

Beginner Beekeeping – Part 2



THE **BEE**SHED
— HONEY BEE & HIVE PRODUCTS —

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www.thebeeshed.com

What We Cover in Part 2

- **Siting your apiary**
- Woodenware and Equipment
- Where do I get my bees?
- Hiving bees
- Inspecting the hive
- Feeding options
- Overwintering
- Integrated pest management
- Extracting honey
- Other fun stuff
- Getting help and next steps

Siting Your Yard



What to Consider

- Water
- Access
- Sun Exposure
- Forage Zone
- Elevation
- Distance
- Other Beekeepers

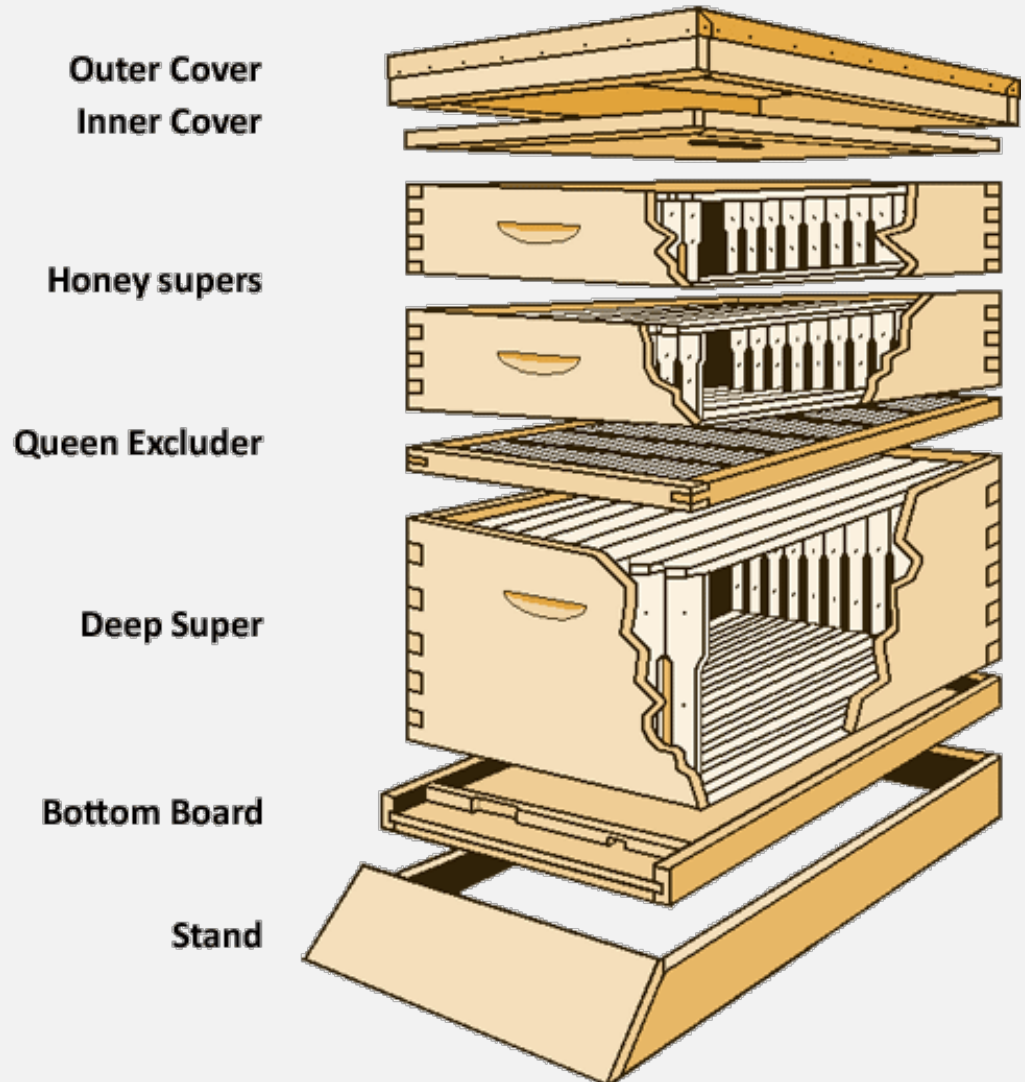


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Woodenware

Rev. Langstroth discovers “bee space” and invents removable frame hive still used today



Hardware – Hive



Wind Weight (Reminder brick)

Top (Outer) Cover

Inner Cover (Hidden)

Honey Supers

Queen Excluder

Brood Box (Medium)

Brood Box (Deep)

Entrance Reducer (Mouse guard)

Bottom Board

Hive Stand

Hardware Frames & Foundation

- Frames
 - Plastic
 - Wood
- Foundation
 - Wax coated plastic sheet
 - 100% wax (Used for Cut Comb)

Cost Considerations

- Time – make your own or purchase
- Unpainted
- Unassembled
- Shipping
- New versus used

Used Equipment

- Be careful, especially of woodenware
 - Clean
 - Power wash
 - Heat corners

Hive Tool

- Pry-bar
- Scraper
- Have multiple – easy to misplace!



Smoker

- Keeps bees calm
- Cool smoke
- Be careful in dry months
- Fuel



Bee Brush

- Useful during when pulling honey supers
- Brush upward, from bottom of frame
- Short strokes



Personal Protection

- Full suit versus head net
- Gloves versus none
- Long pants versus short



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Buying Bees

- Packages
- Nucs
- Singles
- Swarms



Starting with Bees From a Package

- Bees
- Hive setup(s)
- Spray bottle – syrup
- Syrup feed
- Pollen substitute
- Hive tool (always!)
- Direct or delayed release



Making Packages

- <https://www.youtube.com/watch?v=AKWVq-bZ9Ok>
- It takes about 8 workers to make between 200-300 packages in a 5 hour day.

Bees From Nucs

- Hive in a box
 - Has 4 or 5 frames of drawn comb with brood
 - Has a mated, active queen
 - Frames are taken out of nuc and placed in a hive box



Free Bees!

- Swarms
 - Wild honey bees
 - Some poor beekeeper's bee



HIVING BEES DEMO

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Hive Inspections

- Why
- Frequency
- Equipment needed
- How
- <https://youtu.be/TEJpj7cglls>



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Feeding Options

- Why feed
- What feed – syrup and pollen
- When feed
- Options



Image courtesy Ed Simon



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Overwintering

Making it Through Winter

- Honey Bees are well equipped to make it through winter, as long as they:
 - Are healthy
 - Have enough food
 - Can access the food
 - Have good ventilation for moisture controlled
 - An escape for cleansing flights
- Egg laying slows and then stops as nectar flows shut down.
- Bees form a cluster, vibrating wing muscles to generate heat.



Healthy Bees

- Winter prep begins in late summer
- Monitor mite load and respond as needed
- Merging two weak colonies will give you one bigger weak colonies

Food Stores

- Honey harvest in August
- Late season nectar MIGHT provide winter stores (asters, goldenrod)
- Fall feeding with 2:1 syrup
- Winter stores: 75-95 total pounds per colony (per UM)

Ventilation and Moisture



Protection from Elements

- Wind and snow shelter
- Go indoors?
- Wrap?
- Insulate?
- Heat?



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Integrated Pest Management (IPM)

- From the EPA: *“IPM is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices (using) current, comprehensive information on the life cycles of pests and their interaction with the environment. This information...to manage pest damage by the most economical means, and with least possible hazard to people, property, and the environment”*
- In beekeeping IPM is mostly referring to Varroa.
- Translation: Know the pest, the pest load, and use appropriate control methods when needed

Varroa Mite

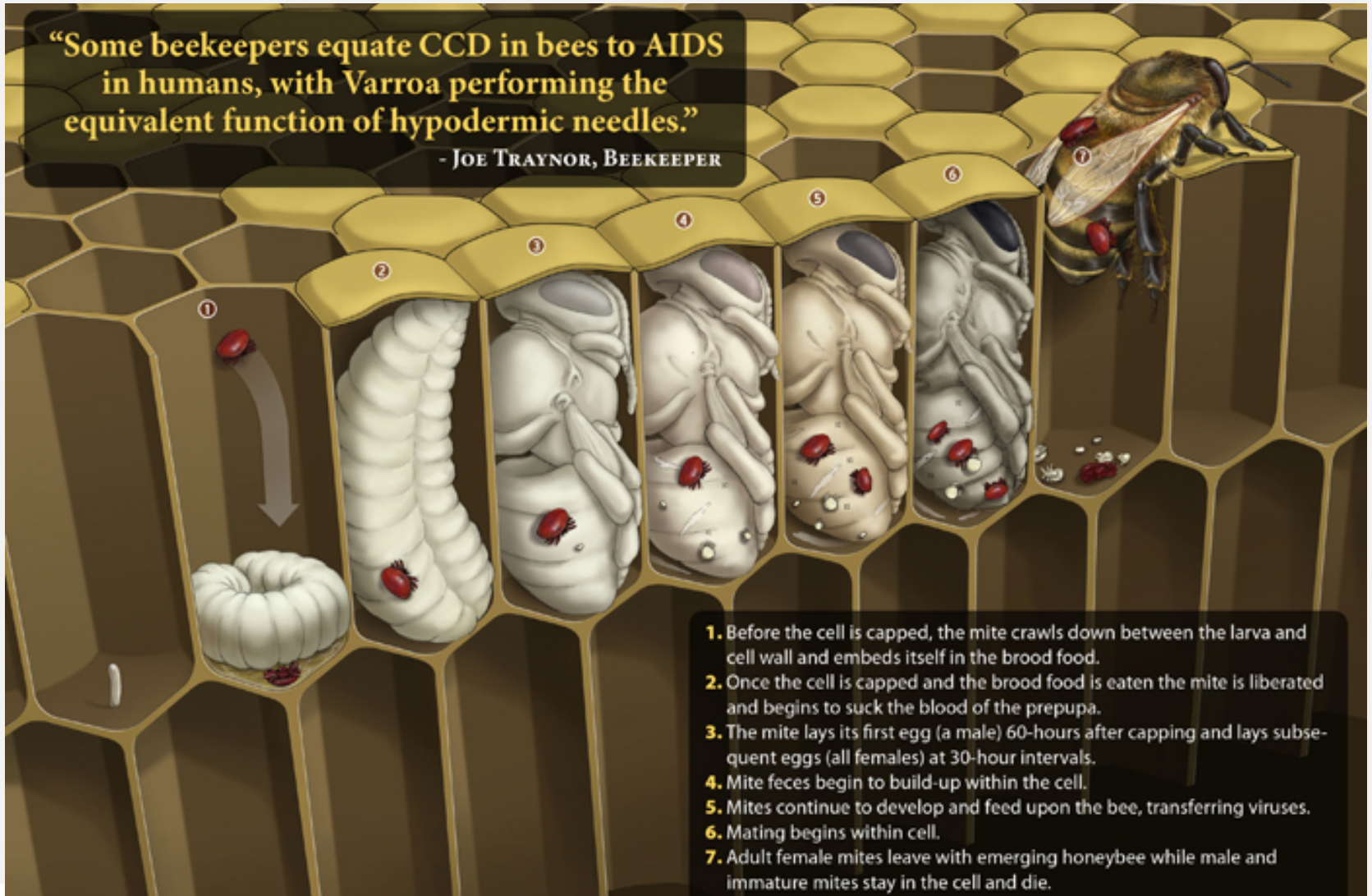
- External parasitic mite that attacks honey bees
- Attaches to bees and suck hemolymph (bee blood), weakening bee and introducing viruses and bacteria
- Life cycle relies on the honey bee life cycle
- Considered THE biggest concern of beekeeping today



Varroa Mite Lifecycle

“Some beekeepers equate CCD in bees to AIDS in humans, with Varroa performing the equivalent function of hypodermic needles.”

- JOE TRAYNOR, BEEKEEPER



IPM Practices for Varroa

- Hygienic behavior
- Drone management
- Breaks in the brood cycle
- Miticide (pesticide) treatments
- “Natural” treatments
 - Powdered surgar.

Drone Management

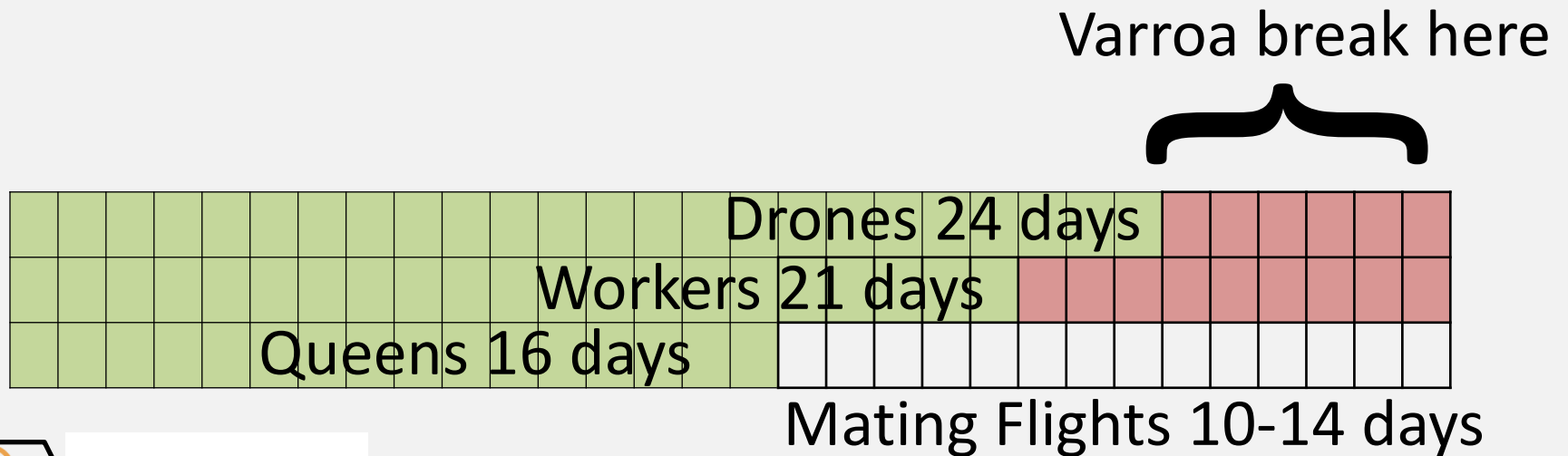


Break the Brood Cycle

- Continuous Varroa production requires continuous honey bee brood production
- Disrupt brood production and Varroa production is disrupted, knocking back their numbers
- How do you disrupt brood production?

Replace or Restrict the Queen

- Make a split, allow colony to re-queen on their own
- Confine the queen for a number of days to restrict her egg laying



Miticides – killing a bug on a bug

- Not 100% effective, and survivor mites resist future treatments
- Can compromise colony health
- Commercial beekeepers use them to reduce losses
- Not recommended by the UM for the hobbyist

“Natural” Treatments

- Organic acids and essential oils
- Poisons developed by plants to kill, repel or deter other organisms
- “Natural”, but still toxic to bees and humans
- Not as effective as miticides, but don’t seem to convey resistance.

Treatments for Varroa

- From UM: If you choose to not treat for Varroa, there is a **90% chance colony will die** in second winter
- From UM: “We recommend you sample for mite in mid and late summer, and treat if necessary during September. It is very, very important to sample for mites 1-2 weeks **AFTER** treatment to ensure the treatment was effective. If it was not, you may need to use a different product.”

First Count, Then Treat (if needed)

- Put ~300 bees (~100mL measuring cup) from brood frame into jar with screen top
- Add powdered sugar, shake well to cover bees
- Let sit for 2 minutes
- Shake sugar (and mites) into white bowl
- Count mites per 300 bees



UM Recommendations for Treatment

- Apiguard: thymol (oil of thyme)
- ApiLife VAR: thymol (oil of thyme) + menthol + eucalyptol + camphor
- Formic Acid (Mite-Away Quick Strips)
- HopGuard (Potassium salt of Hop Beta Acids)
- Oxalic Acid (AKA wood bleach) – dribble or fog

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Extraction by Centrifugation

- Equipment is expensive
- Saves comb
- Most common method





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Other Fun Stuff

- Beer
- Mead
- Baking
- Candles
- Lip balm



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Getting Help

- University of Mn Classes
- Find a mentor (SEMBA has a list)
- Plug into SEMBA meetings
- Online forums and blogs (no shortage of “experts”)
- Read, read, read (what else can a beekeeper do in the winter?)

Suppliers

- <http://www.TheBeeShed.com>
 - <http://www.bbhoneymfarms.com/index.php>
 - <Http://natures-nectarllc.com/>
-
- B & B - Ph. 800.342.4811
 - Betterbee – Ph. 800.632.3379
 - Dadant – Ph. 888.922.1293
 - Natures Nectar – Ph. 651.439.8793
 - Mann Lake – Ph. 800.880.7694
 - **The Bee Shed – Ph. 507.261.2150**

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- **Final Exam**



Resources

- Organizations
 - The Prairie Enthusiasts (www.theprairieenthusiasts.com)
 - Minnesota Wildflowers (www.minnesotawildflowers.info)
 - SE Minnesota Beekeepers Association
(www.semnbeekeeping.org)
- University of Minnesota Bee Lab
www.beelab.umn.edu
- Pollinator-friendly plants native to MN:
www.beelab.umn.edu/bees/flowers

Thank You!

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