

# HONEY PRODUCTION AND PRODUCTS

Apprentice Level Training  
Texas Master Beekeeper Program



Presented by Lance Wilson  
Certified Master Beekeeper-GMBP

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## Honey Production

- 4 factors influence a surplus of honey
- Availability of nectar and pollen sources
- Prime weather conditions for foraging
- Strong worker population
- Health of workers/colony

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## Maximize the Adult Population

- ▶ Prevents disease expression
- ▶ Promotes winter survival
- ▶ Insures against SHB or wax moth infestation
- ▶ Increases honey production



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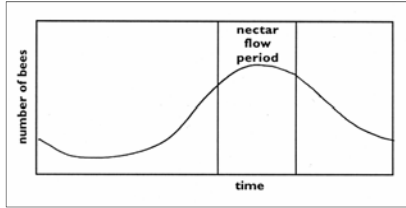
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## The Big Picture



The beekeeping bottom line.....this is very different from what was thought historically

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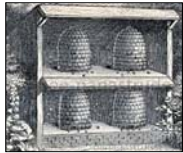
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## European Beekeeping



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## Commercial Beekeeping



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## C.L. Farrar

- Larger colonies make more honey
- "The Influence of colony population on honey production." -1937
- Dr. Harbo confirmed in 1986. Bees from larger colonies produced more honey per bee and consumed less honey per bee during dearth.



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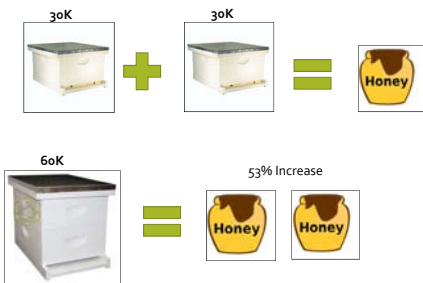
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## C.L. Farrar-Larger is Better



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## Revolutionized Beekeeping

- ▶ Established basis of modern honey production
- ▶ Swarm Prevention research
- ▶ Nutrition Management
- ▶ Disease Prevention research



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## Queen Management

- Swarming
- Supersedure
- Queen death
- General failure
- Requeening

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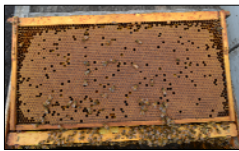
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This is what brood from a good queen looks like

Healthy Larvae



Healthy Capped Brood



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## Common Signs of Queen Failure



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### Requeening to Regain Quality



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### What a Frame Can Tell You



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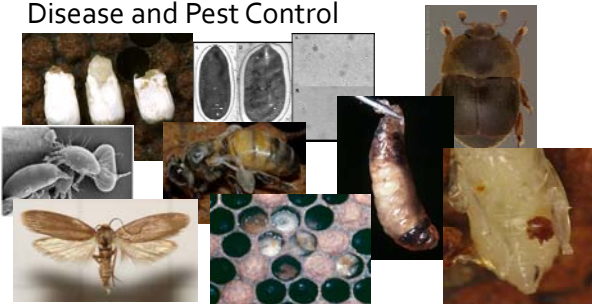
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### Disease and Pest Control



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## Recommended



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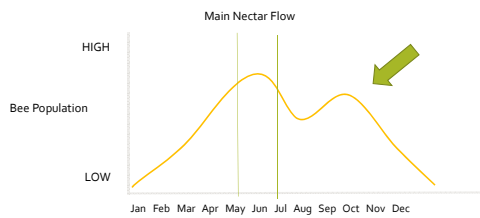
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## Texas Nectar Flows



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## Know Your Nectar Plants



LTop>R mesquite, mesquite, peach, goldenrod

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Pollen – does not determine color of honey



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Wax Production – a major energy cost



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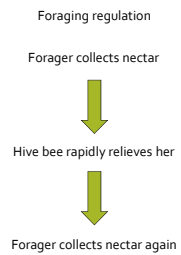
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Unlikely Energy Cost: Supering



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## When Do You Super a Colony?



- Look for drawn out wax on frames and coverage of bees
- Assess the usage of the outer frames
- If 50% or more of the honey cells are filled and/or capped over, add another super

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## Remember: Strong Colonies Make Honey



- Must understand basic honey bee biology to manage a honey-producing hive.
- Pay attention to level of nutrition, disease, pests, queen issues in the hive.

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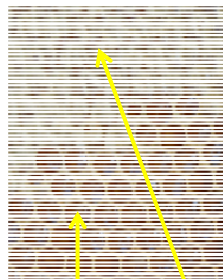
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## When to Remove Supers

- Supers should be removed when honey is ~¾ capped.



Uncapped honey      Capped honey

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## How to Remove Supers of Honey

- Porter Bee Escape
- Place bee escape into the hole of the inner cover
- Place the inner cover between brood box and 1<sup>st</sup> super
- Bees will go through the bee escape, down into the brood chamber



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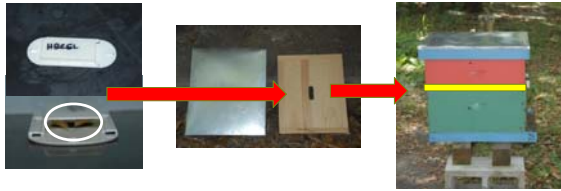
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## How to Remove Supers of Honey



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## How to Remove Supers of Honey

- Bounce and brush
- Remove each frame and dislodge the bees from it
- Use a bee brush to remove any remaining bees



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## How to Remove Supers of Honey

- Fume boards
  - Modified telescoping cover with absorbent cloth on the inside and shiny, metal cover on the outside
  - Repellant chemical is sprayed on the cloth
  - Board is placed over desired super
  - Odor forces the bees to go downward



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## How to Remove Supers of Honey

- Forced air
  - Bee blowers
  - Disorients bees and are thrown into the air
  - Try to blow bees in the direction of the hive entrance



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## Pre-processing of Honey



- Extract honey soon after the super is removed!
- Can store honey supers for 1-2 days in a warm room (90°F)
- Use a dehumidifier
  - Keep humidity below 50%
- Use a fan to prevent hot air pockets from forming.

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### Uncapping Frames



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### Honey Extraction



Tangential

Radial

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### Honey Extraction



Extractors can hold 2 to 80+ frames at once

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## Honey Filtering and Storage



After extraction, strain the honey and allow it to settle before bottling.

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## Bottling Honey




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## Bottling and Labeling Honey



Color Name	Pfund Scale, millimeters
Water White	<9
Extra White	9 - 17
White	18- 34
Extra Light Amber	35 - 50
Light Amber	51 - 85
Amber	86 - 114
Dark Amber	>114




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## Cut-Comb Honey – Freeze Comb First!

- Honey comb is cut from the frame
- Harvest capped frames immediately!
- After cutting, allow edges to drain before packaging



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## Comb (Section) Honey

- Honey is generated in cells of specific containers used directly by the consumer
- Example: Rossman Rounds



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## Chunk Honey

- Comb section is placed into a jar/container
- Liquid honey is poured into the jar, surrounding the comb



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## Creamed (Crystallized) Honey

- Dyce Method:
  - Honey is heated to kill yeasts
  - Strained and cooled to 80°F
  - Starter/seed crystals are added
  - Honey sits for 1-2 hours
  - Bottle and store the honey in a 45-57°F room for 8 days




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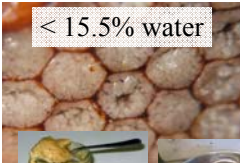
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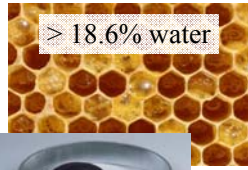
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## Granulated/Fermented Honey

< 15.5% water



> 18.6% water




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## Other products of the hive – Beeswax

- 1-2 lbs of beeswax is collected per 100lbs of honey
- Low melting point (143-145°F)
  - Be careful when melting!!
- 50% of world's beeswax comes from Africa
- Uses
  - Candles
  - Cosmetics
  - Polishes
  - Art
    - Encaustic painting




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## Other Products – Pollen

- Honey bees' primary protein source
  - protein levels vary between 7-65%
- Pollen traps collect pollen from legs of incoming foragers
  - Use only for a short period of time!
- Uses of pollen:
  - Dietary supplement
    - Get tested before consuming!



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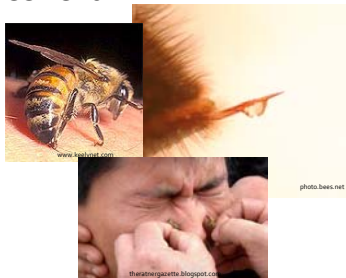
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## Other Products – Bee Venom

- Apitherapy
- Uses of Honey Bee Venom:
  - Treat bee sting allergies
  - Arthritis relief and other medical ailments



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## Other Products – Royal Jelly

- Rich in vitamins, sugars, proteins, organic acids
- Spoils easily
- Collected from full grown queen larval cells
  - Vacuum device
  - 125 queen cells = 1 oz royal jelly
- Uses of Royal Jelly:
  - Dietary supplement
  - Cosmetics
  - Scientific research



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## Other Products – Mead

- Honey + water + yeast
- Can add other elements, such as fruit, for flavoring
- Lighter honey works better than dark honey



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## Other Products – Propolis

- Resin collected from trees/flower buds
- Used as an in-hive sealant
  - Seal cracks/holes, coat interior of hive, reduce size of entrance, entomb invaders
- Contains antibacterial, antifungal, and antimicrobial properties
- Collect by placing a plastic grid under the hive cover
- Uses of propolis:
  - Varnish
  - Medicine
  - Soap
  - Cosmetics



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## Questions?

Lance@beekeepinghelp.com

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