



**CULTIVATING SUCCESS™**  
sustainable small farms education

**Introduction to Beekeeping:**  
A webinar for small farmers and backyard beekeepers

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**Today's Presenter(s)**



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**Webinar Tips**



Close all other programs running on your computer



Check your sound – problems with clarity, speed, etc. switch to the phone  
Call-in number provided in the welcome email  
Mute computer sound when using phone



Type in questions for speakers (or for help with viewing & sound) into question box



Handouts are available to download on your computer

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**Poll #1**

**Tell us where you are located.**



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**Poll #2**

**How would you rate your own experience and knowledge in beekeeping?**



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**Today' Webinar Topics**

- Overview of webinar content:
  - Getting Started: equipment, hive location and set-up, etc.
  - Choosing the hive style that is right for you
  - Understanding bees, temperament
  - Acquiring bees
  - Treatment for diseases and pests
  - Harvesting honey
  - Winterizing hives



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**Getting Started**

- Hive location with water source
- Finding a bee club and/or mentor
- Equipment and hive stands
- Style of Hive: Choosing what is right for you and your climate/resources



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## Hive Style

- **Langstroth:**
  - Pros: Easier inspections, easier to harvest, standardized equipment, movability
  - Cons: heavy
- **Top Bar:**
  - Pros: accessible and light
  - Cons: Cross comb, no standard way to save comb
- **Warré:**
  - Pros: Less inspection time, the cavity size may be more efficient like a tree cavity; hands-off beekeeping
  - Cons: frames not removed (most states require removable frames); hard to add super boxes

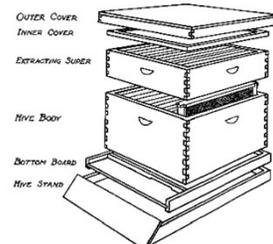


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## Hive Components

- Components of a hive (Langstroth)
  - Bottom board
    - Screened vs. not
    - Entrance reducer
    - Queen excluders
  - Brood and honey supers
    - consider 8 or 10 frames
    - deep or medium depth
    - Paint color
  - Frames and foundation
    - Wood vs. plastic; beeswax, foundationless, black vs. white
  - Lids
    - Telescoping (metal) and inner cover vs. migratory
  - Flow hives? It's a honey super that you can add.
    - Harvest early and often to help prevent crystallization



<https://projects.ncsu.edu/cals/course/ent425/text01/apiculture.html>

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## Tools & Protective Equipment

- **Clothing:** jackets, suits, gloves, head nets
  - Hair up, barehanded?, No skin tight clothing.
- **Hive Tool**
- **Smoker**
  - How to light
  - How to keep it burning
- **Bee brushes**
- **Frame lifters**
- **Journal or notepad, sharpie**
- **Naming hives**



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## Bee Temperament

- Keeping them happy
- Using a smoker and/or sugar water
- Slow, easy, gentle movements
- When to examine bees:
  - Sunny and warm, wind-free, check during day-time when bees are foraging
- Avoid eating bananas (pheromone), use clean and light colored suit
- Check for their disposition

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## Types of honey bees (*Apis mellifera*)

- Carniolans (better for short season climates)
- Italians
- Russians
- Hybrids



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## Bee Hierarchy

- The Queen ♀
- Workers (female) ♀
- Drones (male) ♂




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## Worker bee jobs

Live 15-38 days, unless in the winter

- Roles depend on the age of the bee:
  - Housekeeper bees (1-3 days)
  - Undertaker bees (3-16 days)
  - Nurse bees (4-12 days)
  - Queen attendants (7-12 days)
  - Nectar collector bees (12-18 days)
  - Temp controllers/Fanners /Heater bees (12-18 days)
  - Beeswax comb builder bees (12-35 days)
- Guard bees (18-21 days)
- Foragers/Field bees (22-42 days)



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## Waggle Dance

- Bee communication
- Foraging

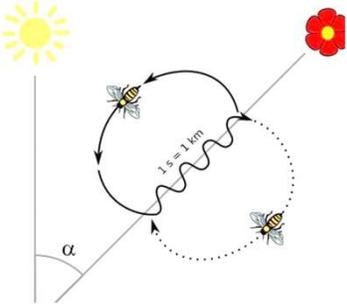


Image: [https://en.wikipedia.org/wiki/Waggle\\_dance](https://en.wikipedia.org/wiki/Waggle_dance)

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## Timeline / Acquiring Bees

- Acquiring bees & when to order:
  - When Nucs vs. packages
  - Swarms
  - Splits
- Setting up your apiary
  - Package vs. nuc installation
  - Packages: pump and dump
    - Queen cage and marshmallow or candy cork
    - Check in 7-10 days after install
  - Pollen patty and feeding (sugar water)
    - When to Feed: swarms, new package, splits, dearth, low population, winter/early spring
  - Installing on drawn comb vs. foundation

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## To treat or not?



- Treatment free vs. treatment
  - Prevention: Seek out resistant bees (e.g., Russian/survivor bees/resistant bees with Varroa sensitive hygiene (VSH)). Hygiene.
  - Screened bottom boards for increased ventilation; control of hive beetles; can help with sugar shake method (sugar and mites fall off on sticky board); screened boards may make it more difficult for hive to stay warm.
  - Monitoring: mite counts
  - Using Integrated Pest Management (IPM); treatment free can be challenging; residue will remain from treatment.
  - Lots of products out there. Use an integrated approach. Organic treatments are out there like HopGuard, Apilife Var, Oxalic Acid

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## Pests & diseases

- Wax moth
- Varroa Mites
- Small hive beetle
- Bees
- Tracheal mites
- Wasps
- Viral, Bacterial, Fungal
  - American Foul Brood
  - European Foul Brood
  - Sack Brood
  - Chalk Brood
  - Parasitic Mite Syndrome
  - Deformed Wing Virus
  - Nosema
  - Dysentery

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## Hive inspections



- Frequency varies throughout the year
- Look for:
  - Queen, brood, room in honey supers, health of bees, brood pattern
  - Brood pattern: eggs, open brood, capped brood, queen cells/cups
  - Honey pollen stores
  - Capped honey
- Work from outside in. Only need to look at middle one or two frames in brood nest of top box.

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## Harvest

- **Extracting:**
  - Tools: Knife, capping scratcher, strainer/mesh bag, buckets, extractor
  - Pros/cons: saves comb, \$\$
- **Crush and Strain**
  - Tools: scraper/knife, strainer, buckets, Pros/Cons: cheap, but can destroy comb
- **Cut Comb**
  - Tools: knife, storage container
  - Pros/cons: easy, uses some drawn comb



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## Winter Prep

- Manage hive for health beginning in spring
- Don't over harvest
- Clustering space
- Keep colonies young and vigorous
- Provide good habitat (nutrition, safety, etc.)
- Be proactive
- Monitor for pests



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## Further resources

- **Recommended Websites:**
  - The National Honey Board: [www.honey.com](http://www.honey.com)
  - Honeybee Health Coalition: [www.honeybeehealthcoalition.org](http://www.honeybeehealthcoalition.org)
  - The Magazine of American Beekeeping [www.beeeculture.com](http://www.beeeculture.com)
  - American Bee Journal: [www.americanbeejournal.com](http://www.americanbeejournal.com)
  - Project Apis m.: [www.projectapism.org](http://www.projectapism.org)
  - University of Minnesota Bee Lab: [www.beelab.umn.edu](http://www.beelab.umn.edu)
  - USDA Diagnosis of Honey Bee Disease: [www.ars.usda.gov/is/np/honeybeediseases/honeybeediseases.pdf](http://www.ars.usda.gov/is/np/honeybeediseases/honeybeediseases.pdf)
  - Randy Oliver: [www.scientifcbeekeeping.com](http://www.scientifcbeekeeping.com)
- **Books:** The Backyard Beekeeper by Kim Flottum; The Beekeepers Bible; Beekeeping for Dummies, etc.

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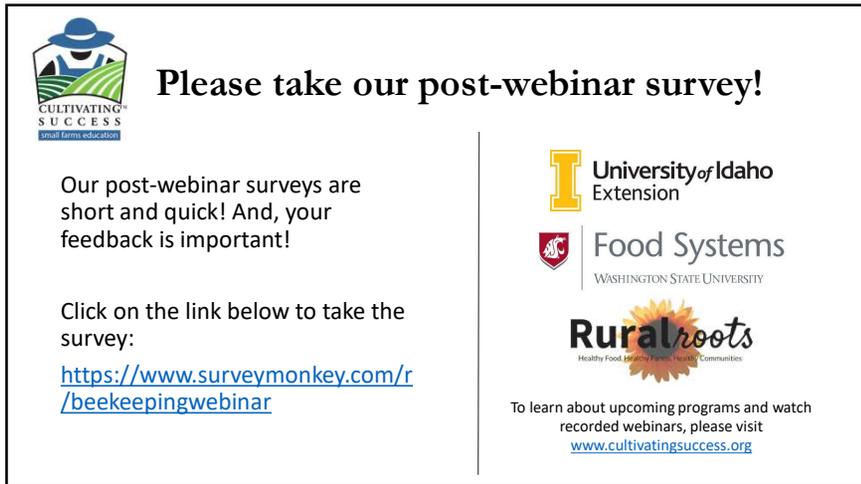
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