requires little land. As many as 40 bee colonies can be kept in an area as small as 25 x 50 feet, often in spaces unsuited to crop production. Beekeeping can be readily integrated into small farm operations, including those that produce fruits and vegetables needing pollination. Bees also fit readily into small-scale livestock production, including pastured poultry. Locally produced honey can be an attractive addition to the mix of produce offered at farm stands and gift shops. Those who employ both sound beekeeping and business practices can generate a substantial part-time income from the sale of honey.

This business plan contains a limited amount of information about beekeeping practices. Individuals who wish to know more about honey bees and beekeeping practices should consult one or more of the sources listed in the Resource Section of this document. "Success in beekeeping requires an intimate knowledge of the biology of the honey bee, as all management practices are based on colony habits and bee behavior" (Mid-Atlantic Apiculture Research and Education Consortium, 2000). We would encourage anyone interested in beekeeping to read widely on the subject before deciding to keep bees. In addition to reading, new beekeepers should make observations of bee activities and examine their colony's hive on a frequent basis. They should perhaps also try different kinds of management practices, such as dividing a colony for purpose of increasing the number of colonies, simple methods of queen rearing and various methods of controlling swarming, which negatively affects honey production.

An excellent way to learn more about beekeeping is to join a local beekeeping association (Resource Section). Having a beekeeping mentor and examining hives with a more experienced person is one of the best ways to learn good management practices. The person who is curious, investigative and open-minded about bees and beekeeping is more likely to succeed in his/her business than one who starts with a primary focus on making money. There are much easier ways to make money than keeping bees. However, for those who like being their own boss and who enjoy working outdoors, beekeeping can offer ample rewards.

Individuals who are highly allergic to insect stings should not keep bees. Only about one in a thousand individuals are highly allergic to bee stings, and they should keep an insect sting kit in their car or home. Swelling at the site of a sting is not an indicator, since most people experience swelling the first few times they are stung. Getting stung on occasion is a part of beekeeping. Protective clothing and keeping bees of a gentle line will mean that stings will be infrequent.

A list of several excellent resources for beekeeping information is included in the resource section but this workbook is intended to focus on the business aspect of starting an apiary. It will serve as a guide to help you write your Beekeeping Business Plan. After completing the workbook you should have a clearer understanding of your business concept and the requirements and commitment it will take to turn your concept into a reality. You will also be more prepared to discuss your project with others such as bankers or investors.

It is important to remember that a Business Plan can serve two primary purposes: (1) to be your "road map" in setting up and managing your beekeeping business and (2) to support a loan request. To develop a good business plan, you will need to do research in all aspects of your business.

A good business plan has the following general sections:



- **Title Page.** The title page of your business plan should provide the reader with general contact information including the name of the apiary and the name, address, and phone number of the owner(s).
- **Executive Summary.** This introductory section provides the banker or investor with a “first impression” of your business concept, typically in one page or less. Although it appears near the front of the plan, it is most effectively written after the rest of your plan is completed.
- **General Business Information.** This section describes the type of business, the product(s) and/or services(s) offered, location, and the general business conditions affecting the Illinois beekeeping industry.
- **Marketing.** This section identifies the apiary’s mission statement, target market, competition, pricing strategy, distribution strategy, and promotion plan.
- **Management and Operations.** The purpose of this section is to describe the legal form of the business, skills available within management to successfully run the business, employee information, and other considerations necessary to successfully operate and manage the business.
- **Financial Information.** This section should include a thorough analysis of the use of financing proceeds, five-year financial projections, and owner’s equity information.

This workbook will take you through the process of developing all areas of the business plan. It may be necessary to alter the contents of the workbook to suit the particular circumstances involved in your business. Some areas may not relate to your business concept at all and some areas may require additional information. After completing this workbook, you should have a clearer understanding of your business concept and the requirements and commitment it will take to turn your concept into a reality. You will also be more prepared to discuss your project with others such as bankers or investors.

Becoming an entrepreneur involves a deep financial and emotional commitment. There is more to owning your own business than just writing a business plan. It’s important to remember that you are risking your money and perhaps your financial security. Lending institutions and/or investors are also sharing the risk in your business venture and your business plan is the necessary tool they will use to evaluate their willingness to assume that risk.

The Illinois Small Business Development Center Network is here to assist and counsel you through the planning process. For assistance in determining the location of the center in your area, or accessing other small business information, contact the Illinois Business Assistance Line at 1-800/252-2923, (TDD 1-800/785-6055) or visit their website at www.commerce.state.il.us.

THE BUSINESS PLAN – Title Page and Executive Summary

The Title Page and Executive Summary provide the banker or investor with a “first impression” of your business concept. Although they are the first parts of the plan to be read, it is most effective if they are the last parts you write. It makes sense that you need to go through the entire business planning process before you can effectively write an executive summary that covers all the critical elements.

Title Page

The Title Page should be a professional presentation giving the reader general contact information. It should be neat, attractive, and short. The Title Page should:

- Identify the apiary.
- Identify the principals and the location and telephone numbers where they can be reached.

Some optional items that are often included on the Title Page are:

- A graphic that represents the business. This is typically a picture of the business or product or a copy of the business' trademark.
- A few sentences that state the company's mission statement or a short summary of the financing request.

The items included on the Title Page may seem obvious, but it's amazing how many business plans are submitted for financing that don't have a Title Page or have an incomplete one. Nothing will turn off an investor faster than having to look up your telephone number in the phone book because you left it off the Title Page.

Executive Summary

The introduction to the business plan is called the Executive Summary and provides an overview of the business plan in one page or less. This section provides the banker or investor with a “first impression” of your business concept. Although it appears near the front of the plan **it is most effectively written after the rest of your plan is completed**. We recommend that you work closely with your business counselor in preparing this very important component of your business plan.

The Executive Summary should include:

- The name and address of the apiary.
- The owner(s) names.
- Brief description of the business to be conducted.
- Legal form of the business.
- Product(s) and/or service(s) to be offered.
- Purchase terms, if buying an existing business.
- Requested loan amount and how the loan will be repaid.
- How the loan amount will be spent (broken down into broad categories).
- Amount and form of owner(s) equity (owner's investment in the business).
- Expected outcome of business operations.

The purpose of this section is to expand on the Executive Summary and explain in detail who you are, what you are going to do, and how you plan to do it. For a beekeeper, this section typically includes:

- A short description of the Illinois and/or United States beekeeping industry.
- What trends are responsible for the industry's growth.
- A detailed description of your apiary.
- The location of your apiary.
- Types of honey, honey products, and services to be offered.
 - Will you be producing honey, providing a pollination service, or raising and selling nucs and/or package bees?
- What differentiates your apiary from the competition.
- A sense of where you want the business to be in three to five years and how you plan to achieve these goals.
- History of the business if the business plan is to be used to support the purchase or expansion of an existing apiary.
 - Details should include years in existence, current owner, current location, market share, strengths, weaknesses, and financial information for the past three to five years.

The US and Midwest Beekeeping Industry

It is estimated that nearly 100,000 people keep bees in the US. Most of them are hobbyists with 10 or fewer hives, a much smaller number are sideliners with up to 500 hives. There are probably at most a few thousand commercial beekeepers who have 1,500 to 2,500 or more colonies. A knowledgeable individual beekeeper can take care of 500-1000 colonies. A current estimate of the number of bee colonies in the US is 2.4 million. The average annual honey crop per colony is 40 pounds, however this includes a large number of colonies managed primarily for pollination rather than for honey production. The total annual honey crop is about 200 million pounds, of which 75% is produced by commercial beekeepers. While the price of honey rose dramatically during shortages in 2002, over the past decade raw honey has been worth about 80 cents per pound.

While the majority of beekeepers produce surplus honey for sale, others also may specialize in one or another type of beekeeping. For example, rental of hives for pollination is an important component of the beekeeping industry. Rearing queens and package bees for sale is an even more specialized component. This part of the industry is concentrated in far southern states, Texas and California, where there are climatic advantages to raising bees early in the season similar to those enjoyed by fruit and vegetable producers. Both pollinators and queen/package bee producers also produce honey as an additional source of income.

Almost all large commercial beekeepers winter their colonies in sunbelt states, where warmer temperatures and early nectar flows reduce honey consumption and allow for earlier population increase. For example, many migratory beekeepers over-winter colonies in California that are used to pollinate the almond crop. The colonies are then moved to the upper Midwest where large crops of honey are produced. Closer to home, in February commercial beekeepers in northern Arkansas and Missouri (and potentially southern Illinois) may send colonies to California for almond pollination. The warmer climate allows these colonies to increase in population rapidly. When they return to the Midwest, they can be used to pollinate apples in southern Illinois and along the Illinois River; later they can be used for pollination of cucumbers, melons and pumpkins. In addition, the increased populations in hives returning from almond pollination allow at least one northern Arkansas beekeeper to produce queens, small colonies (called divides or nuclei) and package bees for sale to other beekeepers. This same opportunity could be open to beekeepers in southern Illinois.

Moving colonies between states for pollination is a specialized business requiring specialized equipment and considerable previous experience in beekeeping. Rental fees run from \$30-\$50 depending on the crop. Some beekeepers manage to rent each colony three or more times each year. It has been estimated that honeybee pollination adds \$10.7 billion to the value of crops that they pollinate.

The processor/packer is another major component of the US beekeeping industry. Some honey producers are also processor/packers. There are also a relatively small number of equipment manufacturers and suppliers to the industry. One of the larger ones is Dadant & Sons, located in Hamilton, Illinois. The relatively large hobby and sideline component of the industry is important in part because they constitute a major market for suppliers and manufacturers.

Characteristics of Beekeeping in Illinois

The beekeeping industry in Illinois is less commercially oriented than in states like Wisconsin and Minnesota. According to Illinois Department of Agriculture data, 85% of the beekeepers manage 10 colonies or less, whereas a substantial part time income probably requires a minimum of 200 hives. In much of Illinois, soybeans are the major source of nectar for surplus honey. However, large areas dominated by row crops often lack trees, brambles, wild flowers and weeds that sustain colonies before the soybean nectar "flow." Areas with a greater diversity of landscape, such as the northwestern, western and southern parts of the state, could presumably support a much larger industry than they do currently. Depending on location, weather and management practices, colonies may produce an average of 30 to 100 pounds of surplus honey a year. In the same apiary or bee yard, some colonies will produce no surplus honey and others may approach 200 pounds or more. In Illinois, colonies usually don't begin storing surplus honey until the clover blooms, although during some years, black locust and basswood trees produce a surplus crop. Honeybees can forage for nectar up to three miles or so, however bee yards should be located much closer to important nectar sources.

In Illinois, as in the rest of the country, there has been a significant decrease in the number of beekeepers over the past 10-15 years. According to the Illinois Department of Agriculture, from 1988 to 2002, the number of registered beekeepers decreased 63%, from 2,966 to 1,107. The total number of colonies also declined similarly, although to a lesser degree. The major reason for this decline is believed to be the arrival of two parasitic mite species subsequent to 1988. In many cases these parasites wiped out beekeepers' entire inventories of colonies. In addition, many of the older beekeepers decided to get out of the business after their colonies were devastated by the mites. There are now several chemicals that can be used to control the parasitic mites, and beekeepers who use them rarely experience major losses.

The beekeeper population in Illinois and throughout the country is aging, and relatively few people appear to be getting into the business. Beekeeping involves hard physical labor; it is a labor intensive enterprise. There are no air conditioned, labor saving tractors or other machines in beekeeping. However, for those who enjoy independent, outdoor work, the decline in the number of beekeepers and colonies in Illinois provides opportunities to those interested in obtaining income from sale of honey or pollination services. For example, some retiring beekeepers may be willing to enter partnerships with younger individuals, who can learn the ropes and eventually buy out the older beekeeper. In addition, over the past 10 or more years, those wishing to expand their operations have been able to purchase equipment and bee colonies from the retiring beekeepers at considerably reduced prices. The decline in the number of beekeepers creates opportunities for new or existing beekeepers to provide honey to markets formerly served by those who left the industry. In addition, at least in some areas, the decrease in the number of both domestic and wild colonies should lessen competition for nectar sources and result in greater honey production. Further, the drop in colony numbers creates greater demand for colonies rented for pollination of apples, cucumbers and other crops. In southern Illinois a number of orchards must rent pollinating colonies from Missouri, in the absence of pollinating beekeepers from Illinois.

Marketing plays a vital role in successful beekeeping enterprises. How well you market your honey, along with a few other considerations, will ultimately determine your degree of success or failure. If in addition to selling honey, you raise queens, package bees, and also pollinate crops, then successfully marketing your queens, packages, and pollination services will also have an impact on your degree of success or failure. The key element of a successful marketing plan is to know your customers – their likes, dislikes, and expectations. By identifying these factors, you can develop a marketing strategy that will allow you to attract customers and fulfill their needs. Components of your marketing plan should include:

- A mission statement
- An analysis of your target market.
- An analysis of your competition.
- A marketing strategy to reach your target market.

Mission Statement

A company’s mission statement captures, in a few sentences, your business purpose, its goals and objectives, and the philosophies underlying them. The mission statement tells your customers, employees, suppliers, and the community what your business is all about.

Mission Statement
<i>Develop your company’s mission statement.</i>

Target Market

Your target market is the group or groups who are most likely to buy your product or service. A clear target market is the heart of any marketing plan and can often be the difference between succeeding in business and failing. This group can be defined by:

- Type – Are your customers individuals (i.e. via direct marketing) or other businesses such as grocery stores, food coops, gift shops, or farmers markets?
- Demographics (physical or population characteristics such as age, gender, or economic status).
- Geographic Location – Are your potential customers mostly tourists or from your local market?
- Lifestyle - What will your customers be looking to find at your apiary? What do you think is your apiary’s strongest selling point? This could be your honey, the experience of visiting the apiary itself, the area, the people working in your apiary, or something else entirely.

Identify any trends in your target market that may affect your business, as well as market size. Demographic information can be located on the US Census website at www.census.gov.

Target Market

Define your apiary's target market. Who, by definition, are the people who will be buying most of your honey, honey products, queens, packages, or pollination services?

Target Market Analysis

After you define your target market in general terms, the next step is to analyze some characteristics of this group. The more you know about your customer, the better prepared you will be to focus your marketing campaign towards these people. Where does your target market live, work and shop? What are your customer's needs and wants? Which of these needs or wants will your apiary meet and how?

Competition

After you define your market, the next step is to define your competition. There are two ways to define competitors:

- One is by product and marketing strategy – These competitors are businesses who use similar marketing strategies and sell similar products to your target market. These businesses are considered your direct competitors. Other apiaries in your area are the most obvious form of this type of competition.
- The second way is to define your competitors by your customers – Who is competing for your customer's dollar? Ask yourself the question: Where is your target market currently purchasing the products and services you are planning to offer? Chain grocery stores, local/neighborhood grocery stores, food coops, and gift shops should also be considered as possible competition.

Use the form on the following page to assist you with an analysis of your closest competitors. Make copies and use additional sheets if needed.

Competitor Analysis	
Competitor's Name	
Where are they located? <i>Include approximate distance from your location.</i>	
Number of years in business	
What types of honey and related honey products do they offer? What additional product(s) and/or service(s) do they offer?	
How are their products/services different from yours?	
What is your perception of their prices? Are they appropriate for their honey, related honey products and services?	
How do they advertise and promote their product or service?	
How do you perceive their business: Steady? Increasing? Decreasing?	
What are their strengths? <i>(Their strengths can also be your strengths.)</i>	
What are their weaknesses? <i>(Their weaknesses can be your opportunities!)</i>	
How will your business compare to this competitor?	
Will you be working with this competitor to increase regional tourism? How?	

Marketing Strategy

- Product
- Price
- Place
- Promotion

Product

One of the most difficult decisions in planning an apiary is deciding the types of honey and related honey products to produce and in what quantities. Five basic forms exist in the marketing of honey: section comb honey, finely crystallized or creamed honey, chunk honey, cut-comb honey, and liquid extracted honey. Given that the production of section comb honey requires specialized equipment, intense management, and an abundant nectar flow for good returns, it is not recommended for the beginner. Additional surplus honey can be obtained from colonies managed for extracted honey rather than from those managed for comb honey. Combs used for extracted honey production require some type of reinforcement (e.g., wires, threads, or sheets of plastic). However, these materials would not be palatable to the consumer of chunk, section, or cut-comb honey. Since both cut-comb and extracted honey production require similar management schemes, most of the equipment can be used interchangeably. Cut-comb honey, the least expensive to produce, is ideal for the beginner beekeeper. The production of extracted honey requires special equipment for uncapping combs and removing the honey from the cells. Also, read the information in the Resource Section of this document titled **Additional Opportunities in Beekeeping** to complete this section.

Packaging is another element in the product mix. Since honey can be packed and marketed in a wide variety of containers, the selection of the appropriate container(s) for your operation will depend on cost, availability, volume of honey handled, market outlets, and consumer appeal.

It is very important to put time and effort into the construction of your label. Your label becomes as important a part of your apiary's image as does the quality of your honey and honey related products. The image that the label portrays should fit the profile of the types of honey and related honey products you will be producing. The label may be the hook that creates the purchase and affects the consumer in his/her overall impression of your honey and related honey products. Care should be taken in its design and implementation. Labeling laws vary from state to state so be sure to check on your state's regulations.

Product Mix

Develop a product list and approximate quantities to be produced for the first five years. Remember, this is just a plan. In reality, actual quantities produced will be adjusted annually based on factors such as market acceptance, sales history, and raw material availability.

Price

Lack of courage in pricing is the single biggest marketing error many small business owners make. While price is an important component of comparison shopping, it is not the only reason customers purchase a product. Price, perceived quality, service and profitability are all tied and intertwined together. While there is no magical formula for deciding your individual pricing schematic, there are a few guidelines that will help develop a price strategy that will work with you.



The first step is to break down your product or service into a tangible quantity. For an apiary, this would obviously be a jar of honey. The other products or services to be offered pollination services or the sale of Queens should also be broken down into tangible (per unit) quantities.

The second step is to develop a price for each of your tangible quantities. What you charge for your product or service depends on the following:

- 1) Direct material costs - All directly related out-of-pocket expenses for production of the product or service.
- 2) Indirect costs – Your overhead costs should be included in the pricing decision. Overhead costs are the costs involved in running your apiary including marketing, labor, utilities, loan interest, taxes, insurance, maintenance, accountant fees, and other operating expenses. These are costs not directly related to the particular product or service but they are costs that must be recovered.
- 3) Your labor – It is common mistake for small business owners to forget to take their own labor into consideration when pricing a product.
- 4) What the competition is charging – Visit as many apiaries as possible in your area and perform an analysis of their pricing of different types of honey, related honey products, and other services. While you should consider what your competitors are charging, it doesn't necessarily mean that their pricing strategy is the right fit for your market.
- 5) Perception of quality - The pricing of honey and related honey products is dependent just as much on the perception of quality as it is on the actual quality. This is due to the fact that not only does each person have a different palate of flavors, aromas and textures that he/she tastes, but also a high regard for or loyalty to certain honey varieties, grades, or standards. This loyalty is based both on the customer's palate and experience, and upon a perception of the inherent capabilities for quality of the customer's relationship with certain honey varieties, grades, or standards.
- 6) What price structure the target market will bear - Make sure your prices are a correct fit for your market.
- 7) What is an adequate profit – The price of the product has to be sufficient to secure an adequate profit for the business owner(s).

Items 4 thru 7 should be used as adjustments to the final price. If you find you must adjust your price down to your cost or below your cost, you may not be able to compete. That is, you may not have a viable product or service. Go back and see if you can cut your expenses or change your product mix without sacrificing quality. Another solution might be that your target market is not right; maybe you are targeting a lower income group than this product or service needs to succeed.

Pricing Strategy

Develop a direct cost estimate and price list for your product mix.

Name of Honey:			Name of Honey:		
Price Per Jar			Price Per Jar		
Cost Estimate per Jar:			Cost Estimate per Jar:		
Jars			Jars		
Label			Label		
Other Costs			Other Costs		
Total Direct Cost			Total Direct Cost		
Gross Profit (Price Less Direct Cost)			Gross Profit (Price Less Direct Cost)		
Name of Honey:			Name of Honey:		
Price Per Jar			Price Per Jar		
Cost Estimate per Jar:			Cost Estimate per Jar:		
Jars			Jars		
Label			Label		
Other Costs			Other Costs		
Total Direct Cost			Total Direct Cost		
Gross Profit (Price Less Direct Cost)			Gross Profit (Price Less Direct Cost)		
Pricing Strategy for Other Products/Services:					

Promotion

Promoting your business entails using all available means to get a positive message to your customers about your product or service. This can be achieved using a website, signage, paid advertising, directory listings, publicity, and direct mail. Most small beekeepers sincerely attempt to provide their customers with a high-quality product in a clean, attractive container. When they do a good job, their customers return regularly, and they have no problem selling their entire crop. To have repeat patronage, it is better for beekeepers to sell their crop gradually throughout the year than to try and market all the honey they produce soon after it is harvested. Take the time to visit the websites of other Illinois apiaries and Illinois beekeeping industry organizations for other marketing opportunities and ideas.

Additional marketing information and assistance can be obtained from your local beekeeping organizations and the Illinois Department of Agriculture.

Promotion Plan			
<i>Develop a promotion plan for your apiary. Calculate both a start-up and a monthly advertising and promotion budget. Contact web site development companies, newspapers, radio/TV/cable outlets, printers, sign shops, etc. to obtain price quotes.</i>			
Item	Source	Start-up Cost (\$)	Monthly Cost (\$)
Internet:			
• Web page design			
• Domain name purchase			
• Hosting services			
Signage			
Radio			
TV/Cable			
Newspaper			
Tourism Publications			
Yellow Pages			
Printed Material:			
• Business cards			
• Brochures/Flyers			
Direct Mail (Postage)			
Festivals			
Membership Fees			
Other			
Total Advertising & Promotion Expense			

THE BUSINESS PLAN- Management/Operations

The purpose of this section is to describe the legal form and organization of the business, skills available within management to successfully run the business, employee wages/salaries, employment schedules, and other considerations necessary to successfully operate and manage your apiary.

Business Organization

Several forms of business ownership are possible, including Sole Proprietorships, General and Limited Partnerships, Limited Liability Partnerships (LLP), Limited Liability Companies (LLC), "S" and "C" Corporations, and Cooperatives. Each form has advantages and disadvantages. Before deciding on a form of business ownership, an attorney should be consulted who specializes in these issues.

Sole Proprietorship

A sole proprietorship is a single individual who owns and operates a business. There is no legal separation between the individual and the business. The owner benefits from 100% of the profits and is personally responsible for 100% of the debts and liabilities of the business. It is the simplest form of business ownership to start up and to maintain. Income is reported annually on the owner's personal income tax return. More information on sole proprietorships can be found in IRS Publication 334: Tax Guide for Small Businesses. You can download this publication from the IRS website at www.irs.gov or you can receive one by mail by contacting the IRS at (800) 829-3676.

General Partnership

A general partnership is very similar to a sole proprietorship except that there are two or more individuals who own the business. The partners are able to pool their resources and share control of a business. A general partnership is relatively simple to start up and maintain. A written partnership agreement is not a legal requirement but is strongly recommended to clarify each partner's rights and responsibilities. Be aware that all partners remain 100% responsible for the debts and liabilities of the business regardless of how the partnership agreement outlines work responsibilities and shares of profit. A separate set of income tax returns must be filed annually for the partnership but the partnership itself is not subject to income tax. The individual partners report their share of the partnership income on their personal income tax returns. More information on partnerships can be found in IRS Publication 541: Partnerships. You can download this publication from the IRS website at www.irs.gov or you can receive one by mail by contacting the IRS at (800) 829-3676.

When a business name is different from the owner(s) full legal name(s), the Illinois Assumed Name Act requires sole proprietorships and general partnerships to register with their local county clerk's office for registration under the Assumed Name Act.

Limited Partnership

A limited partnership is an organization made up of a general partner, who manages the business, and limited partners, who invest money, but have limited liability and are not involved in day-to-day management. The general partner(s) is/are 100% responsible for all the debts and liabilities of the business. The limited partner's liability does not exceed his/her investment in the business. More information on limited partnerships can be obtained from the Illinois Department of Revenue.

Limited Liability Company

A Limited Liability Company (LLC) is the non-corporate form of doing business that provides its owners with limited liability, flow-through tax treatment and operating flexibility through participation in management of the business. Anyone considering the formation of an LLC is strongly encouraged to use an attorney.

Registered Limited Liability Partnership

If organized as a Registered Limited Liability Partnership (RLLP) under a specific section of the General Partnership Act, partners are not liable for the debts, obligations and liabilities of, or chargeable to the partnership arising from negligence, wrongful acts, omissions, misconduct or malpractice committed while the partnership is a Registered Limited Liability Partnership. For more information on RLLPs or to obtain RLLP forms you can contact the Illinois Secretary of State's office.

"C" Corporation

A corporation is a distinct legal entity and is the most complex form of organization. A corporation may sell shares of stock, which are certificates indicating ownership, to as many people as is desirable. The shareholders then elect a board of directors, which elects a president and other officers who run the company on a day-to-day basis. Among the advantages of corporate formation are limited liability of the shareholder and ease of transferring ownership. The corporation provides a wall of liability protection between the business and the owners but the owner should be aware that most banks will require a personal guarantee from the major shareholders as collateral on any corporate financing. If the name of the business includes the word "Corporation," "Inc.," "Incorporated" or "Corp.," then the business must be incorporated. It is recommended that an attorney be consulted in forming a corporation.

A set of corporate income tax returns will need to be filed annually. The corporation is taxed on the income of the business. Double taxation can occur when the income is distributed to the shareholders in the form of dividends. An annual report will also need to be filed with the Illinois Secretary of State's office.

"S" Corporation

An S Corporation is not a separate form of legal structure, but rather a special tax status granted by the Internal Revenue Service (IRS). In general, an S Corporation passes through income and expenses to its shareholders, who then report them on their personal income tax returns. To qualify for S Corporation status, a corporation must meet several requirements. A complete list of these requirements is available in the IRS instructions to Form 2553: Election by a Small Business Corporation. You can download this form from the IRS website at www.irs.gov or you can receive one by mail by contacting the IRS at (800) 829-3676.

Cooperative

A cooperative is an association of persons united to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. The cooperative entity is similar to a "C" Corporation except the profits are passed through to the member-owners without corporate taxation.

A cooperative exists to provide economic services to its members rather than just to generate a return on investment. A portion of all of its capital comes from members rather than outside investors. Capital is obtained by direct contributions through membership fees or sale of stock, by agreement with members to withhold a portion of net income based on patronage, or through assessments on some regular basis such as per unit of product sold or purchased.

More information on cooperatives can be found on the USDA Rural Development website at: <http://www.rurdev.usda.gov/rbs/pub/newpub.htm>.

Sample Resume Form

Personal Information	
Name	_____
Address	_____
Telephone #	_____

Education	
High School	_____
College	_____
Technical	_____

Work Experience		
Dates Employed (From - to)	Employer	Positions/Duties

Labor Planning

Develop a Personnel Hiring & Pay Schedule. List employees you will be hiring, general duties, hiring qualifications, salary, and proposed hiring date. You should also note whether the position will be year-round or seasonal. Refer to the Beekeeping Calendar in the Resource Section for help with labor planning.

Job Title	Duties	Qualifications	Wage Rate	Hiring Date
				___ Seasonal ___ Year Round
				___ Seasonal ___ Year Round
				___ Seasonal ___ Year Round
				___ Seasonal ___ Year Round
				___ Seasonal ___ Year Round

Develop a Work Schedule. The work schedule should provide coverage for the scheduled operating hours of the apiary. The seasonality of the apiary should be taken into account in predicting labor costs. Refer to the Beekeeping Calendar in the Resource Section for help. For cash flow projections, expenses should be estimated monthly for the first year and quarterly thereafter.

Seasonal Work Schedule	Job Title:		Job Title:		Job Title:		Job Title:	
	Hours Per Week	Monthly Wage						
January								
February								
March								
April								
May								
June								
July								
August								
September								
October								
November								
December								

Insurance

Identify the potential risks of loss inherent to your business. These risks form the basis for your business insurance needs. Some of the typical types of business insurance are listed below:

- Workers Compensation
- Fire or Structural Damage
- Business Liability (Product and Public)
- Vehicle Coverage
- Loss & Theft of Building Contents
- Glass & Sign Breakage

After considering your insurance needs and regardless of whether you deal with independent agents, insurance brokers or work directly with insurance companies, be certain that you've done some comparison shopping before you sign up. Some sources of information on business insurance are listed below.

- Illinois Department of Insurance – *Maintains experience information on insurance companies.*
- Best's Key Rating Guide – *Maintains financial strength information on insurance companies.*
- Local insurance agencies – *Check yellow pages for listings.*

Include copies of your insurance carriers' cost quotes.

Insurance Company	Type of Insurance	Upfront Cost	Monthly Cost
Total Insurance Costs			

Suppliers

Include information on major suppliers of the products you need for your business. Include their address, their product lines, and any special credit terms.

Supplier	Address & Phone #	Products/Services/Terms

Professional Consultants

Provide a list of professional services providers to be utilized (e.g., attorneys, accountants, etc.), the type of services to be rendered, and the anticipated costs. Professional consultants can add strength to your business idea by filling in weaknesses discovered in the analysis of management skills.

Type	Name	Address & Telephone #	Start-up Costs (\$)	Recurring Costs (\$)
Accountant				
Attorney				
Other (list):				
Total Professional Fees				

Provide a List of Required Licenses, Permits, and Registrations

Provide information on required special licenses, permits, and registrations if applicable (e.g., EPA permit, state professional license, vehicle license, food handler's certification, Assumed Name Act Registration, etc.). Provide a copy of the required Licenses/Permits/Registrations if available.

Name of Permit/License	Issuing Agency	Valid Time Period	Start-up Costs (\$)	Recurring Costs (\$)
Total Permit and License Cost				

Outside Influences On Your Business

Other issues that are not necessarily within the control of the business must also be addressed. Many of these issues may directly affect your sales both positively and negatively. Complete the following sections as they apply to your apiary.

Describe the economic factors that will affect your product or service.

(Examples include: economic trends, spending trends, taxes, inflation, interest rates, etc)

Describe any legal or governmental factors that will affect your business.

Examples include: potential changes in Health Department or zoning regulations.

Describe any environmental factors that will affect your business.

Example: include material availability.

Financial Projections and Supporting Information

The heart of any good business plan is a thorough financial section. The financial section gives the banker the tools to evaluate the financial feasibility of the business plan and to determine credit worthiness. The financial section also gives the prospective owner the tools to see how revenue and expenses will play out in the business.

The following worksheets will give you an idea what initial financial data need to be collected to develop financial projections that will evaluate an apiary project effectively. You may want to seek assistance from your accountant or a Small Business Development Center counselor to assist you in developing your financial projections.

For any type of loan request, the financial section of the business plan should include the following:

- **Sources and Uses of Funds Statement** – This statement should give the lender a detailed analysis of how the funds to start the business will be spent and where the money is coming from. Supporting information for this statement should include:
 - A breakdown of construction costs, if building a facility.
 - A detailed list of equipment to be purchased.
 - An explanation of requested working capital (cash requested for operating expenses).
 - A list of amount and form of Owner's Equity.
 - Loan amortization schedules for financing requested.

- **Financial Projections** – A five (5) year projection of financial data is suggested in most loan requests. These projections should include:
 - **Projected Statement of Cash Flows** – This statement shows the cash flowing into the business (e.g. sales) and the cash flowing out of the business (e.g. expenses and loan payments). Year one cash flow should be shown on a monthly basis and the second through fifth years should be shown quarterly. This statement justifies to the lender that the business can repay the loan and still have cash in the bank. It is also a tool to determine the amount of working capital necessary to get the business through the start up phase.
 - **Projected Income Statements** – Annual profit and loss statements should be provided for all five years. These statements show the projected income and expenses to determine the company's net income or bottom line.
 - **Projected Balance Sheets** – A Balance Sheet shows the company's financial position on a given day. It shows the company's assets, liabilities, and owner's equity. Balance Sheets should be provided as of the date of the loan and as of the year-end date for the five projected years.
 - **Break Even Analysis** – This analysis calculates the amount of sales the company needs to make to break even. This statement breaks down costs into fixed costs (costs that remain the same regardless of the amount of sales) and variable costs (costs that rise and fall in relation to sales).
 - **Financial Ratios** – Lenders use financial ratios to evaluate your loan request. A few examples of ratios that should be included are:
 - **Current Ratio** = Current Assets/Current Liabilities – This ratio evaluates the liquidity of your business. It answers the question, "Can you pay your short term debt?"
 - **Debt to Equity** = Total Debt/Total Equity - This ratio evaluates your capital structure. A high debt to equity ratio can indicate a risk of insolvency (inability to meet long term debt).

- **Return on Assets = Net Income/Total Assets** – This ratio indicates the investment profitability of the business idea.
- **Personal Financial Statement** - This form must be completed for each principal who owns or will own more than 20% of the business, or who have a significant say in the operations of the business.
- **Personal Income Tax Returns** - Three (3) years of personal income tax returns of the principals involved in the business are required. A principal is an individual or entity who owns or will be owning 20% or more of the business.
- **Letters of Commitment** - If the plan includes multiple loans, each loan must be documented in commitment letters. Loans from financial institutions must have language indicating the loan amount, the specified term and interest rate, collateral, any other conditions attendant to the loan, and the fact that the loan is approved (loan approval can be contingent on securing other financing).
- **Business Historical Financial Information if Purchasing an Existing Business** - Three (3) years of past income tax returns, financial statements (Balance Sheets & Income Statements), and aging of accounts receivable/payable should be included.

The Five "C's" of Credit

One of the most common questions a prospective small business owner has is “What is the bank looking for in my loan request.” Each situation is different but most banks utilize some variation of the five “C’s”.

Capacity to repay is the most critical of the five C’s. The prospective lender will want to know exactly how you intend to repay the loan. The lender will consider the cash flow projections in your business plan, the timing of the repayment, and the probability of successful repayment of the loan. Payment history on existing credit relationships--personal and commercial--is considered an indicator of future payment performance. Prospective lenders also will want to know about your contingent sources of repayment.

Capital is the money you personally have invested in the business (your owner’s equity) and is an indication of how much you have at risk should the business fail. Prospective lenders and investors will expect you to have contributed from your own assets and to have undertaken personal financial risk to establish the business before asking them to commit any funding. If you have a significant personal investment in the business you are more likely to do everything in your power to make the business successful.

Collateral or "guarantees" are additional forms of security you can provide the lender. If for some reason, the business cannot repay its bank loan, the bank wants to know there is a second source of repayment. Assets such as equipment, buildings, accounts receivable and in some cases inventory are considered possible sources of repayment if they are sold by the bank for cash. Both business and personal assets can be sources of collateral for a loan. A guarantee, on the other hand, is just that--someone else signs a guarantee document promising to repay the loan if you can't. Some lenders may require such a guarantee in addition to collateral as security for a loan.

Conditions focus on the intended purpose of the loan. Will the money be used for working capital, additional equipment, or inventory? The lender will also consider the local economic climate and conditions both within your industry and in other industries that could affect your business.

Character is the general impression you make on the potential lender or investor. The lender will form a subjective opinion as to whether or not you are sufficiently trustworthy to repay the loan or generate a return on funds invested in your company. Your educational background and experience in business and in your industry will be reviewed. The quality of your references and the background and experience of your employees also will be taken into consideration.

**Sample Illinois Honey Production and Pollination Budget
(Established Operation)**

This sample annual budget was developed from information obtained from the PennState Cooperative Extension and Illinois beekeepers. This sample budget for a 10 mature hive operation assumes that land acquisition and construction of production equipment have been completed. This sample is intended to introduce the user to some of the costs associated with beekeeping but is not all inclusive. Each individual operation is different and the income and costs associated with that operation will vary.

It should also be noted that beekeepers can earn additional income by making and selling products made with the beeswax and honey. These include homemade soap, hand creams, furniture polish, and candles. Some beekeepers have found strong demand for value added honey products such as creamed honey and honey flavored with natural flavorings such as fruit extracts. There are real income opportunities for creative individuals interested in making and selling products related to beekeeping. Additional information about these products can be found in major beekeeping trade journals.

	Unit	Amount	Cost per Unit	Total
Income:				
Honey (extracted)	Pounds	600	2.00	\$ 1,000.00
Pollination Fees	Hives	10	50.00	500.00
Wax – Wholesale	Pounds	5	2.00	10.00
Total Income				\$ 1,710.00
Expenses:				
Replacement Bees				
▪ Package	Colony	2	60.00	\$ 120.00
▪ Queens	Queen	5	12.50	62.50
Parasite & Disease Control				
▪ Varroa Chemical Control	Pkg of 10	4	28.00	112.00
▪ Fumidil-B	Bottle	1	27.00	27.00
Honey Production Supplies				
▪ Menthol	Packs	1	21.95	21.95
▪ Sugar	Pounds	50	.50	25.00
▪ Jars	Pounds	25	10.10	252.50
▪ Labels	Label	600	.10	60.00
Other Supplies				
▪ Chemical for Fume Board	Quart	1	16.50	16.50
▪ Paint		2	22.00	44.00
▪ Buckets		10	5.00	50.00
▪ Protective Clothing				
Small Tools				
▪ Hive Tool/Smoker		1	3.50	3.50
Marketing & Advertising		Annual Cost		100.00
Vehicle Expense		Annual Cost		50.00
Other Expenses (Such as telephone, office supplies, insurance, etc.)		Annual Cost		300.00
Total Expenses				1,144.95
Net Projected Income (Loss)				\$ 565.05

Sample Apiary Establishment Cost Worksheet

This sample establishment cost worksheet was developed from information obtained from the Penn State Cooperative Extension and Illinois beekeepers. This sample is intended to introduce the user to some of the costs associated with developing a beekeeping operation but is not all inclusive. Each individual operation is different and the costs associated with developing that operation will vary.

	Total
Beekeeping Equipment (per hive)	
▪ Brood Boxes with Frames & Foundation	46.50
▪ Top, Bottoms, & Inner Covers	25.00
▪ Honey Supers with Frames & Foundation	62.00
▪ Fume Boards	2.50
▪ Queen Excluder	5.70
▪ Feeder	2.30
Total Cost per Hive (this cost can vary from \$144 - \$250 per hive depending on type of hive purchased)	144.00
Cost for 10 Hives	1,440.00
Extraction Equipment (based on 50 hives)	
▪ Extractor	950.00
▪ Bottling Tank (300 lb w/covered strainer)	715.00
▪ Uncapping Tank	195.00
▪ Uncapping Knife	67.00
Total Cost of Extraction Equipment	1,867.00
Facility Costs	
▪ Upgrading Existing Facility	1,500.00
Initial Bees (Per Hive)	
▪ Colony	45.00
▪ Queens	12.00
Total Cost of Bees Per Hive	57.00
Cost of Bees for 10 Hives	570.00
Total Projected Cost of Apiary Establishment – 10 Hives	\$ 5,437.00

Apiary Establishment & Equipment Cost Worksheet

List equipment, fixtures, furniture, vehicles, tools, and other fixed assets that are needed for your apiary and their associated costs. For your planning purposes, actual current price quotes are needed. This worksheet is broken down into general categories. Supporting documents showing a breakdown of each category should be included in the business plan.

Item	Source <i>If you already own the asset be sure to include it in the Equity Investment Worksheet</i>	Cost (\$)
Beekeeping Equipment		
▪ Brood Boxes with Frames & Foundation		
▪ Top, Bottoms, & Inner Covers		
▪ Honey Supers w/Frames & Foundation		
▪ Fume Boards		
▪ Other		
Extraction Equipment		
▪ Extractor		
▪ Bottling Tank ▪ (300 lb w/covered strainer)		
▪ Uncapping Tank		
▪ Uncapping Knife		
▪ Other		
Facility Costs		
▪ Upgrading Existing Facility		
▪ IDPH Clean Room (if required)		
Initial Bee Purchase		
Other		
Total Apiary Facility Establishment Costs (Excluding Labor)		

Equity Investment

List all assets (land, buildings, equipment, fixtures, and cash) **you now own** that had an original value greater than \$500.00 that will be used in the business.



Helpful Tip!

Banks and lending agencies usually require at least a 20% investment by the owner into the project.

Item Description	Year Acquired	Purchase Price (\$)	Current Value (\$)	Amount still owed on the asset (\$)	Name of Lien holder
Land: <i>(Include acreage and address)</i>					
Building(s): <i>(Include type & address)</i>					
Equipment: <i>(Include Model # & Serial #)</i>					
Cash Investment					
Total Equity Investment					

Sources and Uses of Funds Worksheet

Uses of Funds	Total Cost
Land	
Building	
Equipment	
Other Fixed Asset (Specify)	
Other Fixed Asset (Specify)	
Working Capital:	
• Initial Bee Purchase	
• Initial Bottling Supplies	
• Upfront Professional Fees	
• Initial Advertising/Promotion Costs	
• Additional Cash/Operating Expenses	
• Other (Specify)	
• Other (Specify)	
Total Uses of Funds	

Sources of Funds	Total Amount
Equity Investment	
Financing Requested	
Other (Specify)	
Total Sources of Funds	

Sales Projections

Include sales projections for your apiary. The following data should be taken into account in projecting sales for an apiary:

- Production Levels
- Spoilage/Breakage/Tasting
- Pricing Structure
- Market Size
- Market Share
- Seasonality

Sales Projections					
	Year 1	Year 2	Year 3	Year 4	Year 5
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Total Sales					

Operating Expenses – Develop an operating expense budget for your apiary. If an expense is subject to seasonality, make sure to account for that in the statement of cash flows.

Item	Monthly Amount	Annual Amount
Replacement Bees		
▪ Package	(\$)	
▪ Queens	(\$)	
Parasite & Disease Control		
▪ Varroa Chemical Control	(\$)	
▪ Fumidil-B	(\$)	
Honey Production Supplies		
▪ Menthol	(\$)	
▪ Sugar	(\$)	
▪ Jars	(\$)	
▪ Labels	(\$)	
Other Supplies		
▪ Chemical for Fume Board	(\$)	
▪ Paint	(\$)	
▪ Buckets	(\$)	
▪ Protective Clothing	(\$)	
Small Tools	(\$)	
▪ Hive Tool/Smoker	(\$)	
▪ Other	(\$)	
Marketing & Advertising	(\$)	
Vehicle Expense	(\$)	
Other Expenses:	(\$)	
▪ Accounting & Legal	(\$)	
▪ Insurance	(\$)	
▪ Licenses & Fees	(\$)	
▪ Repairs & Maintenance	(\$)	
▪ Salaries and Wages	(\$)	
▪ Taxes – Property and Other	(\$)	
▪ Travel	(\$)	
▪ Utilities & Telephone	(\$)	
▪ Other (<i>specify</i>)	(\$)	
▪ Other (<i>specify</i>)	(\$)	
Owner's Withdrawal (If Sole Proprietor)	(\$)	

PERSONAL FINANCIAL STATEMENT

U.S. SMALL BUSINESS ADMINISTRATION

As of:

Name	Business Phone
Residence Address	Residence Phone
City, State, & Zip Code	
Business Name of Applicant/Borrower:	

ASSETS	(Omit Cents)
Cash on Hand & in Banks	\$ -
Savings Accounts	\$ -
IRA or Other Retirement Account	\$ -
Accounts or Notes Receivable	\$ -
Life Insurance-Cash Surrender Value Only (Complete in Section 8)	\$ -
Stocks & Bonds (Describe in Section 3)	\$ -
Real Estate (Describe in Section 4)	\$ -
Automobile - Present Value	\$ -
Other Personal Property (Describe in Section 5)	\$ -
Other Assets (Describe in Section 5)	\$ -
TOTAL ASSETS	\$ -

LIABILITIES	(Omit Cents)
Accounts Payable	\$ -
Notes Payable to Banks & Others	\$ -
Installment Account (Auto) Mo. Payment	\$ -
Installment Account (Other) Mo. Payment	\$ -
Loan on Life Insurance	\$ -
Mortgages on Real Estate (Describe in Section 4)	\$ -
Unpaid Taxes (Describe in Section 4)	\$ -
Other Liabilities (Describe in Section 4)	\$ -
TOTAL LIABILITIES	\$ -
NET WORTH	\$ -
TOTAL LIABILITIES & NET WORTH	\$ -

Section 1. Source of Income	
Salary	\$ -
Net Investment Income	\$ -
Real Estate Income	\$ -
Other Income (Describe below)	\$ -

Contingent Liabilities	
As Endorser or Co-Maker	\$ -
Legal Claims & Judgments	\$ -
Provision for Federal Income Tax	\$ -
Other Special Debt	\$ -

Description of Other Income in Section 1

Section 2. Notes Payable to Bank & Others					
Name & Address of Noteholder(s)	Original Balance	Current Balance	Payment Amount	Frequency (monthly, etc)	How Secured or Endorsed
	\$ -	\$ -			

PERSONAL FINANCIAL STATEMENT: Page 2

Section 3. Stocks & Bonds

Number of Shares	Name of Securities	Cost	Market Value Quotation/Exchange	Date of Quotation/Exchange	Total Value

Section 4. Real Estate Owned

	Property A	Property B	Property C
Type of Property			
Address			
Date Purchased			
Original Cost			
Present Market Value			
Name & Address of Mortgage Holder			
Mortgage Account Number			
Mortgage Balance			
Monthly Payment Amount			
Status of Mortgage			

Section 5. Other Personal Property and Other Assets

--

Section 6. Unpaid Taxes

--

Section 7. Other Liabilities

--

Section 8. Life Insurance Held

--

I authorize SBA/Lender to make inquiries as necessary to verify the accuracy of the statements made and to determine my creditworthiness. I certify the above and the statements contained in the attachments are true and accurate as of the stated date(s). These statements are made for the purpose of either obtaining a loan or guaranteeing a loan. I understand FALSE statements may result in forfeiture of benefits and possible prosecution by the U.S. Attorney General (Reference 18 U.S.C. 1001).

Signature:	Date:	Social Security Number:
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Signature:	Date:	Social Security Number:
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BASICS OF BEE BIOLOGY AND MANAGEMENT

In order to better understand the economic aspects of beekeeping, it is necessary to provide some basic information on honeybee management and biology. The following paragraphs provide an overview of beekeeping practices, including terms specific to beekeeping.

The honeybee, *Apis mellifera*, is kept on every continent except Antarctica. Some of our native bees, such as bumblebees, also make small amounts of honey, but are not suited for management for this purpose. Honeybees were brought to the western hemisphere from Europe. They are well adapted to most North American climates and are fully capable of living without human assistance as feral colonies. The colony, rather than the individual, is the basic biological unit of honeybees. A colony normally has one queen, the sole reproductive female, as well her daughters, a few thousand to 60,000 sterile female workers. The workers gather nectar and pollen, make honey and care for the young bees. The queen is the “heart” of the colony and is capable of laying up to 1500 eggs per day. Queens can live three or more years and colonies are usually successful at replacing a non-productive or dead queen with one of her daughters. However, in order to maximize honey production it’s considered preferable to purchase a queen of a known genetic type from a queen producer. From mid-spring through fall, honey bee colonies also have several hundred male bees or drones. These take no part in honey production or pollination, but a small percentage will mate successfully with young virgin females, usually at some distance from the virgin’s home colony.

The colony is also the basic unit of production in beekeeping. The terms colony and hive sometimes are used interchangeably; however, the term hive technically refers to the wooden equipment in which the colony is housed. A complete hive has one or more topless and bottomless boxes (hive bodies) in which are hung ten frames of comb, which can be removed for manipulation or inspection purposes. The comb is used both for raising young bees and for storing honey. Hives also have a bottom board and an outer (and often an inner) cover. In the Midwest, colonies are usually housed year around in hives with two hive bodies. Similarly, sometimes more shallow hive bodies, called supers, are placed on top of these two hive bodies for the purpose of storage of surplus honey. The term surplus refers to the honey that is removed for human consumption, usually in late summer or early fall. About 80 pounds are left for the bees in the fall. Commercial beekeepers frequently leave less than 80 pounds and feed sugar syrup to replace the additional honey taken.

The production of surplus honey requires colonies with large populations of workers in mid-spring. Colonies with a productive queen, which are free of diseases and over-winter with ample honey reserves, have large bee populations that are key to maximizing honey production. Beekeepers remove honey from the combs using a machine called an extractor, which works like a centrifuge. The only further “processing” needed is to filter the honey through a fine mesh before bottling it in glass or plastic containers. Honey that is fully “ripe” has a low water content and will keep indefinitely without refrigeration or pasteurization, although most large honey packers heat the honey as a precautionary measure. Eventually all honeys will crystallize, especially if held under cool conditions. However, it can be liquefied with gentle heating and crystallized honey is perfectly safe and retains its flavor. Relatively few beekeepers also produce comb honey, which is more difficult than extracted or liquid honey.

ADDITIONAL OPPORTUNITIES IN BEEKEEPING

There are at least two other possibilities for income for beekeepers with at least several years of experience. The first is raising queens to sell to other beekeepers. Currently production of queens is centered in Texas and California. Within the next 5-10 years, these areas are likely to be invaded by Africanized honeybees. These bees readily hybridize with domestic honeybees, are difficult to manage and much more likely to be involved in serious stinging incidents. This situation will necessitate moving queen production to more northern areas where these bees are unlikely to survive the winter. In addition, for some time there has been a great deal of concern about the quality and health of queens shipped from sunbelt states. Shipping conditions, as well as early exposure to chemicals used to control the Varroa mites, have been implicated as causes of poor survival of mail-order queens. Under these circumstances, it would appear that demand should increase for queens which are produced relatively locally and which could be picked up by the buyer or shipped only short distances.

Two other strategies could help local producers to compete with southern queen producers. First, beekeepers that raise queens with a minimum of chemical pest treatments would have an advantage. In fact, currently many queen producers use harsh chemicals because they are concerned that beekeepers have a zero tolerance for Varroa mites and would be upset if they were to receive them in a shipment of queens. On any account, it is impractical and unwise to attempt to completely eliminate these mites from bee yards. The second strategy that could give Illinois queen producers an edge is to produce queens of disease resistant lines of bees (Jacobson, 2002). At this point, few to no queen producers can say that they produce disease resistant queens mated with a predominance of disease resistant male bees. A small-scale producer could start out with only disease resistant stock and thereby be able to produce queens whose offspring will also be resistant (Jacobson, 2002). Unfortunately, the major barrier to selling locally raised queens is the conservative, slow-to-change nature of so many beekeepers. In addition, raising queens requires advanced knowledge over and above that needed to produce honey. Beekeepers interested in eventually producing queens for sale should raise queens for at least two or three years for themselves and a few other beekeepers. Under the most optimum of circumstances queen production would be an adjunct to honey production and perhaps pollination. This is true for even the commercial queen producers in states like California.

A second potential source of income would be to produce small colonies of bees (called nuclei) for sale. As explained above, like the vast majority of queen bees, packaged bees are also produced in the sunbelt states that will soon be home to Africanized bees. Colonies started with package bees generally grow more slowly and may have more problems with queen survival than do small, new colonies. It does not take advanced knowledge to produce these colonies for sale or replacement or expansion. Any beekeeper with more than a few hives could produce at least one small colony per hive by taking bees and brood (larvae) from an existing colony and placing them into another hive body. The new colony is then given a queen—either from mail order or local sources. Not only can this be a source of additional income, but removing a portion of bees and brood from populous colonies is a common method of controlling swarming, and therefore to increase honey production. An Ohio beekeeper advertises small colonies for sale at \$50 each. Only one beekeeper we know of in Illinois produces small colonies to sell to other beekeepers. He has indicated that the demand exceeds the number of colonies he can produce. His customers presumably recognize the advantages of buying small colonies locally over buying mail order package bees. In fact, selling these small colonies may turn out to be the most effective way of marketing ones own queens, at least until more beekeepers in our state are interested in buying locally produced queens.

Lastly, it should also be mentioned that beekeepers can earn additional income by making and selling products made with beeswax and honey. These include homemade soap, hand crèmes, furniture polish and candles. Beeswax is a byproduct of producing honey and at best is a minor source of income for beekeepers. However, those who have an interest in making value added products from beeswax such as those listed above may find that there is strong demand for them. In addition, some beekeepers have found strong demand for value added honey products such as creamed honey and honey flavored with

natural flavorings such as fruit extracts. Both the major beekeeping trade journals carry articles that describe how these products are made and sold by beekeepers or members of their families. There are real income opportunities for creative individuals interested in making and selling products related to beekeeping. In some cases, the income from such items may exceed that generated by sales of honey.

Courses on Beekeeping

A number of the local beekeeping associations in Illinois offer short courses or day-long workshops on beginning beekeeping, usually in late winter or early spring. Contact the representative of the association in your area to determine the nearest location of such a course. The University of Illinois at Urbana-Champaign has a summer beekeeping school, usually in August. For information on this school contact Karen Pruitt at kspruitt@uiuc.edu or (217)-333-2910.

Beekeeping Trade Journals

American Bee Journal
51 S. 2nd
Hamilton, IL 62341
217-847-3660
FAX 217-847-3660

Bee Culture
623 W. Liberty St.
Medina, OH 44256
1-800-289-7668
www.BeeCulture.com

Information on the Web

There are numerous websites about bees and beekeeping that can be found using search terms such as beekeeping and honeybees. Quite possibly the most useful is that of the Mid-Atlantic Apiculture Research and Education Consortium located at Pennsylvania State University. Scientists and Extension specialists at five universities and the USDA Bee Research Laboratory contribute information to the website. This site has a large number of publications on a variety of topics, as well as several excellent Power Point presentations, which can be downloaded for free. The MAAREC website is <http://maarec.cas.psu.edu>.

Books, Handbooks, and Manuals (Compiled by Elbert R. Jaycox as part of *Beekeeping in the Midwest*)

Baily, L. 1963. *Infectious Diseases of the Honey-Bee*. Land Books, Ltd., London. 176 p. Out of Print.

Butler, C. G. 1974. *The World of the Honeybee*. 3rd ed. Collins, London. 226 p.

Crane, E., ed. 1975. *Honey: A Comprehensive Survey*. Crane, Russak & Co., New York. 608 p.

Dadant & Sons, ed. 1975. *The Hive and the Honeybee*. 4th ed. Dadant & Sons, Inc., Hamilton, Illinois. 740 p.

Dade, H. A. 1962. *Anatomy and Dissection of the Honeybee*. Bee Research Association, London. 158 p. +20 foldout plates.

Eckert, J. E., and F. R. Shaw. 1960. *Beekeeping*. The Macmillan Co., New York. 536 p.

Free, J. B. 1970. *Insect Pollination of Crops*. Academic Press, New York. 544 p.

Free, J. B. 1977. *The Social Organization of Honeybees*. Edward Arnold, London. 68 p.

Frisch, K. von. 1967. *The Dance Language and Orientation of Bees*. Belknap Press, Cambridge, Massachusetts. 566 p.

Frisch, K. von. 1971. *Bees. Their vision, chemical senses, and language*. 2nd ed. Cornell University Press, Ithaca, New York. 157 p.

- Howes, F. N. 1979. *Plants and Beekeeping*. Faber and Faber, London. 256 p.
- Jaycox, E. R. 1982. *Beekeeping Tips and Topics*. The Bee Specialist, Dept. D 5775, Jornada Road North, Las Cruces, New Mexico 88001.
- Jaycox, Elburt R. Reprinted April 1985. *Beekeeping in the Midwest*. Circular 1125. College of Agriculture & Cooperative Extension Service, University of Illinois at Urbana-Champaign
- Kelley, W. T. 1980. *How to Keep Bees and Sell Honey*. Walter T. Kelley Co., Clarkson, Kentucky. 144 p.
- Killion, E. E. 1981. *Honey in the Comb*. Dadant & Sons, Inc., Hamilton, Illinois. 148 p.
- Laidlaw, H. H. Jr. 1979. *Contemporary Queen Rearing*. Dadant & Sons, Inc. Hamilton, Illinois. 199 p.
- Lindauer, M. 1971. *Communication Among Social Bees*. 3rd printing with appendices. Harvard University Press, Cambridge, Massachusetts. 161 p.
- McGregor, S. E. 1976. *Insect Pollination of Cultivated Crop Plants*. Agriculture Handbook No. 496. U.S. Government Printing Office, Washington, D.C. 411 p.
- Morse, R. A., ed. 1978. *Honey Bee Pests, Predators, and Diseases*. Cornell University Press, Ithaca, New York. 430 p.
- Pellett, F. C. 1938. *History of American Beekeeping*. Collegiate Press, Inc., Ames, Iowa. 213 p. Out of Print.
- Pellett, F. C. 1976. *American Honey Plants*. Dadant & Sons, Inc., Hamilton, Illinois. 467 p. Reprint of 1947 edition.
- Root, A. I., E. R. Root, H. H. Root, and J. A. Root. 1980. *The ABC and XYZ of Bee Culture*. 38th ed. A.I. Root Company, Medina, Ohio. 732 p.
- Root, H. H. 1951. *Beeswax*. Chemical Publishing Company, Inc., Brooklyn, New York. 154 p. Out of print.
- Snodgrass, R. E. 1956. *Anatomy of the Honey Bee*. Comstock Publishing Associates, Ithaca, New York. 334 p.
- U.S. Department of Agriculture. 1980. *Beekeeping in the United States*. U.S. Department of Agriculture Handbook 335. U.S. Government Printing Office, Washington, D.C.
- White, J. W. Jr., M. L. Riethof, M. H. Subers, and I. Kushnir. 1962. *Composition of American Honeys*. U.S. Department of Agriculture Technical Bulletin 1261. U.S. Government Printing Office, Washington D.C. 124 p.

Periodicals

- American Bee Journal. Hamilton, Illinois 62341. Monthly.
- Bee World. Hill House, Chalfont St. Peter, Gerrards Cross, Bucks., England. SL9 ONR. Quarterly.
- Gleanings in Bee Culture. Medina. Ohio 44256. Monthly.
- The Speedy Bee. Route 1, Box G-27, Jesup, Georgia 31545. Monthly newspaper.

Beekeeping Organizations

American Beekeeping Federation, Inc. 13637 N.W. 39th Avenue, Gainesville, Florida 32601.

American Honey Producers Association, Inc. Box 368, Minco, Oklahoma 73059.

Beekeeping Supplies and Equipment

Dadant & Sons, Inc. Hamilton, Illinois 62341.

Hubbard Apiaries. Onsted, Michigan 49265.

Walter T. Kelley Co. Clarkson, Kentucky 42726.

A. I. Root Co. Medina, Ohio, 44256 and Council Bluffs, Iowa 51501.

For sources of package bees and queens, consult current issues of beekeeping magazines.

Apiary Inspection, Registration, and Beekeeping Information

In most states, including Illinois, apiary inspection and registration are carried out by employees of the State Department of Agriculture. They can provide information about laws relating to bee diseases, registration, and movement of colonies. They may also be able to provide inspection and diagnosis of bee disease samples on request. For such services in Illinois, write the Chief Apiary Inspector, 522 South Jefferson, Paris, Illinois 61944.

The U.S. Department of Agriculture publishes information about bees and beekeeping, and provides laboratory diagnosis for adult and brood diseases of bees. Requests for information and samples for examination can be sent to Bioenvironmental Bee Laboratory, USDA-SEA, Building 476, BARC-East, Beltsville, Maryland 20705.

Extension Publications

A complete listing of national and state Cooperative Extension Service beekeeping publications (National Beekeeping Publications List) is available from Dr. James Tew, National Program Leader, Apiculture. Ohio State University, 1328 Dover Road, Wooster, Oh 44961.

Computer Software

BeeAware. A management tool for the diagnosis and control of honeybee diseases and pests. MacIntosh: 1 MB RAM, hard disk drive. MS-DOS: 1 MB RAM, EGA/VGA, hard disk drive. \$25.00. Contact Penn State University, Department of Entomology, 501 Ag Sciences & Industries Bldg., University Park, PA 16802 (814-865-1895; FAX: 814-865-3048).

Beekeeping Profitability Model #043. 14 spreadsheet templates; requires Multiplan 1.0 to read templates. DOS 2.0 or higher. \$35.00. Contact Florida Cooperative Extension Service; Building 120, Room 203, Gainesville, FL 322611-9340.

Fairs Bees and Beekeeping Database. Database of Bees and Beekeeping information. DOS 3.1 or higher, 1.7 MB hard disk space, 640K RAM, EGA, VGA or SVGA. Authors; \$50.00, Specify 5.25 or 3.5 inch disk size. Send to M. T. Sanford, c/o AAPA, Box 0640, Gainesville, FL 32611-0640.

Illinois Department of Agriculture

The Illinois Bees and Apiaries Program is designed to assist beekeepers with the management and protection of their colonies. Under the Bees and Apiaries Act, the Illinois Department of Agriculture (IDA)

inspects honeybee colonies for the presence of pests and diseases and provides advice on appropriate treatments. The inspections are provided free of charge as a service to the industry. The Act requires beekeepers to register their apiaries with the IDA. Beekeepers can register their apiaries by filling out a one page form and mailing it to the Department. The Bees and Apiaries Program website is <http://www.agr.state.il.us/programs/bees>.

According to the Apiaries Act, individuals who wish to transport colonies (or used equipment) from outside the state or from one county to another, must obtain a permit that requires that the colonies have been inspected within 90 days before date of transport. While not required, for their own protection those planning to purchase colonies should ask for a certificate of inspection for the colonies, even if they will not be moved to another county.

Illinois Apiary Inspectors

The names and contact information of the apiary inspectors are provided below. These individuals can assist beekeepers with a variety of questions about management, diseases or pests.

Mr. Mike Gerard
206 North Fourth, Box 79
Danforth, IL 60930
Phone: 815-269-2026
Mikegerard3@aol.com

Mr. Dan Wright
P.O. Box 83
Kansas, IL 61933
Phone: 217-948-5353 (home)
Phone: 217-948-5121 (work)

Mr. Udell Meyer
8844 Trio Lane
Edwardsville, IL 62025
Phone: 618-633-2429

Mrs. Rita Taylor
4274 Taylor Homestead Road
Pleasant Plains, IL 62677-4024
Phone: 217-626-1319

Mrs. Charles Ott
906 Peoria Avenue
Lincoln, IL 62656
Phone: 217-732-4633

Mr. Darrel Perry
11 East Lake Estates
Mount Sterling, IL 62353-9303
Phone: 217-773-2530

Mr. Greg Thomas
2089 Palzo Road
Creal Springs, IL 62922
Phone: 618-996-3256
[G S Thomas@msn.com](mailto:G_S_Thomas@msn.com)

Mr. Steve Chard, Supervisor
Illinois Department of Agriculture
Division of Natural Resources
P.O. Box 19281
Springfield, IL 62794-9281
Phone: 217-785-4233
SChard@agr.state.il.us

Illinois Beekeepers Associations

The Illinois State Beekeepers Association (ISBA) is the state-wide organization for beekeepers. The ISBA publishes a newsletter and has informative annual meetings in Springfield as well as summer meetings hosted by a number of different local beekeeping associations. The Association works with the Illinois Department of Agriculture's Apiary Inspection Program to promote and protect beekeeping in Illinois. The ISBA website is <http://www.isba.ws>.

Membership in a local beekeepers association is one of the best ways to meet other beekeepers and to learn about beekeeping. There are currently 15 local or regional beekeeping associations, which are listed below. Those affiliated with the Illinois State Beekeepers Association are indicated with an asterisk. The names and phone numbers of contact persons for the ISBA and the local association are provided below.

Central Eastern Illinois
Andy Blum, Secretary
1453 C. Rd. E 3600 N
Paxton, IL 60957-5012
Phone: 217-379-9992

Heart of Illinois
Carl J. Wenning
21 Grandview Drive
Normal, IL 61761-4071
Phone: 309-454-4164

Lake County
Helen DeVries, Treasurer
43278 North Trevor
Antioch, IL 60002
Phone: 847-395-3975

Little Egypt
Beverly Tanner, Secretary
RR 2, Box 707
Fairfield, IL 62837-9164
Phone: 618-842-3386

Mississippi Valley
Rita Taylor, Secretary
4274 Taylor Homestead
Road
Pleasant Plains, IL 62677
Phone: 217-626-1319

St. Clair
Udell Meyer
8844 Trio Lane
Edwardsville, IL 62025
Phone: 618-633-2429

Cook-DuPage
Charles Williams, Secretary
22W 424 Teakwood Drive
Glen Ellyn, IL 60137
Phone: 708-858-6308

Illiana
Kathy Wright, Secretary
P.O. Box 83
Kansas, IL 61933
Phone: 217-948-5353

Lincoln Land
Gloria Morris, Secretary
4213 Spaulding Orchard
Road
Springfield, IL 62707
Phone: 217-793-6863

Lower Illinois Valley
Darrel Perry
11 East Lake Estates
Mt. Sterling, IL 62353
Phone: 217-773-2530

Northern Illinois
Rob & Lynn Rosemann,
Secretaries
16504 Kunde Road
Union, IL 60180-9409
Phone: 815-923-2287

Spoon River Valley
Lyle Lefler, Secretary
RR 2, Box 35
Cuba, IL 61427
Phone: 309-785-5369

Southern Illinois
Roy Small, Secretary
5470 Highway 13 W
Harrisburg, IL 62946
Phone:

Wabash Valley (defunct?)
Alice Apple, Secretary-
Treasurer
1224 West Sixth Street
Jasper, IN 47547
Phone: 812-482-3024

State Line
Phillip Raines
16566 Best Road
Davis, IL 61019
Phone: 815-248-3321

BEEKEEPING CALENDAR

This calendar of beekeeping activities is provided especially for farmers and others who have activities concentrated during certain months. In central Illinois the times which are usually the most demanding are late March through June; then again during the honey harvest and extracting in August or September.

MONTH	ACTIVITIES
January – February	<ul style="list-style-type: none"> • Examine over-wintered colonies, feed sugar syrup if needed.
March	<ul style="list-style-type: none"> • Feed smaller colonies or those destined to be divided.
March - April	<ul style="list-style-type: none"> • Start new colonies with packages. • Examine colonies for laying queens and for diseases; treat latter if needed.
April - May	<ul style="list-style-type: none"> • Place honey “supers” on colonies for surplus honey.
May – July	<ul style="list-style-type: none"> • Manage colonies to minimize swarming and loss of bees. • Monitor colonies for laying queens and for diseases. • Continue to add supers for surplus honey.
August - September	<ul style="list-style-type: none"> • Remove honey supers; extract honey. • Treat for varroa mites.
October	<ul style="list-style-type: none"> • Examine colonies for signs of productive queens and for diseases. • Feed sugar syrup to colonies which lack sufficient stored honey.
November – December	<ul style="list-style-type: none"> • Clean and repair equipment.

Note: This calendar is based on central Illinois. During winter and spring, beekeepers in southern Illinois should be two-three weeks ahead and those in the north about two weeks behind the central Illinois calendar.