



## Races of Bees



- Italian
- Carniolan
- Russian
- Africanized honey bee

## Italian Bees

- *Apis mellifera ligustica*
  - Originally from Italy
    - This is by far the most popular honey bee
  - Yellow in color
  - Relatively gentle
  - Overwinter well and build up quickly in spring
    - Sometimes exhaust honey stores rapidly in winter
  - They are easily provoked to rob weaker neighboring colonies



## Carniolan Bees



- *Apis mellifera carnica*
- Originated in the Austrian Alps, northern Yugoslavia, and the Danube valley
- Gray/brown in color
- Extremely gentle
- Conserve winter food stores well and build up quickly in spring
- Construct new comb slowly
- Swarm frequently

## Russian Bees

- Imported from Russia by the USDA for study
- Vary in color
  - Generally darker than Italians
- Do not build their colony populations until pollen is available
  - Shut down brood when pollen is scarce
- More resistant to Varroa and Tracheal mites
- Gentle, less defensive, less likely to sting
- Low chance of robbing other hives



## Africanized Honey Bees



- *Apis mellifera scutellata* and its hybrids
- Originated throughout east Africa
- This race was imported to Brazil in the 1950s and began migrating northward
- Compared to European races, this bee and its hybrids are extremely defensive, have smaller nests and swarm more frequently
- Africanized honey bees colonized certain regions of the United States in the 1990s

## Types of Hives

- Wild/Natural Hives
- Top Bar
- Skep
- Warre
- Flow
- Langstroth



## Wild/Natural Hives

- Natural cavities in trees, buildings, etc.



## Top Bar Hives

- Single-story frameless bee hive with the comb hanging from removable bars
- Environment is much closer to wild/natural beehives
- Lower cost
  - Easier to build yourself
- Lots of maintenance
- No heavy lifting
- Lower honey/Higher wax yield than Langstroth
- Foundationless frames



## Skep Hives

- Woven-domed straw baskets
- Difficult to collect honey without ruining the hive



## Warre Hives

- Foundationless frames



## Flow Hives



- Expensive (\$500-\$900)
- Potentially easier honey extraction
- Innovative
- Can choose to purchase the honey super portion ONLY
- Beekeeping vs Bee Having

## Langstroth Hives

- Lorenzo Lorraine Langstroth (1810-1895)
- Patented in 1852
- “Bee Space” 3/8 inch (9.5mm)
- Good hive to start with
  - Lots of resources available
  - Easy to manage
  - Lots of success in MT
- Removable frames = easy harvest
- Can inspect bees without destroying the colony

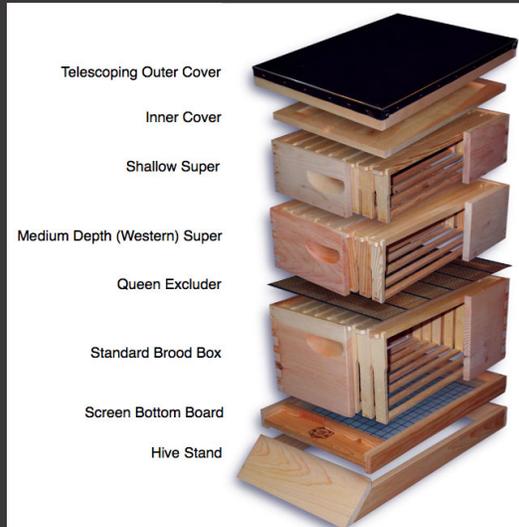


## Bottom Boards

- Three sides raised ~1/4" to form hive entrance
- Solid
  - Better for warmth
- IPM (screened)
  - Good for ventilation
  - Can be used for Varroa monitoring



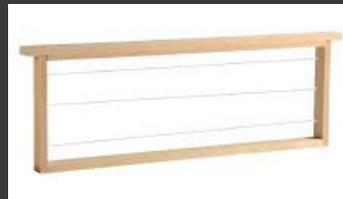
# Supers



- Comes in Multiple Sizes
  - Honey Supers
    - No brood
    - Where you harvest honey
      - Shallow
      - Medium
  - Deep
    - Brood boxes
    - Queen should reside here
- Choose between standard 10-frame or 8-frame boxes

# Frames

- Frames fit the supers
  - Standard 10-frame
  - 8-frame
- Can be...
  - A wood frame only
  - A wood frame with a wax/plastic foundation
  - A fully plastic frame
- To plastic or not to plastic?



## Hive Covers

- Migratory
  - Used in areas with less rain
  - Easily modified for feeding
  - Easier to stack closer together
- Telescoping
  - Two parts
  - Protects hive from rain/snow
  - Heats up easily
  - Harder to stack closer together



## Queen Excluder

- Optional
  - Idea is to put in on top of brood supers
  - Queen can't get through, but workers can
  - Allows honey supers to remain brood free



## Entrance Reducer



- Should be utilized in spring and fall
- Can help regulate airflow
  - Climate control in the hive
- Prevents robbing



## Hive Stands

- Makes lifting easier
- Extends life of equipment
- Helps with pest control
  - Skunks, rodents, ants, etc.
- Types:
  - Cinder blocks
  - Railroad ties
  - Pallets
  - Specially built stand



## Hive Placement

- Can be kept almost anywhere!
  - Your backyard
  - Your friend's backyard
  - Farms
  - Businesses
  - ALWAYS get permission first!



## Hive Placement

- Flowering Plants within .5-1 mile
- Discrete Placement
- Sheltered from Wind
- Entrance faced toward rising Sun
- Should receive shade in the afternoon
- Water Availability



# Hive Placement



- In Helena City Limits
  - Obtain an annual apiary license from the city
  - Max of 2 hives
  - Do not work with bees between sunset and sunrise
    - Unless hives are being moved
  - Water must be within 20 feet of site
  - Site must be >15 feet from neighbor's lines with a >6 ft barrier
  - Speak to your neighbors about the bees!
  - Use your smoker!

# Other Beekeeping Equipment

- Smoker
- Bee Suit
- Bee Brush
- Hive Tool
- Honey Extractor
- Feeders
- Pollen Patties



## Smoker

- Masks alarm pheromones
- Bigger smokers are easier to light
  - Last longer
- Fuel:
  - Wood chips
  - Cardboard
  - Pine needles
  - Dried grass
  - Fuel pellets



## Bee Suit



- Suit
  - Wear a hat under your suit!
  - Some come with better ventilation
- Gloves
  - Some people don't need them... but they're a good idea.

## Bee Brush

- Used for gently removing bees from frames
- Useful for:
  - Honey extraction
  - Grafting



## Hive Tool

- Hive components are bound together by propolis
  - A sealant made by bees
  - Mixture of plant resins and beeswax



# Honey Extractor

- Can rent from the Extension Office for \$10/day
- Join up with other beekeepers for an Extraction party!



# Feeders

- Should be utilized at the beginning and end of the season
- Rig them so bees don't drown
- Types:
  - Entrance feeders
  - Top feeders
  - In-hive feeders
  - Feeding cans
- Mix sugar and water in a 1:1 or 2:1 ratio
  - DO NOT use corn syrup or store-bought honey



## Pollen Patties

- Can purchase or make your own
- Feed to bees as soon as you install them/early spring



## Purchasing Equipment

- Murdoch's
- Western Bee Supply
- Mann Lake
- Shipton's Big R
- North 40
- Montana Honey Bee Co.



## Buying & Moving Colonies

- Packages vs Nucs
- See 'Where to Buy Bees' list.
- Buying two colonies allows you to interchange honey and brood frames
- Transport nucs in a pickup bed or on a trailer, packages can be transported in a car.



## Packages

- ~3 lbs. of worker bees and a queen
- Pro:
  - Break in brood cycle means less mites
  - Builds wax faster
- Con:
  - Must draw out comb



## Installing Packaged Bees



- Smoke the bees
- Gently shake bees from package into hive
- Place remaining bees on ground by hive
- Queen is in cage
  - Replace cork with mini marshmallow
  - Place cage candy-side up between two center frames of hive

## Nucs

- Nuc
  - Short for “Nucleus”
  - Miniature established colony
  - 5 frames of brood, workers, and Queen
    - ~3 lbs.
  - Pro:
    - Colony expands faster
  - Con:
    - Possibility of mites/disease
    - Swarms easily



## Installing Nucs

- Smoke the bees
- Carefully insert frames in the center of your hive
  - Check the frames for brood
- Tap/Shake the box so the rest of the bees fall into the hive



## Honey Bee Swarms

- How a colony reproduces
  - Old Queen and about half of the colony move on to a new home
- Best to call an experienced beekeeper to remove
  - Alyssa has a list
- Be sure they're honeybees before calling



## Tips for Beginners

- Start with 2-5 hives
- Join your local beekeeping association!
  - Helena Area Beekeepers meet once a month
  - Join their Facebook Group
- Buy new equipment!
  - Only buy used if it's from someone you trust and it's properly treated

