Getting Started with Honeybees

Richard Schneider
Capital Bee Supply, LLC
Madison, WI
608-444-1493
www.capitalbeesupply.com

About Capital Bee Supply

Manufacturers and Purveyors of Fine Beekeeping Equipment

Capital Bee Supply

• Committed to
  – High quality products
  – Sustainable practices
  – Community education

Why do people keep honeybees?

“We have chose to fill our hives with honey and wax; thus furnishing mankind with the two noblest things, which are sweetness and light.”

--Jonathan Swift

Designated as Wisconsin’s Official State Insect in 1977
Why do people keep honeybees?

... For so work the honey-bees, creatures that by a rule in nature, teach the art of order to a peopled kingdom.

William Shakespeare
King Henry V

The value of honeybees...

- To make a prairie it takes a clover and one bee.

- Pollination
- Honey
- Beeswax
- Other products from the hive
  - Royal jelly
  - Propolis
- Education, enjoyment, enlightenment

Emily Dickinson

Why people keep honeybees

- Pollination
- Species preservation
- Education, enlightenment, enjoyment
- Products
  - Honey, beeswax, propolis, pollen, mead, queens and/or nucs

“All of American agriculture is suffering terribly now from trying to force a process based on the workings of Nature into an industrial and business model. The ability to produce quality food has been abandoned in the quest to grow ever larger quantities of cheap, low quality commodities from our vast resources of soil and water. Because human health depends very largely on having continuous access to quality food, almost all Americans are suffering as a result of this process.”

Kirk Webster, 2006
Abbreviated History of Beekeeping

- Beekeeping, ~15,000 B.C. - ~1600 A.D.
  - Bees housed in clay pots, straw baskets, trees or hollow logs (Skeps)
  - Queen (King) bee was thought to be male
  - No understanding that bees made wax or that the bee visits to flowers had anything to do with the formation of seeds and fruit
  - Bees were typically killed in autumn to collect honey
  - Swarms were used to stock the bee yard each spring
  - Honey bees are not native to the Americas.

Arrival of Honey Bees in North America

- Likely came from England and arrived in Virginia in 1622
- 1639 – Colonies found throughout Massachusetts
- 1650 – Pennsylvania, Connecticut
- Honey bees had swarmed their way into Michigan by 1776 and Missouri, Indiana, Iowa and Illinois by 1800.
  Westward movement was slower

Is Beekeeping for Me?

- Some things to consider
  - Will I get stung?
    - Yes at some point in time
    - Honeybees are typically not aggressive, but they are defensive.
  - The risks
    - Individuals differ in their level of reaction to bee stings
      - Immune system dependent
      - Sting site dependent

Classification of Sting Reactions

Normal | Immediate, local, transient
Large local | Delayed, prolonged, progressive
Systemic | Immediate, generalized (anaphylaxis)
Other | Toxic, serum sickness
A large local reaction to a sting

Is beekeeping for me?
• Physical effort
  – Amount of physical effort depends on type and size of equipment used
    • Lifting and manipulation of hive bodies and frames
    • If you have someone who could assist you, will they?

Is beekeeping for me?
• Time requirements
  – Bees are livestock. Even though they largely take care of themselves, there are tasks the beekeeper must do in order to care for their bees (beekeeper vs. bee-haver). Bees work on their schedule, not the beekeepers.

Is beekeeping for me?
• Zoning restrictions and neighbor concerns
  – Beekeeping is not allowed in all communities
    • Some municipalities require a license, others require a conditional use permit, some don’t allow it at all.
    • What is one person’s hobby may be another person’s nuisance.
Is beekeeping for me?

- **Startup costs**
  - **Bees** - $100-150
  - **Hive equipment**
    - Cost varies by type and features - $200 and up
  - **Protective gear** - $20 and up
  - **Tools** - $30 and up
  - **Municipal license or permit** - $10 to $110

Average among our customers $450

Is beekeeping for me?

- **Annual costs**
  - **Bee feed, supplements and medications**
    - Cost varies by forage conditions and beekeeper philosophy
  - **Annual license fee**
    - Only in some communities
  - **Replacement of bees that die out**
    - May or may not incur costs

Average among our customers = $100

Is beekeeping for me?

- **Emotional issues**
  - **Sometimes colonies die**
    - “Normal” 20%-30% loss of colonies each year
  - Bee health or genetic issues
  - Environmental issues
  - Beekeeper errors

Is beekeeping for me?

- **Location issues**
  - **Carrying capacity of the land**
    - Bees need lots of nectar producing flowers with staggered bloom times
  - Is the location already saturated with bees (both native and managed)?
  - Are you displacing native bees?
Getting Started - First steps
- Check local regulations regarding legality
- Take a beginning beekeeping class
- Research
  - Lots of information online, but be aware of
    - regional differences and issues (e.g. climate, pests)
    - differences in beekeeping philosophies

DECISIONS, DECISIONS

Hive Types
- Langstroth
- Top Bar
- Warre

All have moveable frames or bars to facilitate inspection – required by law in most states in response to American Foul Brood disease

The Langstroth Hive
- Lorenzo Lorrain Langstroth (1810 – 1895) is considered the father of “modern” beekeeping
- The Langstroth Hive
  - Used by >75% of beekeepers worldwide
  - Stackable hive bodies
  - Moveable and interchangeable
- 1851 – The “bee space” phenomenon
- 1852 – Removable frame hive patent
- 1858 – The Hive and the Honeybee
Langstroth Hive Components

Langstroth Hivebody Weights

10 frame equipment
- Deep: 60 – 100 lb
  - Used for brood rearing and honey storage
- Medium (Illinois, 3/4) 35-55 lb
  - Used for brood rearing and honey storage
- Shallow 25 lbs
  - Used for honey storage only

Langstroth Commercial Foundation and Frame Types

10 frame vs. 8 frame equipment
- No standardized width for 8 frame equipment
  - Slight variations between manufacturers
- Limited availability of 8 frame accessories
- An 8-frame deep weighs as much as a 10-frame medium
  - If you are concerned about the weight use 8-frame mediums or a top bar hive
Top Bar Hives

- Moveable top bars
- Africa/Southern Europe
- 1600’s to Present
- No need to destroy hive to collect honey
- Slanted walls are perceived by bees as vertical
- Width of bar must be 1 3/8”. Other bar dimensions are not critical, but recommend having interchangeability with Langstroth hive frame sizes
Top Bar Hive/Langstroth Combinations – Horizontal Langstroth
Top Bar vs. Langstroth

Advantages of Top Bar compared to Langstroth
- Relatively simple and inexpensive to build
- No frames to buy and assemble
- No queen excluder needed
- No extractor needed
- Easy to inspect entire hive (no lifting of heavy hive bodies)
- Produces lots of high quality beeswax
- Less disturbance and stress to bees during inspection
- Great for comb honey production

Top Bar vs. Langstroth

Disadvantages of Top Bar compared to Langstroth
- Heavy and difficult to move (but so are Langstroths if moving as a unit)
- Requires comb rebuild after honey harvest
- “Not suited for cold climates” – much debate over this
- Comb delicate and easy to break during inspection
- Hive expansion difficult to implement

Warre Hives – vertical top bar hive

Abbé Émile Warré (WAR-ray) (1867-1951)
- French monk who experimented with 350 hives

Why bars and frames are used
Races or Types of Honeybees

**Apis Mellifera**
- ~20,000 Apis species worldwide
- Dark bees (more black than brown)
  - *Apis mellifera mellifera* - German
  - *Apis mellifera macedonica* - Russian
  - *Apis mellifera caucasica* - Caucasians
  - *Apis mellifera carnica* – Carniolans (Yugoslavia)
- Light bees (more brown than black)
  - *Apis mellifera ligustica* - Italian
  - *Apis mellifera scutellata* – South African

**Apis mellifera ligustica**
- Italian Honey Bee
  - Typically the most common race of honeybee in the USA
  - Colonies are usually large and winter well
  - Very good honey producers
  - Usually gentle and non-aggressive
  - Swarming instinct is not especially strong
  - Minimum propolis
  - Keep a clean hive and are quick to get rid of the wax moth
  - Queens lay all through the summer, so a large amount of stores are used for brood rearing
  - Italian bees have a strong tendency to rob
  - Prone to drifting
Apis mellifera carnica

Carniolian Honey Bee
- Relatively gentle and non-aggressive
- Better at orientation than Italian, less drifting
- Less robbing than Italian
- Able to overwinter in smaller numbers
- Good environmental adaptation
- Steep brood production during nectar flow
- Low use of propolis
- Resistant to brood diseases
- Workers live up to 12% longer than other breeds
- Prone to swarming
- Does not thrive in hot weather

Apis mellifera macedonica

Russian Honey Bee
- Varroa mite resistant
- Tracheal mite resistant
- Cold tolerant
- Swarm prone
- Defensive
- Hard to obtain

Apis mellifera caucasica

Caucasian honey bee
- Varroa mite resistant
- Cold tolerant
- High propolis
- Less docile

Obtaining Honey Bees

How you obtain the bees may drive the equipment decisions

- Packages – cage of bees with a mated queen – limited supply of packages
- Nucleus colonies – “miniature” colony – even more limited supply
- Swarms
Getting Started - First steps

- Check local regulations regarding legality
- Take a beginning beekeeping class
- Research
  - Lots of information online, but be aware of
    - regional differences and issues (e.g. climate, pests)
    - differences in beekeeping philosophies
- The time to start the process is now.....

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